To: Denise Arnold
From: Nancy Wright
On behalf of the Arc of Florida
Date: January 7, 2015

Re: Public comments on iBudget Algorithm

The following are comments, on behalf of the Arc of Florida, on APD's efforts to improve the algorithm formula. Some of the comments were made at the recent workshop on December 18th, but others are a reflection on the discussions we had at the workshop. We appreciate being included in this process and how to continue working with you as we try to make the iBudget system more fair.

1. One of the primary functions of an algorithm is to try to equalize funding amounts among persons of similar need.

In February 2010, APD presented a detailed analysis of individualized budgets to the Legislature. Report to the Legislation on the Agency's Plan for Implementing Individual Budgeting "iBudget Florida," February 1, 2010 ("Report"). The Report set out the algorithm that is currently in use today, but pointed out some of its drawbacks (like the lack of valid data on many variables that might be useful.) The Report also described certain advantages and system changes that we believe need to be evaluated. One of those is the ability of an algorithm to result in more equitable cost plans among persons who are similarly situated. (Report, p. 4.) The Legislature adopted this in the iBudget statute, requiring "a methodology and process that ensures that equitable allocation of available funds to each client is based on the client's level of need, as determined by the variables in the allocation algorithm." §393.0662(1), F.S.

It is not clear how equalization is to be evaluated. Has APD done any analysis on whether this has actually occurred? Also, is equalization more likely to occur if a greater number of variables are considered?

2. Moving to an individualized budgeting process was intended to drastically alter the prior service authorization process so that reviewers would only need to look at whether health and safety would be negatively affected by a proposed shift in services or support.

In the Report, APD went into some detail on how administrative burdens of support coordinators and APD staff would be reduced by the use of iBudgets. (Report, pp. 3, 6, 7.) Currently, the system is not designed for this kind of flexibility and requests for most changes in funding – even those within the iBudget funding allocation – still require substantial support.

3. Funding needs to be set aside for dental, DME, environmental adaptations and transportation.

The Report recognized that the algorithm would not cover dental, DME or environmental adaptations and stated that funding would be set aside for these services. (Report, p. 94). It does not appear that this happened. Instead, it seems that this funding was just lumped into whatever was considered as reserves for supplemental or extraordinary needs funding. These services, along with transportation (see discussion below), were intentionally left out of the algorithm and should not require the level of scrutiny as other requests for increased funding.

4. The statutory scheme for iBudget funding allocations requires a high degree of confidence in the algorithm.

Currently, the statutory scheme for an individual's iBudget funding allocation requires APD to use an algorithm with "variables that have been determined by the agency to have a statistically validated relationship to the client's level of need for services ...." §393.0662(1)(a), F.S. The algorithm "determines the amount of funds allocated to a client's iBudget," but the funding may be increased based on specific needs that can't be accommodated within the algorithm funding amount. §393.0662(1)(b), F.S. Establishing the need for additional funds requires a showing that, without more funding, the "health and safety of the client, the client's caregiver, or the public [is placed in] immediate, serious jeopardy." This is the same standard whether or not a client is newly enrolled or transitioning to the waiver, §393.0662(1)(b)1., or requesting supplemental funds for one-time, temporary, or long-term supports due to a significant change, §393.0662(1)(b)2 & 3.

Other states using an algorithm made allowances for the lack of reliability (especially initially) by setting aside large reserve funds to supplement the algorithm amount. This has not been the case in Florida. In addition, the "serious jeopardy to health and safety" standard seems to set a high bar for any additional funding. Taking this language to its logical extreme, a client who is "safe" staying in a group home watching TV all day would arguably not qualify for funds for meaningful day activity, although the client's welfare and quality of life would be very poor. This is surely not the result contemplated in formulating the iBudget program. To avoid this result, however, places a heavy burden on the reliability of the algorithm. This makes our task even more daunting.

5. The current algorithm was devised without having data on variables that could have been helpful, like the age of the caregiver.

As APD recognized in its 2010 report to the Legislature, no algorithm can take into account every possible variable impacting need for services. (Report, p. 9, 29.) In the case of the current algorithm, its predictability was hampered because "for most variables, APD did not have reliable and valid data available to test [stakeholder] suggestions since we did not have standardized process in place for collecting it."

(Report, p. 30.) In the workshop, APD stated that it has been collecting some data over the course of the last several years, which should prove useful when evaluating the use of other variables. We would like to have more information on what data APD has been collecting.

6. APD has admitted that the current algorithm had a "harsh" impact on clients living in the family home.

By giving no weight to the variable for the family home living setting, clients in the family home saw their algorithm amounts drastically reduced. Including caregiver variables may help this. It might also be possible that the model year (FY 2007/2008) included clients on the Family and Supported Living Waiver, which had an artificial threshold of slightly under $15,000 for annual funding.

Underfunding those in the family home is only likely to result in the need for a higher level of funds for residential care or supported living, as caregivers burn out physically or mentally. By contrast, increasing support for caregivers (including sufficient respite to allow for emergency back-up and relief to recharge) could actually save money in the long term.

7. Transportation was not used as a variable in the current algorithm, resulting in funding amounts that were consistently too low to cover transportation.

Transportation is not a variable that is well-suited to a formula because the rate varies widely from region to region. In some areas of the state, a client may pay $6 for a trip; in others the cost may be as high as $30. Rates may also vary depending on the difficulty transporting the client, either due to behavioral or physical concerns, or the distance of the trip. It is recommended that transportation costs for any individual be added in after the algorithm is run. This should not be done as an "extraordinary need" or "supplemental funding" determination, which would unnecessarily put into motion a process that involves significant documentation and review requirements, resulting in the use of unnecessary administrative time and resources.

8. Three situations that consistently result in higher service needs are intensive behavior problems, poor ability to communicate and complex or chronic medical conditions. None of these seem to be addressed well by the algorithm.

a. Behavioral – Even though the algorithm includes the total behavioral score from the QSI, the score itself does not really separate out those clients with problematic behavior from those whose behavior is successfully addressed with medications. On the QSI, high scores for *every* question can result just from taking "one psychotropic medication for control of behavior or psychiatric symptom" (which scores a 3), or "use of one medication with multiple changes or use of two or more psychotropic medications and/or intensive behavioral services" (which scores a 4). While it is important to assess the use of medications, the QSI currently does nothing to assess the effectiveness of those medications. The QSI needs to be changed to better determine which clients need higher

level of services. Then the algorithm needs to be changed to use the scores that correlate with higher needs.

b. Communication – A client's lack of ability to communicate distress and desires results in the need for more intensive supervision and more consistent staffing by individuals who have learned how to interpret non-verbal cues. The risk for untreated health problems is higher, and the correlation with problematic behavior is also higher due to the client's frustrations in making desires understood.

The QSI covers communication in question 22. Consider using this as a variable. Also, it seems that the scores for 2 and 3 should be reversed. Currently someone with very limited communication abilities will score lower than a person who can communicate using sign language or communication devices. (Under this scoring system, Stephen Hawking would score higher than someone with a ten-word vocabulary.) It seems that the more intensive need would relate to the limitation, rather than the use of devices.

c. Medical condition – Clients with medically complex or chronic medical conditions uniformly require more, and higher skilled, direct care. Some of this may be covered by the QSI total functional score or the "transfer" question (18), but in many cases the medical needs do not impact functionality (e.g. poorly controlled diabetes).

Some variables to consider that seem to have a bearing on intensive physical needs is the total number of medications, the types of medication, and the number of times of administration. This information may require some tweaking of the QSI.

9. Because many of our consumers experience accelerated onset of aging, with more rapid decline, APD should consider a variable that takes these increased needs due to aging into account.

First, QSIs need to be done more frequently when a consumer reaches the age of 45, with additional questions to better assess a *decline* in cognitive and physical functioning. This could be done as an alternate assessment to determine if "senescence" has begun. In the Down syndrome population, the onset of Alzheimer's can take place as early as age 45, with 4 to 5 years from onset to death (as opposed to 12 to 15 years in the general population.) The physical decline for someone with Cerebral Palsy can also be much more accelerated.

Second, if age 50 is not a useful variable (Report, p. 129), consider using a variable that takes into account a diagnosis of Alzheimer's or dementia or an assessment showing rapid decline in functionality.

10. There are inherent problems in the ability to test a new algorithm to even figure out if it is "accurate" or "reliable."[1]

As Dr. Niu pointed out at the workshop, the algorithm is only as good as the data. When the current algorithm was devised, a lot of time and effort was put into deciding which "model" year to use to test the algorithm for accuracy. Ultimately, FY 2007/2008 was used because it was pre-tiers and during a high budget period; ostensibly, the cost plans from that year were determined based on need, rather than any budgetary or statutory constraints. After that year, there were budget cuts, tier implementation, cost plan "rebasing," and cost plan "freezes." Using models from that data would just incorporate the bias from those years into the algorithm.

To test for reliability, the algorithm of any individual was compared to the cost plan of that some individual for the "model" year. Since six years have gone by since the "model" year, we discussed the problems associated with this comparison. In that amount of time, a client's cost plan is likely to have changed due to changes in circumstance. One suggestion was to revise the "model" year to update for any cost plan changes that have occurred over the interim. Another suggestion was to use FY 2013/2014 as the "model."

We are in favor of revising 2007/2008, assuming that is possible. During FY 2013/2014, the cost plans were, for the most part, based on numerous restrictions that did not accurately reflect need, including an individual's tier placement and, close on its heels, a cost plan freeze. In addition, APD was attempting to implement iBudget across the state; for the first half of 2013, anyone who did not request a hearing received a reduction equivalent to either their algorithm or the "sum of services" that was later held invalid in court. This amounted to about 25% or more of total enrollment.[2]

Finding an appropriate model year will be no small task. Yet, without an appropriate model, there is no way to develop an algorithm that will be a reliable predictor of need. Using a model year that is fraught with inaccuracies could easily result in a "reliable" algorithm that mirrors those inaccuracies. It could well be that before

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[1] How "reliability" is even determined? The algorithm was tested for the "R-squared" factor, which is "the goodness-of-fit of the linear model." We non-statisticians often think that an R2 value of 65%, for instance, means that 65% of the time, the algorithm will result in the same funding amount as the individual's cost plan based solely on need. Instead, the R2 is really just a way to explain how close the algorithm gets to the line created by a graphing of the cost plans from the "model year." We need to look closely at the line, the spread, and the model year that is used.

[2] At the workshop, Dr. Niu stated that when the current algorithm was run for 2013/2014 FY, its R-squared value increased. The presumption was that it had become more "reliable." It seems, however, that comparing the algorithm to a model year when the algorithm was *used* would always result in a higher correlation. This would not, however, provide any insight into whether or not the algorithm did a better job predicting the actual funding needs of a client.

trying to devise a new algorithm, APD needs to use the next FY year as the model by making client needs are the primary determinant of cost plan funding.

11. How are outliers determined?

In the Report, it looks like the current algorithm was determined after taking 4.7% of the population (extreme low and high cost plans) before models were run, then another 5% afterwards. Removing "outliers" after the model is run seems counterintuitive, especially if we do not know the factors that resulted in the low or high cost plans. How do we determine who are the outliers and whether they have any common needs? More important, how do we assure that the outliers will receive adequate funding?

12. Due to the complexity of devising and testing an algorithm, it would be beneficial to have access to one or more statisticians unrelated to the developer or his institution.

In addition to Dr. Niu, it would be helpful to have another point of view to help explain the issues or come up with solutions. In most issues involving our clients, we naturally have available an assortment of experts on autism, behavioral problems, rate structures, etc. In this case, few of us have statistical expertise. Relying on a single expert (or even two from the same institution) limits our ability to explore options.

From: Dianna McCullough <dianna.mccullough997@gmail.com>
Sent: Monday, December 22, 2014 3:43 PM
To: iBudget.Algorithm
Subject: Thoughts

After this meeting and I found the information on an algorithm I knew it was not going to work and here are my thoughts why:

Dear Jim DeBeaugrine:

I attended the September 22, 2009, meeting where you spoke and then provided hand-outs pertaining to the iBUDGET, CDC+, Flexible Benefits; and the Waiting List. I have since received the 56 page draft of the iBudget plan that I recall you said you had to have to the legislature by February 2010. Going back over The Road Ahead for You and APD, looking again at my notes from that meeting, and working on digesting the IBUDGET plan, has prompted me to forward the following input and concerns:

Since it's been perceived for sometime now that the budget in place is individual, the iBudget sounded similar enough that the phrase statistically generated formula, that yourself and the APD Road Ahead referred to did not register until I began reading the iBudget draft and came to the word Algorithm. After looking up the term Algorithm in the dictionary - it's not necessarily a common household word - I understand why page 24 of the iBudget draft refers to Algorithm as an intimidating word; it's a process accomplished through mathematical comparison.

With the QSI having already been under scrutiny and a questionable tool in itself, how on earth can something like an Algorithm that compares credit scores, and sounds like the equivalent of the Gallup Polls or Nielsen Ratings, be considered a reliable source in determining the individual needs of people with Developmental Disabilities? When an Algorithm is used, what happens to the human factors that are so important in working with vulnerable people? If an Algorithm performs better with less variables, won't the system again be jeopardizing individuality & familiarity, two critical components in the ability to overseer the health, safety and well-being for people with DD?

Conversation, used to show one of the contrast between the current way budgets are calculated vs. the iBudget way, is one of those human factors I am afraid the use of an Algorithm will eliminate. When face- to-face meetings are fulfilled with sincerity, useful knowledge and teamwork, not much can match their benefits. Through discussions and visits, the Support Coordinator has the advantage of building a sound relationship between consumers, families, & caregivers. Having the right qualities can provide the Support Coordinator the opportunity of accomplishing a broader perspective of the overall situation of the individual and their environment, placing them (SC) in a far more favorable position than an Algorithm.

Common sense tells us that reliable and valid data is only as good as the integrity and discipline of the individual documenting or passing on the information. Accuracy is critical. When resources cannot be utilized, when needed services are being denied and there are repercussions from inappropriate placement in the Tiers, what accuracy can there be? Because controversy over provider rates, PCA hours, service reductions, Tiers, re-basing, postponement and/or denial of the Fair Hearing, has kept us in a tumultuous and chaotic state since 2007, I question how it's possible any modeling of funding for an Algorithm, from the chosen fiscal period especially (any period really) would be capable of providing accurate data/statistics?

I am not a negative person, but more-and-more it is sounding like the Algorithm, and the fine-tuning of it, is going to create some serious concerns for people with developmental disabilities. I have looked at the changes that were listed if the iBudget/Algorithm is used; increasing the flexibility in the service array; streamlining the prior service authorization; freeing up the waiver support coordinators' time; reduced likelihood of policy changes; reduced bureaucracy and red tape; greater control over the individuals life; confidence that funding is fair in comparison to other consumers; greater opportunity for new funds to serve the wait list; security of a financially stable system that will be there to serve down the road; greater flexibility for consumers to respond to changing needs and greater ability to choose services that matter to the individual. This all sounds very positive, wonderful, yet to-good-to-be-true. In my heart and that place that tells you something is not right, I am convinced there is a trade-off here and I found, exactly what I'm afraid of, in the feedback from other stakeholders (I am a stakeholder,too): the iBudget is a way to make cutting consumers' budgets easier.

You may or may not remember the article "Broken Promises", but if my memory serves me the prominent issue written about was the promise to parents of the developmentally disabled that if they agreed to take their loved ones home they would have support. It's been years yet the struggle to ensure those pledges are honored continue to be a monumental tasks for parents and advocates alike. The iBudget draft has made some eye-catching promises, but trust, a vital element, is hard to accomplish when promises continue to be broken; through one avenue or another. The waiting list has been a broken promise, the theory of the Support Coordinator is a broken promise, the CDC+ is becoming a broken promise and the promise of support is broken because it continues to be disruptive and unsettled.

During an interview on Face-to-Face you mentioned that the DD funding is not an entitlement. I don't mean to be vicious when I say whenever I've heard entitlement used in reference to DD, the context of this word seems to heed a warning rather than give the hint, that if there were an entitlement, it would provide a guarantee of benefits and help with the decision to do the right thing for people we certainly know will always need our assistance. What is your input on this idea? I would like to know the pluses or any negatives if there was an entitlement.

I do not take lightly the job of advocating for my son or for other consumers for that matter, but honestly, just between the iBudget and the Del-Marva changes things are getting a bit overwhelming so it's time that I wrap this up. I understand, in your position, you have your hands full and a tremendous responsibility yourself, but count your blessings if you and your loved ones have good physical and mental health, because these 2 entities contribute far more to happiness than I think is appreciated and they may very well too, in this system, determine if one really lives or merely struggles just to survive.

Sincerely

Dianna McCullough dianna.mccullough997@gmail.com

From: tallytribe@aol.com
Sent: Friday, December 19, 2014 4:07 PM
To: iBudget.Algorithm

In looking at revisions to the algorithm methodology, you will need to consider how to treat the 2,000 or so individuals enrolled in the CDC program since CDC enrollees have the ability to pay their service providers rates which are different than the traditional waiver payment rates. For example, our 15-year-old daughter has intensive behavioral issues and can be extremely dangerous to both herself and others on a regular basis; it is therefore essential that her service providers be properly equipped to meet her intense needs. For this reason, we pay her respite providers 15 dollars per hour since we require that they maintain higher skills and qualifications (such as being trained as behavior assistants) in order to keep everyone safe. Note: The 1:1 non geographical rate for respite providers under the waiver is approximately 11 dollars per hour. The ongoing provision of respite services (at the higher rate) gives us just enough of a break to allow her to safely remain in the family home and avoid seeking a more costly placement within a licensed residential facility. In addition, the budgets for all CDC enrollees are reduced by 8 percent as condition of participation in this program....not sure if the existing algorithm takes this reduction into account. For these reasons, I would recommend that a different type of methodology be utilized in calculating the algorithm budget amounts for CDC participants.

Also, when selecting the fiscal year in which to look at utilization and expenditure data, it is important to consider the impact of the tier limits during particular timeframes. My daughter was on Tier 4 at the time of iBudget implementation and a policy decision at the time was made to keep her budget capped at the maximum amount for that tier. However, her algorithm amount was actually 10 thousand dollars above than the Tier 4 limit. Since her needs far exceeded her tier limit (but would have been met by the algorithm amount), we were forced to exhaust nearly all of her CDC savings in order to continue funding necessary services. If the class action lawsuit appeal had failed, we would have been forced to apply for a budget increase via the Significant Additional Needs process. All this serves as a caution not to automatically assume that all client needs were being met prior to the recent budget increase for the 11,000 class members.

Finally, for children with autism and/or severe behavioral issues, I think you need to take a closer look at the age of the client. As she approached puberty, my daughter's size and strength grew exponentially (thereby making it much more difficult to safety manage her during outbursts).

Thanks so much for the opportunity to provide feedback. As a parent, I take great comfort in knowing that the APD staff members who are involved in refining and implementing the algorithm are the most caring and compassionate people I know and will without a doubt work tirelessly to ensure that whatever changes that are ultimately implemented will allow sufficient funding to enable our clients to safely remain in either their own homes or family homes for as long as they choose.

The following comments are being made by Tricia A. Madden, Esq., 108 Beaufort Drive, Longwood, Florida 32779. Office number 407-592-5022, Home number 407-682-4585, Consultant, attorney, and parent of an APD consumer.

COMMENTS on the iBudget System

I have just listened to the recording of the December 18th workshop. I was appalled by the focus of Dr. Niu and APD. Now I have to review my earlier comments to determine what if any need changes to account for the two significant attitudes that emerged from the December 18, 2014 workshop toward the purpose and design of the algorithm. I have previously submitted comments on the propose iBudget rule which is really six rules. I made some comments on the algorithm in that submission. Nothing I heard in the recording of the workshop has changed any of the comments I made on the Proposed Rule. I do want to express my appreciation to Denise Arnold and APD for recording the workshop and downloading it to the APD website, and providing access via the web to the next workshop.

Dr. Niu is as he said, just a statistician. He could not quit focusing on having a model year. This is in spite of the fact that everyone agreed in the audience that there is not valid base year now. APD staff even suggested that perhaps some of the data could be manipulated to create an artificial and illogical base year. Dr. Niu's comments demonstrated strongly that he is not capable of completing this project without at a minimum assistance from another statistician or two with more long term experience in working with this population served by APD. Another statistician from the same University is like having a copy, not a new and perhaps different approach that can be cross discussed and evaluated. I worked for a very large University and attended several small and large as I picked up degrees. The academic pattern of similarity is inherent in the atmosphere of each department. If the Agency cannot have the courage to give the Governor and the legislature the facts of the the reality of the population rather than just trying to meet the proposed budget of those two entities, then we have a political agency and not an advocate. The discussion by APD staff and Dr. Niu confirmed the ARC comments that this has become more of a cost containment device than a true effort to provide equitable funding to meet the needs of the clients.

APD should be advocating for the funds the agency needs to meet the needs and leave it to the elected politicians to make the decisions on how they are or are not going to meet the real needs of a very fragile population. The cost containment focus is in sharp contrast to what other states have done in trying to develop an algorithm. The lack of consistency on a base

year in the workshop audience due to the fact that there is NO good base year in 2007 or to the present that can be created to satisfy the cost containment or, more important, the question of needs.is

That is borne out by the admission by APD in the oral hearings and its briefs and in previous budget hearings before the Florida legislature. APD has admitted that the current algorithm had a "harsh" impact on numerous clients. That eliminates any model base year used to date as being valid. It also projects that until the algorithm is adjusted as Dr. Niu said was to be done with new variables, there is nothing with which to compare any iBudget run

The QSI also does not recognize those factors when completed on Kevin. Since the QSI only covers the last 12 months of Kevin's life when it is prepared, it has no variable to fully reflect Kevin's functional and health and safety limitations and risks. This is equally true for many of the APD consumers. Kevin has a fairly recent QSI by APD standards since it was redone less than 3 years ago. His major health issues mentioned above occurred before the cutoff backdating deadline so the effect of the hospitalizations are not in the total. The full effect of the changes in home environment, caregivers aging and health issues, and the gradual decline Kevin is incurring are not adequately addressed in the variables written into the QSI inquiries.

1. The threshold year of 2007-2008 was a poor choice. Although it was pre-tier, when the iBudget algorithm was run, it included the artificial limitation imposed on consumers covered under the Family and Supported Living Waiver of $15,000.00 max regardless of the client's needs. Surely no one could observe some of those consumers and families and realistically believe thattheir funding levels reflected their real needs for safety and health , much less a quality of life as was expected when the Federal Waiver Law was designed. (I was part of that effort in Washington so am very familiar with its intent.)

My understanding of the workshop discussion is that Dr. Niu strongly proposed FY 2013-2014 as the next model year. That would clearly produce a false statistical positive since that year represents a year when many cost plans were artificially reduced by the court identified limitations of Dr. Niu's algorithm. Dr. Niu obviously would like to use 2013-2014. Because he sees it as just comparing his budget algorithm against his budget algorithm with a few tweaks or changes in some cost plans. However he cannot get past the fact that the 2013-2014 year was muddled by all the different types of determination of budgets that were in play You cannot adjust FY 2013-2014 to accommodate the number of Consumer budgets that rejected the reductions and are still running on old cost plans pre the iBudget official run. That is ditto for the cost plans that were based on compromise decisions. The restored budgets further muddle the FY year. Many parents I have talked with did request hearings. Others wanted to

but decided to take the easier route to them of agreeing to some level of compromise. Many families did not request hearings, but then regretted that too late. They made the wrong decision for a number of reasons including they did not have the means to retain legal assistance, were afraid of the hearings, afraid they might even lose additional funds, or just did not have the energy to deal with a hearing in unknown waters and take care of their family. Their reasoning was logical because the hearings are run in such a manner to disadvantage those who have no legal background, or even those in the legal field who have no knowledge of Florida's disability service system. That I can attest to under oath. That makes it impossible to even pick a past FY at this time to use as a model. I suggest that before any algorithm is "validated" against a model year, it needs to be run against at best the next full fiscal year in which the cost plans returned to the old figures and services are being utilize It also needs to wait for the missing variables discussed at the workshop are addressed and added to the algorithm. I have already written on some of the commissions and they were discussed at the workshop but I am including them with perhaps a few additional comments from here to the end of the comments I am submitting.

2. FY 2013-2014 makes no provision for variables to consider the caregivers health or age status or the physical environment of the home (need for modifications etc.) Aging is not a simple factor that you can pick a year and everybody is in the same condition. That would seem to be a hang up with Dr. Niu on clients. He probably has the same misguided concept for caregivers. He clearly in the workshop discussion did not know much about the status of family caregivers living with the client and how variable that set up can be. He assumed a bad thing statisticians frequently do, that the family caregiver to be evaluated would be on one person. He never mentioned any clear thoughts about multiple family members providing care in the home or from outside the home full time or part time supports or caregivers and on and on in his lack of insight. This concerns me in that even with data that is to be provided according to the APD staff, he may not be able to correctly value the effects of the data on the needs for services and costs.

3. **The QSI also does not recognize numerous significant factors** when completed. For example, my son was diagnosed with esophageal cancer in 2008,had esophagectomy in 2009 which seriously altered his anatomy and his GI systems' functionality, then a bowl impaction in2011 sent him to Florida Hospital where he developed hospital incurred chemical pneumonia caused by the poor medical care and led him to 23 days in ICU where I lived with him and my husband constantly came and went to back me up. That ICu with coma , intubation eetc, led to a recent diagnosis of Mental Disorder NOS caused by "Delirium in ICU". As a result of the combination of Kevin's genetic chromosomal defect (Cri-du-Chat 5th chromosome partial

deletion) and the chemo for the cancer, Kevin now has myleodyohasia syndrome (MDS) (a precursor to leukemia if not carefully monitored and managed medically by his oncologist and daily by us), Since the QSI only covers the last 12 months of Kevin's life when it is prepared, it has no variable to fully reflect Kevin's functional and health and safety limitations and risks. The QSI does not reflect that with all of Kevin's problems one or both of his caregivers, one paid, one not, my husband and i stay on the road daily to transport him to ADT, doctors, labs, tests, therapies, and more. This is equally true for many of the APD consumers. Kevin has a fairly recent QSI by APD standards since it was redone less than 3 years ago. His major health issues that have had permanent impact on Kevin and effects that continue mentioned above occurred before the cutoff backdating deadline so the effect of the hospitalizations are not in the total. The full effect of the changes in home environment, caregivers aging and health issues, and the gradual decline Kevin is incurring are not adequately addressed in the variables written into the QSI inquiries

We personally had to dig deep and pay for lifts in our home as Kevin's physical functionality has age changed, and we as his primary 24/7 caregivers have aged. We had no choice because I, as an unpaid caregiver have to help my husband to lift among other shared care for Kevin. I had to have surgery and we could not wait for the slowness of the system to provide the lifts, and the system did not provide for increased temporary care to replace me because I was having the surgery and not my son. That was not considered by the current algorithm and certainly was not considered by the weight factors. Many families do not have the resources to pay for those modifications or temporary extra help with their personal resources. We will not in the future and we had to dig into what was to be retirement assistance as our retirement resources got hit as many did. Many families, as we have done, have to fund many medical treatments out of their own pockets to get reasonable care for their consumer. The Affordable Care Act will not resolve that issue. In Kevin's case to get a doctor willing to agree that his quality of life was worth trying to save when he had a severe cancer, we had to go out of Orlando to MAYO CLINIC to get competent care. Kevin is quite happy to still be among the living. However he does require 24/7 hour care now, but as the QSI is worded that factor is only minimally factored into the QSI score and the weight factors selected by Dr.Niu... The QSI does not describe some of the care variables Kevin requires. Nothing exotic ,just requires a careful schedule of care 24 around the clock, not every minute, but 24 hour coverage by qualified persons with medications, therapy, assistance with fecal matter extraction, etc., etc.,.

I am not a Registered nurse. However, due to my past history with hospitals and care of family and especially with care of Kevin while in the hospitals, his doctors send Kevin home for

me to supply all the LPN care and the RN care that is allowed without any legal issue arising for me as a family member. The doctors think I can do tube feeding, IV care (not the original hookup that does require a license or certification), flush his port and drain fluids from his chest cavity and more and get Kevin up on his feet and recovered better than the care offered by hospitals and by Visiting Nurses. I heard the discussion that Nursing care and its cost should be factor differently because it raises cost. That comment was made by a person who has a narrower view of what some families do for their consumers different from those she has experienced in her practice. The contact level is different too when you are the one doing the care as opposed to the attorney or even the nurse coming in from outside and not there on a full 24 basis. I know that well, because I am also an attorney who has worked in the disable population law area since 1984. I mention the comments in the workshop only to demonstrate that the comments you received in the work shop were and do reflect broad differences among those there and also among all the families and other caregivers who could not travel to Tallahassee, All of this affects significantly the ability of a statistician to develop an algorithm that equitable bases funding on a client's level of needs when that statistician has no background in the population (4 years is nothing) to help him place the variables and the weights in prospective.

5. The weight factors of the algorithm are based on an erroneous assumption by Dr. Niu according to his own testimony. He assumed that anyone with severe physical issues and limitations in function would be fairly treated by the algorithm because those individuals would obviously have significant behavioral issues. Kevin for example, does have some behavioral issues, but they do not weigh very high on the QSI. He is also now on an antidepressant, for a new diagnosis Of Mental Disorder NOS. That particular medication, as I recall, would probably not add significantly to his QSI score.

6. By keeping Kevin at home, we save the State of Florida considerable sums. If Kevin has to be institutionalized or in other language incorporated in a group home, his health and safety factors would cost at least double his current budget. The end result on the other hand could just be that in another setting he would die in a fairly short time. You see, Dr. Niu's algorithm and the QSI as factored in does not cover the fact that Kevin has no esophagus beyond 3 mm and has a digestive system that requires him to take medication daily and to walk with assistance for many hours daily. Wheel chairs end lives much sooner for everyone who does not have assistance to substitute for their own ability to not walk on their own by providing some form of physical activity in a vertical position and preferably weight bearing. No group home will be willing to give Kevin the daily physical walking he requires. The QSI does not even include that as a factor for someone like Kevin who is a wheelchair defined person.

There are numerous families I have spoken with when they have asked who have different but similar consumers with severe physical limitations and low physical functionality. Lying in a bed with mechanical aides or sitting in a wheelchair all day does not represent the provision of services that protects health or quality of life. Yet the QSI does not clearly identify the distinctions between clients in the physical factors area.

7. Parts of the audio were hard to hear clearly when Dr. Niu was speaking. I believe I heard him discuss that the functionality and the physical disability sections overlap to some extent. I could not hear if he used that as a reason, or thought he should, to minimize those factors in the weight factor. The two areas can overlap in the sense that the physical factors do also affect functionality but as the QSI is worded; neither area gives a clear picture of a severely physically impaired client or the effect of physical impairments and aging on health and safety issues.

8. Kevin, my son, is non-verbal. Although we have recently secured an ACC for him through other funding in the community, he is still almost totally limited in his ability to communicate with-it and the public and even neighbors and friends are not easily trained to be adept at using his ACC to communicate. Kevin's cognitive level is too low to give him the ability to encourage others to learn to use the ACC. It is helpful to us at home and in the far future we may be able to teach a few others to make the effort to use it with him. Yet the QSI rates his non vocabulary at a lower rate than someone who is able to talk to a greater extent. That is clearly illogical. His lack of communication places him at risk since he is limited to pointing and eye contact, is not able to walk independently to reach for things to convey needs , has limited fine motor control , and does not know how to write. He is at great risk unless he is with the few people who understand his nonverbal efforts at communication. He could not in an accident for example tell a medic that his stomach is up among his lungs, leaving him at serious risk if someone were to try CPR compressions. His condition is such that in a hospital transfer situation, the RN/paramedic in charge quickly agreed that I had to ride sitting right next to Kevin in case he required any care in route. That type of limitation for Kevin is not reflected in the QSI at all except that the last QSI did have a long narrative. Unfortunately that narrative does not figure into the algorithm.

Kevin's dilemma with the QSI is common to many physically limited individuals. Speech may be a cognitive limit or, as in Kevin's case, a physical limitation. Either way it is erroneously considered in both the QSI and therefore the algorithm.

6. Transportation should not be excluded in the consideration of final budget figures, but more likely than not, does not provide a readily described variable that would fit into the iBudget algorithm. In our case we transport Kevin. Some day that may not be possible.

Kevin cannot use our local Special Needs transportation system. He cannot communicate either to the driver or, if a problem occurred, to any one coming to his rescue or to report any abuse. He would be at serious and dangerous risk. I know that well because when working full time as an attorney, I had numerous occasions to sue that service for neglect and resulting injury. That has also been the case even with nursing home privately own transport. However, there is no reasonable cost factor considered in the final results of iBudget or the final cost plan for the real cost of safe transport in the Central Florida /Orlando area.

9. Complex or chronic medical issues do require substantial services. Some have been discussed above. Communications lacks easily increase the likelihood of increased safety risks with complex medical issues and life threatening injuries or even unintentional neglect.

Areas of needed funding are not currently funded, or if so, not without tremendous documenting and justification and lengthy delay. Dental is only minimally available under regular Medicaid and even, if a family could afford it, dental insurance. To find a skilled dentist who will handle some of our disability population can require higher cost. Environmental adaptations have become a mountain to overcome. In our case we were able to cover our recent purchase of "used lifts" etc. because I required surgery which meant I could not lift for a long period. Kevin now requires two people lifting at home because we are older and less strong and Kevin is losing physical strength given all the events he has been through and his aging increase at 41 years. To fund those in a timely manner we had to dig into funds that were intended to provide for all three of us in the years to come. This could place Kevin in a perilous positon of facing a placement out of the home.

10. Aging of the client. I listened with some amusement to the discussion of the aging client in the workshop. Unfortunately those spouting specific ages as the variable to enter were lacking seriously in the medical knowledge of aging as well as just not thinking with common sense. Dr. Niu kept harping on 55 or at least 50. I assume that is an age where altering his algorithm is easier to handle to produce cost containment results. One of the previous members of the "stake holders group" hung on to his idea that the division at 21 solved all problems. Clearly these people were all either really healthy and their older family members were also, or they know very little about the aging process in the even the general population. There is no magic age which fits all caregivers or all clients. It needs to be a factor in the QSI and in the algorithm. It requires more though than just a numerical age. One side of my family all lived to their 90's. The other side never made it out of their 70's. Which side will I follow? Which age will my husband reach? How much will we decline from the process of aging? How much will our caring for a heavy disabled man/boy hasten our own physical issues? No one can put that into a numerical year much as D. Niu and some of the audience at the workshop wanted to do.

The aging of the client discussion was even more unrealistic. Kevin is feeling the effects of what happens to someone born with a rare syndrome, significant boney and muscle issues and an accident a few years ago. At 41 arthritis or overuse of a good limb over the others that do not function as well is setting in with pain. Contractures change and at the same time some hypertonia has increased. This just demonstrates that no algorithm can use a magic number to represent aging and needed additional services. Cerebral palsy victims age faster, Downs's victims develop dementia or Alzheimer's earlier than the general population. How are variables going to be set up in the QSI to correctly describe the client? Dr.Niu once again showed the lack of common sense or reality of isolated statisticians working in an academic environment.

11. **The algorithm development process.**

The entire process was and does face almost insurmountable problems. AS a student of statistics in college and even more recently, the invalidity of statistics is well recognized by the very individuals who earn a living touting statistical models. Dr. Niu, as its creator of course, would probably not agree publically. The decision to select Dr. Niu with his lack of practical and long-term experience with the population he was trying to evaluate was, as has been shown, and is a grave error by APD. The G.B. trial demonstrated that when it's short coins were identified in oral argument by two of the judges. The ability to use his algorithm to "ensure(s) that equable allocation of available funds to each client is based on the client's level of need" or to meet the requirement in the court order that the methodology be based on reliable variables that "reasonably" reflect the client's needs was impossible before he began.

If APD is going to persist infusing Dr. Niu to try to fix" the problems, I suggest that APD bring in at least two more statisticians who have actual long term experience in the field of disabilities. Those people do exist and have been used long before the Pennhurst case to demonstrate the real needs of persons with disabilities and the cost factors associated.

The current approach over years has cost APD an f=greet del of wasted funds that could have biter been used to serve the needs of the population served or needing services. Money has been wasted on legal fees, legal in house and out of house counsel, legal costs, families and individual consumers have endured wasted time and significant stress that was unnecessary and added to their stress in trying to take care of or address the needs of the consumers. Consumers have endured stress and lost services that have diminished emotional and physical conditions by cuts and by hearings before persons without a clear idea of what the services meant to that individual and his or her ability to have a reasonable and safe quality of life.

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January 23, 2015

COMMENTS ON APD's PROPOSED iBUDGET ALGORITHM

VIA EMAIL (david.delapaz@apdcares.org; iBudgetAlgorithm@apdcares.org.)

David De La Paz, Esq.
Agency for Persons with Disabilities
4030 Esplanade Way, Suite 380
Tallahassee, Florida 32399

Dear Mr. De La Paz:

On behalf of the Petitioners in *G.B., et al. v. Agency for Persons with Disabilities*, Case No. 1D13-4903 (Fla. 1st DCA 2014), and Case No. 13-1849RP (Fla. DOAH 20013), as well as The Autism Society of Florida, United Cerebral Palsy of South Florida, and the Macdonald Training Center, Inc., all of whom I represent as legal counsel, this letter serves to provide written comments on the iBudget algorithm proposed by APD and discussed at the workshop held January 16, 2015.

To begin, the Agency should review and incorporate into this rulemaking process the litigation records in both of the above-named cases, and particularly the expert testimony of Dr. James T McClave presented in DOAH Case No. 12-1849RP regarding the statistical validity, reliability and accuracy of the algorithm as it applies to individual clients in the DD Waiver. Dr. McClave recommended a number of specific adjustments to the Agency's proposed algorithm that should be incorporated and tested as a part of this rulemaking process. For your convenience, that testimony accompanies the email transmitting this letter.

The Agency should also review the attached Navigant report on Wyoming's DOORS model, and any more recent studies on that program, for recommended steps that can and should be taken to enhance an iBudget allocation model. Many of Navigant's recommendations—made in 2007—are equally applicable to Florida's iBudget program and should be adopted by Florida. Many of the stakeholder concerns reported by Navigant in that study closely mirror the concerns

raised in the above litigation and the current rulemaking process. As recommended there, for example, we suggest that the Agency take steps to include additional predictive variables (including, e.g., for cost of living based on client location, transportation costs, etc.), utilize continuous-variable models where appropriate (e.g., age), and perform more rigorous statistical validation of the algorithm based on comparisons of the algorithm outputs to individual needs instead of population averages. To the extent Florida can capture levels and gradations of need, it will only enhance the trustworthiness of the model and, therefore, the public's view of the model.

We appreciate the Agency granting us the opportunity to continue to discuss beyond the comment period our concerns regarding the algorithm, including the possible use of an altogether different mathematical model, to avoid our filing suit over the Agency's proposed iBudget rules that, as one example, propose the same algorithm stricken as invalid in the above litigation. We look forward to continuing the public dialog on the iBudget proposed rules, including an appropriate mathematical formula for Florida's iBudget, between now and the February 26, 2015 public hearing the Agency has agreed to hold on the proposed iBudget rules.

If you have any questions or comments regarding the above noted materials, please feel free to contact me at grollini@lawfla.com, or (850) 553-3454.

Sincerely,

/s/ Gigi Rollini

Gigi Rollini, Esq.

GR\cb
Enclosures

Dr. James T McClave Testimony

testified as follows:

DIRECT EXAMINATION

BY MS. WALKER:

Q. Please state your name for the record.

A. My name is James T. McClave, M-C-C-L-A-V-E.

Q. Dr. McClave, where are you employed?

A. I am employed at Infotech, Incorporated, in Gainesville, Florida.

Q. What is Infotech, Incorporated?

A. It is a consulting -- statistical consulting and software development, technical software development firm.

Q. What is your position at Infotech?

A. I'm its President and CEO.

Q. Dr. McClave, would you please look in the joint exhibit notebook -- it should be on the witness stand -- behind Tab No. 25, which is Joint Exhibit No. 25.

A. Okay. I'm there.

Q. Okay. Do you recognize this document?

A. Yes.

Q. What is this document?

A. This appears to be a copy of my current curriculum vitae.

Q. Would you summarize, please, your educational

background.

A. I have a bachelor of science degree majoring in physics from Bucknell University and a Ph.D. in statistics from the University of Florida.

Q. Would you please summarize your professional experience as a statistician?

A. Sure. So following my Ph.D. being earned in the early 1970s, I spent a year as a post-doctoral faculty member at the State University of New York at Buffalo. And when the University of Florida offered me a faculty position a year later, I quickly got out of Buffalo and returned to the great State of Florida where I spent 18 years on the faculty in the -- both the Departments of Statistics and in the Graduate School of Business at the University of Florida.

By then, this is approximately 1990, Infotech had grown to a point -- I started it as a consulting firm during the summers when I wasn't employed by the university. It had grown to a point by then that it required some full-time attention. I think we had approximately 40 employees at that point. So I resigned my full-time position to take management over for Infotech, which I've been doing ever since.

Q. Have you published any statistics textbooks?

A. Yes. I have six statistics texts that I've

either authored or co-authored.

Q. Have you published any articles in any recognized statistics journals?

A. Yes. As part of my academic experience, one of the requirements is ongoing research, and I published articles in peer-reviewed statistics and econometrics journals.

Q. Have you previously been qualified by a court of law as a statistician?

A. Yes.

Q. Dr. McClave, can you describe what the term "econometrics" means to you?

A. Econometrics is the application of the science of statistics to business and economic issues and problems.

Q. And do you consider yourself both a statistician and an econometrician?

A. I do.

Q. Would you please summarize your professional experience as an econometrician?

A. Sure. So my Ph.D. dissertation was in a field called time series analysis, which is primarily used by economists and econometricians because time series typically are economic phenomena, like the stock market is an example or rates of inflation from

year to year. So I actually worked on my dissertation in an area that was more econometrics than statistics, or a blend of the two.

And my experience since earning my dissertation, my consulting experience is not exclusively but probably over 75 or 80 percent to do with business and economic issues, which is, again, the field of econometrics.

Q. Have you taught college-level courses in econometrics?

A. Yes. As I mentioned earlier, I was -- for about ten years, I was in the graduate school of business, teaching both statistics and econometrics.

Q. Have you published any textbooks involving econometrics?

A. Yes. Several of my texts are statistics for business and economics students, and those textbooks have econometric methods in them.

Q. Have you been qualified previously by a court of law as an expert in econometrics?

A. Yes.

Q. Dr. McClave, in your professional career, have you estimated multiple regression models for clients?

A. Hundreds if not thousands of times, yes.

MS. WALKER: Your Honor, at this point, we'd ask the Court to qualify Dr. McClave as an expert witness in both statistics and econometrics based on his knowledge, skill, experience and education.

MR. THOMAS: Brief voir dire, Your Honor?

THE COURT: Briefly.

VOIR DIRE EXAMINATION

BY MR. THOMAS:

Q. Dr. McClave, my name is Harry Thomas. I believe we got a chance to talk on the phone last Friday.

A. Yes, sir.

Q. Since 1989, you've been an adjunct professor?

A. Yes.

Q. What is an adjunct professor?

A. It's a courtesy appointment. I serve on some committees. I occasionally teach for colleagues that are still around the university. It's a non-paying courtesy appointment.

Q. So you've not been teaching at the University of Florida regularly since then --

A. Absolutely not, no.

Q. -- since 1989?

A. That's right.

Q. And the last time you published in a refereed

statistics and economics journal, that was 10 years ago in 2003, correct, based on your CV?

A. That's right.

Q. And the next most recent refereed publication was 16 years ago in 1987?

A. Yes. It was part of my faculty experience, that's right.

Q. And while you haven't been doing that much teaching or refereed writing in the past 10 years or more, your CV indicates that you've been engaged in providing quite a bit of expert witness testimony, correct?

A. That's correct.

Q. I mean, just this year alone, you've provided expert testimony in February, March and May, and now here again in July?

A. Yes.

Q. And in 2012, you provided expert testimony in February, April, May, June, July, August, October, November and twice in December, correct?

A. That's likely true, if that's what that CV says.

Q. And if you look at your CV, I believe it reflects a similar number of expert witness appearances in 2011?

A. Yes.

Q. Sir, is it fair to say that you've transitioned your career from an academic statistician in econometrics to that of an expert witness in those fields?

A. I certainly do more expert witness testimony than I do teaching these days, but approximately 30 percent of my time is spent in management of the Infotech firm, which is mostly a software development firm. So, yeah, I spend probably 70 percent of my time on litigation matters that involve statistics and econometrics.

Q. Sure. But you've never worked previously on any matters involving the development or use of an algorithm in the context of an iBudget type system, have you?

A. I have not.

Q. And you've never been retained to develop an algorithm that will project a budget for persons receiving benefits through the Medicaid waiver program?

A. No.

MR. THOMAS: That's all I have, Your Honor.

THE COURT: Any objection to the tender?

MR. THOMAS: We would object.

THE COURT: All right. Over objection, I will recognize Dr. McClave as an expert in statistics and econometrics. He may testify as an expert.

MS. WALKER: Thank you, Your Honor.

DIRECT EXAMINATION (CONTINUED)

BY MS. WALKER:

Q. Dr. McClave, if I could have you please turn to Joint Exhibit No. 16.

A. Okay.

Q. Dr. McClave, are you familiar with Joint Exhibit No. 16?

A. Yes.

Q. Okay. And if I could have you specifically look at subsection 2 of Rule 65G-4.0210. Do you see that?

A. Yes.

Q. And do you see that that's a definition of an allocation algorithm?

A. I do.

Q. Are you familiar with that allocation algorithm that is depicted in Joint Exhibit 16?

A. Yes.

Q. What do you know about that allocation algorithm?

A. That algorithm reflects the results of a multiple regression analysis that is reported in a technical report by Dr. Niu, one of the experts for the agency.

Q. And is it your understanding that that is the algorithm that is proposed to be used by the agency for the iBudget process?

A. That is my understanding.

Q. Have you reviewed any documents other than Joint Exhibit 16 relating to the iBudget allocation algorithm?

A. Yes.

Q. What have you reviewed?

A. Well, primarily, the technical report of Dr. Niu. I've also reviewed his deposition testimony in this matter, as well as that of Dr. Martin, and other various background material. For example, there were various spreadsheets produced with some data that I've reviewed. There were also preliminary drafts of the technical report that I reviewed.

Q. Are there any documents you would have liked to have reviewed, but you didn't?

A. Yes.

Q. What would you have liked to have reviewed?

A. The final -- typically, in these kind of

matters, I get provided to me the work of the other experts so that I can replicate it, examine it, you know, in detail. And until five o'clock last evening, I had not seen the actual data Dr. Niu used. It was produced. I was hoping that I could stay up late and maybe get some work done on it, but when I examined it, some of the key factors had been redacted. For example, age, which is right here in this subsection that we're looking at as one of the factors in the algorithm, had been redacted, as well as various other fields that would have been required to do the replication.

So that's a long answer way of saying I had hoped at some point to be able to examine in detail what I read in technical -- in his technical report and have not been able to do that.

Q. So based on the data that the agency provided last night, you were not able to run models because information was redacted from that data?

A. That's exactly right.

Q. Dr. McClave, you mentioned Dr. Niu. What do you understand Dr. Niu's role was in connection with development of the allocation algorithm?

A. It's my understanding that he did -- maybe he and his colleagues, but he was responsible for the

statistical work that led to the algorithm that was -- that appears here in this exhibit.

Q. And from the materials you've reviewed, what is your understanding regarding the purpose of the algorithm?

A. It's my understanding that it's to be used for the iBudget, and its intent is to provide an equitable distribution of budgeted funds to the clients.

Q. Does the algorithm have any application to econometrics?

A. I believe the algorithm is an econometric model because it is, again, related to budgets and dollar amounts, which are very typical in econometric modeling. So, yes, I think this is an example of an econometric model.

Q. Dr. McClave, if you now could turn, please, to Joint Exhibit No. 6.

A. Okay.

Q. And if you would particularly look at Appendix 2 to Joint Exhibit 6.

A. Yes, I'm there. Starting at page 83?

Q. Yes. Do you recognize this document?

A. Yes. This is the -- Dr. Niu's technical report to which I referred.

THE COURT: Hold on one second. You said No. 6?

MS. WALKER: Yes, Joint Exhibit 6, and it's maybe a little less than half the way back.

THE COURT: My Joint Exhibit 6 is calculating the new cost plan decision tree.

MS. WALKER: No.

THE COURT: No? Okay. What does it look like?

MS. WALKER: I'm sorry. I'm sorry, it is the -- that's -- I think that's a subset of another exhibit. The way the notebook -- it's confusing the way the notebook is designed.

THE COURT: Okay. Direct me.

MS. WALKER: I think there's a second Tab 6. Do you want me to find it for you?

THE COURT: Please.

MR. THOMAS: Yeah, there are two Tab 6 in this notebook.

MR. TRITSCHLER: The second Tab 6, Your Honor.

THE COURT: Which is?

MS. WALKER: This one, and then Appendix 2. I'll get you there. Right here.

THE COURT: Let me make sure I have the right

exhibit number then. This is --

MS. WALKER: I think the problem, Your Honor, is that Exhibit 4 is a deposition transcript, and there's exhibits to the deposition transcript, 1 through 9, behind that.

THE COURT: Okay. And then --

MS. WALKER: And then the next tab would start with Exhibit 5, and behind that are Deposition Exhibits 1 through 4.

THE COURT: I see. Okay. All right. I'm with you now. Sorry, Doctor.

THE WITNESS: No problem.

BY MS. WALKER:

Q. So, Dr. McClave, are you familiar with the document that begins on page 83 of Joint Exhibit No. 6?

A. I am.

Q. Is this the technical report you described that you reviewed?

A. Yes.

Q. What was the purpose of your review of this technical report?

A. I was reviewing the work for its statistical and econometric reliability.

Q. And based on your review of the technical

report, did you form an opinion regarding the statistical and technical reliability of the algorithm that is described in the technical report?

A. I did.

Q. What is that opinion?

A. I do not believe it meets even basic standards of statistical reliability.

Q. And are there particular reasons why you do not believe the algorithm meets even basic principles of statistical reliability?

A. Yes.

Q. Could you describe maybe your most significant concern with the algorithm to start?

A. Yes. The algorithm, Your Honor, is an equation, a model we call it in econometrics, that relates proposed expenditures, claims amounts, to a number of factors that are unique to each client: Age, living setting, and several others that I'm sure we'll get into.

The ultimate determination from a statistical perspective of reliability is how well does the model do in predicting those expenditures, those compensation amounts. The calculation and discussion of that ultimate goal of the model is totally missing from this document.

And when I undertook to determine what the reliability was from a perspective of how well the model actually does, I found a margin of error, or we call them confidence intervals in statistics. But it's actually a margin of error much like when you see a poll reported on TV. They'll usually say Candidate A is at 52 percent, but our margin of error is plus or minus 4 percent, so it's too close to call. Or if he's at 58 percent and the margin of error is plus or minus 4 percent, they'll say it looks like Candidate A has it.

But that plus or minus 4 percent is the result of a statistical model of a sampling error. Any estimate that we make in statistics has some uncertainty associated with it, and popularly that's called a margin of error. We usually refer to it as a confidence interval.

The margin of error or confidence intervals, which are not reported in this technical report, turn out to be extremely large. I'm sure we'll get into the details, but they're on the order -- the margin of errors are on the order of plus or minus 40 percent. That is not indicative of a reliable model.

Dr. Niu cites a number of other statistics, but doesn't get down to the -- in my view, the

ultimate question, how well is the model doing in predicting clients' needs. And the answer, unfortunately, is it's not doing well at all.

Q. So, Dr. McClave, the technical report describes multiple models that Dr. Niu tried, correct?

A. Yes.

Q. Okay. And can you tell from the technical report what model the agency ultimately chose and that is now reflected in Joint Exhibit 16 in the proposed rule?

A. Yes. It's the model he refers to as 7b, as in boy.

Q. Okay. Where would that be reflected in the technical report?

A. I'm looking. 7b, I believe, is at the top of page 121.

Q. Does the technical report describe how Dr. Niu evaluated the various models he was trying to -- and what technique he used to ultimately pick a model to recommend to the agency?

A. Yes. He does discuss several metrics statistics that he used to evaluate his models.

Q. And did he rely on some more than others?

A. Yes.

Q. What were the main tests he used to choose a

model?

A. Well, I would say, first and foremost, he relied on what we refer to in statistics as R-squared. And you can see it's actually reported just below the columns of numbers, there's something called a multiple R-squared, .6757. That, Your Honor, is on a scale from zero to one, the R-squared, and what it represents is the fraction of variability that this model explains.

So if you picture a pie chart, we start out with a set of compensations for all the 20,000-plus clients. And the purpose of the model is to explain as much of the variability in those compensations as possible. R-squared is one indicator of how much of that variability is being accounted for, and in this Model 7b, the .6757 would indicate about 67-and-a-half percent of the total pie variability is accounted for by this model.

Q. Does the R-squared value tell you what is not accounted for by Model 7b?

A. Well, it does in the sense of variability. You can just subtract that from one. So if it's 67-and-a-half percent that it does account for, that would be 32-and-a-half percent left unexplained by the model.

Q. Dr. McClave, did Dr. Niu use anything else besides the R-squared value in picking one model over another based on his technical report?

A. He did.

Q. What else did he use?

A. He used an information criterion that goes under the name of GIC. Basically, it is a criterion that tries to balance R-squared, that is, adding more variables and increasing the R-squared value, with not overpopulating the model with variables. So it's a balancing effort.

And this GIC criterion is one of many that can be used to try to achieve that balance and let one know when one has achieved a model that appears to be the best among those that are considered.

Q. Did you see any evidence from the technical report that Dr. Niu considered any other tests or techniques besides the R-squared and the GIC in picking one model over another?

A. Well, I would note one other, and that is if you'll look again at the top of page 121, there are two columns at the right-hand side, the "T Value" and then something called "Probability Greater Than Absolute Value of T." Those two columns tell you whether that variable is actually making a

contribution or a positive contribution to the predictive value of the model. We call that the statistical significance of the variables. And he did look to see whether the variables he selected were statistically significant.

Q. So other than the R-squared value and the GIC and looking at whether variables were statistically significant, could you tell if he used any other tools based on what's described in the technical report?

A. I believe, from my perspective, those were the three they -- he relied on to arrive at this final model.

Q. Now, Dr. McClave, based on the description of Model 7b that's reflected in the technical report, do you have an understanding of whether Model 7b reflects the entire universe of consumers for which iBudgets will be determined?

A. I do have that understanding. It does not.

Q. Why do you believe it does not include the entire universe of consumers for which iBudgets will be determined?

A. If you'll read at the bottom of page 120 where he begins a description of Model 7b and then parenthetically says, "removing about 9.37 percent outliers," and then if you look under the model

output, the columns on page 121 where he says comments on Model 7b, the second comment is that, again, 9.37 percent of the consumers, or 2,270 cases, are not included in this model. So he's eliminated almost 10 percent of the clients.

Q. Can you tell from the technical report which consumers fall within the 9.37 percent that were removed as outliers?

A. He does not identify the particular consumers, no.

Q. Does he describe how he chose outliers?

A. Yes.

Q. How does he describe choosing outliers?

A. So the 9.37 percent outliers are chosen as -- again, are getting back to the intent of the model. The intent of the model is to accurately as possible predict what the client's compensation was. These are using '07-'08 dollars, as we'll get into.

And what the -- an outlier are those clients for which the model performs worst, that is, the clients that are so far from the predicted value that they stand out as statistical outliers. And so he has eliminated approximately 5 percent on top and bottom; in other words, overestimates and underestimates of the model, he's removed those from the analysis when

he does Model 7b.

Q. Based on his description of how he removed outliers, would the top 5 percent he removed be the top 5 percent of consumers who got the highest dollar amount expenditures from the agency?

A. No.

Q. Okay. And the lowest 5 percent wouldn't be those who got the lowest dollar amounts from the agency?

A. No. It's not dollar amounts that determine it. It's dollar amounts compared to the predicted -- the model's predicted amounts.

So I'll give you an example. Suppose a client in '07-'08 got $25,000, which is about in the middle of the distribution. The model, in some cases, would predict 8,000, 10,000. That would be so far away from the 25 that it would stand out as an outlier.

So outliers can be anywhere in the distribution. I'm sure there are some on the high side, some on the low side, and some right in the middle like the example I just gave.

Q. Is it a standard practice for a statistician to remove outliers in doing regression models of this type?

A. I would say it's standard practice to examine the effect of removing outliers. In my experience, 10 percent is a high percentage to call outliers. I'm more used to seeing 5 percent, which I think he also did, but in the final model, he used 10 percent. So it's standard practice to look at outliers or the effect of outliers.

To drop them permanently, as he's done here, causes some concern from a statistical perspective. If this model is going to be used for the entire population and not just the 90 percent that -- for which the model does best, then dropping the outliers permanently doesn't, to me, make sense.

If you're going to take all the outliers and treat them separately, that's one thing; but if they're going to be part of the system, that $25,000 person I -- client I just talked about, if that client is going to be part of the system, then dropping that person because your model doesn't do well is not a valid statistical decision, in my view.

Q. What is the impact here of the removal of the outliers in Model 7b?

A. The impact of removing the outliers is to artificially raise the R-squared value. You're dropping out the part of the population for which your

model is doing worst, and so you get rewarded, so to speak, with a higher R-squared because you've taken out the clients that you can't -- that your model is not doing well for. So you get a higher R-squared than you would get if you left the outliers -- if you left the whole client population in the analysis.

Q. And so if the R-squared is 0.6757 as shown on page 121 of the technical report, and if 9.37 percent of the population of consumers have been removed from the model that is shown on page 121 of the technical report, what does that tell you about the predicted -- the accuracy of the predictions of this model?

A. Well, that alone doesn't really get into the accuracy of predictions. It tells us that there are a large -- a percentage for which we're not doing very well, and those have been eliminated. But we haven't discussed so far the ultimate objective of this, which is how well is the model doing as far as accurately predicting.

Q. Does it tell you -- does looking at the R-squared value coupled with the removal of 9.37 percent of the outliers tell you anything about the percentage of variations in the response that are reflected by Model 7b?

A. If I understand your question, it does not

get to -- well, it tells us that the percentage of variation can be raised from roughly 50 percent, which is what he shows when he -- before he removes outliers, to 67 percent, but, again, doesn't get to the ultimate accuracy of the prediction.

Q. What does it tell us about the variations that aren't captured by Model 7b?

A. Well, even with this reduced population, there still is roughly a third, 32 percent of the variation in compensation that's not accounted for.

Q. If you had designed this algorithm, would you have removed outliers?

A. If I were designing the algorithm, I would have inspected the effect of removing outliers, probably 5 percent, which is my practice and standard practice of econometrics. And then I would have asked the agency if I were -- had been the one working for them, I can remove these, but then they're going to need individual -- they'll need individual attention if they're going to be removed; in other words, the model is not doing its job for them. If the agency said, well, some of them are going to get the iBudget amount, then I would put them back in, I wouldn't remove them.

Q. In your opinion as a statistician, was Dr.

Niu using the correct tools to evaluate the statistical reliability of the algorithm?

A. I don't have a problem with the tools that he used. I have a problem with one very important one that he omitted.

Q. And which tool was that?

A. The very first one reported under the numbers on page 121, the so-called residual standard error. That is a very important statistic that he failed to discuss at all.

Q. Does the order in which those tools are described, is that done for a reason?

A. In my view, I certainly -- one of the first things, if not the first thing I look at when I do a model, is the residual standard error. So if I were writing a program, that would be the first thing I'd put.

Q. And what does the residual standard error tell us about a model?

A. This might be a time when it would help if I could go to an easel, because it's a little more complicated.

THE COURT: You may.

(Witness goes to the easel.)

THE WITNESS: I'm going to use my example of

what appears to be a client in roughly the middle or average of the distribution compensation of $25,000. And I'm going to assume that that's the true value that we're trying to predict with the model.

The question is, from a statistical perspective, how well does the model predict that value? How close does it come to that value? And the residual standard error, Your Honor, answers that question.

Before I get to that, just in general, we ultimately get back to some sort of bell-shaped curve, and statisticians typically chop off about two-and-a-half percent on each end and talk about two standard deviations being a measure of uncertainty.

So the question is, what is the two standard deviations in this algorithm in Model 7b? We can get the answer to that by looking at that residual standard error. It's 39.6 on page 121. I'm going to call that 40 for the ease of multiplication. So we take 2 times 40 and that's 80.

And then we have to remember that Dr. Niu is not working in dollars. He's working in square root of dollars, something we'll get into. So

avoiding that for the minute, I'll just say whenever we get a number, to get back to dollars, we're going to have to -- a number from this algorithm, to get back to dollars, we have to square it.

So 80 squared is $6,400. So according to Model 7b, this would be 25,000 minus $6,400. That would be two standard deviations below. And this would be 25,000 plus $6,400. That's about -- if you take 6,000 or 6,500 as a percentage of 25,000, that's about -- do it this way -- plus or minus 25 percent.

So with -- in other words, if the number is 25,000, we can only be sure or certain that we can 95 percent of the time get within 6,400 of it, then we have a margin of error of roughly plus or minus 25 percent. And that is for this reduced population, the population that's already thrown out the 10 percent of the clients for whom the model does worst.

(Witness returns to the stand.)

BY MS. WALKER:

Q. And is there a model in the technical report, Dr. McClave, that is similar to the Model 7b where the 9.37 percent of the population has not been thrown

out?

A. There is.

Q. Which model is that?

A. That's Model 6 on page 118.

Q. And I see there's a residual standard error there for that model. What does that residual standard error tell us if you don't remove the outliers of the algorithm regarding the accuracy of the algorithm?

A. So that residual standard error is 52, 53, 52.95. I will call it 50. Again, Your Honor, we go through the same math. We multiply by 2 for two standard deviations. That's a hundred. A hundred squared is 10,000.

So if we're talking about everybody, the whole population, the whole -- applying this algorithm to everybody, now this becomes 25,000 minus 10,000, in other words, equals 15,000. And 25,000 plus 10,000, or thirty-five -- yes, 35,000.

And what that literally means, Your Honor, is if we've got a $25,000 client compensation value, this algorithm, when applied to the whole population, can only be 95 percent confident that we'll get a value somewhere between 15,000 and 35,000. If you look at that margin of error -- and that's why I testified

earlier, that's a -- for the whole population plus or minus 40 percent margin of error.

Q. Dr. McClave, are you familiar with the term "confidence interval"?

A. Yes.

Q. What is the confidence interval?

A. That's exactly what I've been describing. Typically, in statistics, we use a 95 percent confidence interval. Ninety-five percent of the data in a bell-shaped curve are contained within plus or minus two standard deviations. So if we were doing -- if we got an estimate of 25,000 here, the confidence -- remember, I'm doing some rounding here, but confidence interval would be roughly -- the 95 percent confidence interval would be roughly 15,000 to 35,000.

Q. Are there different types of confidence intervals?

A. There are different type of confidence intervals, yes.

Q. Can you describe the different types of confidence intervals?

A. If we had a thousand clients that all had the same needs and we wanted to know how well are we doing on average for those thousand clients with exactly the

same needs, we would be talking about a confidence interval for a mean value; in other words, an average of, say, a thousand clients.

In fact, what we're doing here in an iBudget, as the name implies, is an individual budget, a budget for a particular client. We refer to that as not a confidence interval for the mean, but a prediction interval, how well are you doing with the prediction for that client. I have been describing here the prediction interval -- 95 percent, I should say, prediction interval. So as I describe in my textbooks, as I've done many times in litigation settings, you need to find out what the model's intent is.

Is it to -- is it trying to predict values at the individual level? Then you want to do a prediction interval. Is it trying to predict or estimate how you will do on average over thousands of cases? Then you want to do a confidence interval for the mean; and, of course, if you are doing a confidence interval for the mean, this will start to shrink because if you average a thousand things, you're going to be closer to the average than if you're looking at it for an individual.

So it's certainly my understanding here that

the iBudget is to be applied at the individual level, and so that's the way, excuse me, that I've evaluated it.

MS. WALKER: Your Honor, if I may approach the witness?

THE COURT: You may.

(Petitioners' Exhibit No. 1 was marked for identification.)

BY MS. WALKER:

Q. Dr. McClave, I've handed you what's been marked as Petitioners' Exhibit No. 1 for identification purposes. Have you previously seen this document?

A. Yes. I saw this for the first time last night.

Q. Okay. And what do you understand this document to be?

A. I read this document to add something to Dr. Niu's technical analysis known as bootstrapping.

Q. Okay. And that would be on the first page of this document, correct?

A. Yes.

Q. Okay. And then if you could turn to the second page, what do you understand the second page to be?

A. I understand at the bottom that he's done a confidence interval using bootstrapping and obtained an interval width of the very last number, about $1,585.

Q. Okay. And how does what he's done as reflected on Petitioners' Exhibit 1, how does that relate to what you described in terms of the different types of confidence intervals?

A. Well, clearly, it's much smaller than the margin of error that we know is true about his model by looking at the residual standard error. So this has to be akin or it -- I haven't -- obviously, I just got it last night, but this appears to me to be a confidence interval for a mean value, perhaps of 10,000 repetitions.

But it's certainly not a prediction interval. It's certainly not an interval that is reflective of the residual standard error that actually exists in his model, which, again, you can see on the first page of this -- of this exhibit. So the residual standard error -- this is, again, Model 7b -- is 40. That standard of error does not translate to an interval width of $1,500 on a prediction interval. It just simply doesn't.

Q. And does the document I've handed you that's

been marked as Petitioners' Exhibit No. 1, does it show a calculation of a prediction interval like you've done here for Model 7b?

A. Absolutely not, no.

Q. And so what would the number at the bottom there that says, "the confidence interval would predict and support based on bootstrapping sample the interval width," what would that tell you about Model 7b?

A. It wouldn't tell you anything about how Model 7b is doing for that one individual that's depicted in the Table 2 just above it. It would not tell you how well you're going to do for that individual. It might tell you how you're going to do if you've got a thousand such individuals with exactly the same set of needs, but it's not going to tell you -- the interval I've put up here is the one that will tell you how you're going to -- what the margin of error is for this particular individual. So his model predicts, what, $37,938. I would just add to that that that's plus or minus 10,000, at least.

Q. And what does the prediction interval calculation that you've done tell you about the accuracy of Model 7b?

A. It tells me that the model is not -- a plus

or minus 30 or 40 percent margin of error is not statistically acceptable. You can do just as well throwing darts as you can with a model that's got a 40 percent margin of error.

MS. WALKER: I'd like to go ahead and move Petitioners' Exhibit No. 1 into evidence.

MR. THOMAS: No objection, Your Honor.

THE COURT: Without objection, Petitioners' Exhibit 1 is admitted.

(Petitioners' Exhibit No. 1 is admitted into the record.)

(Petitioners' Exhibit No. 2 was marked for identification.)

BY MS. WALKER:

Q. I'm going to show you now what's been marked as Petitioners' Exhibit 2. Dr. McClave, have you previously seen Petitioners' Exhibit 2?

A. Yes.

THE COURT: Do you have a copy for me?

MS. WALKER: Yes, Your Honor.

THE COURT: When you said -- when you asked about the first exhibit that had been pre-marked, I didn't see it marked. Are these marked somewhere?

MS. WALKER: I marked it on the copy the

witness has, Your Honor.

THE COURT: Okay.

BY MS. WALKER:

Q. Dr. McClave, have you previously seen what's been marked as Petitioners' Exhibit 2 for identification purposes?

A. Yes.

Q. And what do you understand Petitioners' Exhibit 2 is?

A. I understand -- my understanding is this is Dr. Niu's work, and if you will read the comment at the very beginning of Exhibit 2, it appears to be a response to my previous testimony and my testimony today that the residual standard error is very important by saying it can be made artificially as small as possible by changing the scale of the data. But the R-squared scale and variable, that's a much better measurement of goodness of fit of a regression model.

Q. And can you change the residual standard error and its meaning by changing the scale?

A. You can change the numerical value, but you can't change the margin of error.

Q. Why not?

A. I think easiest is, again, for me to show

rather than tell. So, Your Honor, if you go to page 2, what he's done at page 2 of Exhibit 2 is divide all of the dollar values by 10,000 and then taken the square root, which is part of the algorithm. And if you will notice, the residual standard error is now, instead of 39.61, is .3961 because of the change of scale. And as he points out, the R-squared, which is just telling us the percent of variability, doesn't change.

Well, the residual standard error changes, but now let's think about how we would get back to dollars. So we start with what I'm going to call .4 as a residual standard error of his new model or model with this dividing by 10,000. So that's the residual standard error.

All right. Your Honor, if you'll follow now, what we did before, is the first thing we did is multiply by two, and .8 is what that is. We then squared that, .64. Now we look like, gosh, we're within .64, our margin of error is way reduced. But wait a minute, we divided by 10,000, so we've got to multiply it by 10,000 to get back to dollars. $6,400, exactly what we got here.

So we're just playing games with numbers. The fact of the matter is you can change the scale,

but eventually the client needs dollars. And so we're not going to pay them in increments of -- divided by 10,000. We're going to pay them in dollar values.

And so this, again, is his Model 7b where he's already thrown out 10 percent of the data, 10 percent of the clients, but we get exactly the same margin of error by the time we get back to dollars. So the point of this exhibit is not taken by me. The margin of error is what the margin of error is. You can't change that by dividing everything by 10,000.

Q. Dr. McClave, if you'll look at the second page of what's been marked as Petitioners' Exhibit 2 for identification purposes. Do the coefficients that are used on that page and the table at the top, do they match the coefficients that are in the technical report on page 121 for Model 7b?

A. No. They're all a factor of a hundred less, which eventually is going to get squared, that's back to 10,000, and so, no, they've all been changed by the new scale that we're working with. But, eventually, it all comes back to dollars and nothing is changed.

Q. Dr. McClave, in a regression model of this type, are there different types of variables?

A. Yes.

Q. What are the different types of variables?

A. The variables themselves fall into two camps. There's the dependent variable, which is what it is we're trying to predict, in this case, dollar compensation amount; and then there are what statisticians call independent variables, sometimes called explanatory variables. Those are the variable that are used to make the prediction of the dependent variable.

Q. And going back to the document we just looked at, Petitioners' Exhibit No. 2, where we talked about that chart with the coefficients, what does that list show? Does that show the dependent or independent variables?

A. The list on Exhibit 2 where it says, "intercept, Age, I," and so on, those are the independent or explanatory variables.

MS. WALKER: Your Honor, at this point, I'd like to move Petitioners' Exhibit 2 into evidence.

MR. THOMAS: No objection, Your honor.

THE COURT: Without objection, Petitioners' Exhibit 2 is admitted.

(Petitioners' Exhibit No. 2 is admitted into the record.)

THE COURT: Let me ask you a question. I'm trying to follow this as best I can. On page 2,

under the coefficients on the estimate, the estimate for "live-4"?

THE WITNESS: Yes.

THE COURT: If you're just, looks to me, like moving the decimal point over, why wouldn't that be 12.15, et cetera, rather than 1.21?

THE WITNESS: He's moved it two places.

THE COURT: And why?

THE WITNESS: Because he's divided by 10,000 and then taken the square root, so that ends up being a hundred. And so the coefficients themselves are affected by a factor of a hundred because he's working in the square root domain after dividing by 10,000. So it's very confusing. If he were working in dollars, the decimal place would have been moved four places. 10,000 is ten to the fourth, so we'd see everything moved four places. But he works in square root, and square root of 10,000 is only a hundred, and so it ends up being two decimal places moved for each of the coefficients.

THE COURT: Right and -- okay. It just looks to me like if you move that two decimal points, it would be one point -- oh, I see 1.2, you're right 1.21, got it.

THE WITNESS: Got it?

THE COURT: All right.

THE WITNESS: Yeah. It is confusing.

BY MS. WALKER:

Q. Dr. McClave, we just talked generally about the independent variables. Do you know what the dependent variable is for Model 7b, which was the model that was chosen by the agency?

A. Yes. In fact, he says it right on Exhibit 2, if you look under -- under the bold type, "Model 1," and at the -- excuse me -- at the end of the sentence that he's describing regression Model 7b, it says, "with square root of '07-'08 claim as the dependent variable claim" is what he calls the dollar amount. So he's used the square root of the '07-'08 dollar compensation or claim amounts as the dependent variable that he's trying to predict with these independent variables.

Q. From a statistical reliability perspective, do you have any concern about the dependent variable that is used in Model 7b?

A. Yes.

Q. What are your concerns?

A. Well, the -- one of the primary concerns I have is that's obviously not only a static amount,

that is, it's one year's amount, but it's also getting older every year. So, you know, it's using an amount that doesn't change over time -- obviously, it's only one year. And it's also getting further and further from where we are today when the algorithm is to be applied.

Q. Do you have any other concerns about the dependent variable?

A. Well, I certainly have concerns with the particular transformation, the square root transformation. I think it unnecessarily complicates and may contribute to the lack of reliability of the model.

Q. Can you tell from the technical report how Dr. Niu decided to use a square root transformation?

A. Yes. He went through an analysis that statisticians call a Box-Cox transformation or power transformation analysis.

Q. Okay. And is that reflected on a particular page of the technical report?

Let me ask it this way: Is it on page 113 of the technical report?

A. Thank you for the help. It is.

Q. Okay. You mentioned it's the Box-Cox power transformation. Is that something that you have used

in your practice as a statistician?

A. Rarely, but yes.

Q. Okay. And what do you understand the Box-Cox power transformation is designed to do?

A. Again, if I could use the easel, it would help.

THE COURT: All right.

(Witness goes to the easel.)

THE WITNESS: All right. Or it actually calls them claims amounts, '07-'08 claims. If we're looking at a dollar scale, typically in econometrics, when we're trying to model something that's measured in dollars, we don't have the nice bell-shaped curve that I drew up on the previous. Dollar values tend to be skewed high. They can't be less than zero, and they can be as high as hundreds of thousands in this case.

So if you draw the distribution, say, starting at zero or close to it, it tends to look something like this rather than bell-shaped. Technically, we call that skewed to the right or to the high side or in that upper direction. That's not the kind of data that can be modeled as reliably as data that are more symmetric.

So the whole purpose of the Box-Cox

transformation, it is an attempt to get a skewed distribution to look more like the one I drew on the previous page, that is, more bell-shaped. And so the Box-Cox transformation is typically trying to -- is typically intended to give you a way to transform from straight dollars to something other than straight dollars, which might have -- which might pull in these high values.

(The witness returns to stand.)

BY MS. WALKER:

Q. What does the Box-Cox transformation done by Dr. Niu and as reflected in the technical report, what does that show you?

A. So the dotted line or dashed line that he's drawn there, he doesn't tell us where that is -- I mean, he doesn't show on the scale, but he says down below that -- below the figure that it reaches its maximum at .3. So what that would be telling you is raise each compensation amount to the .3 power. It's not something that's done very often in practice. But, you know, that's what the Box-Cox would say is if you want something more symmetric, it's advising take each claim amount and raise it to the .3 power.

That's -- that's not what he did. He rounded that up to .5, and .5 is the square root of dollars.

So the transformation that he used is dollars claim value under the square root, which technically is dollars raised to the 0.5 power.

Q. Dr. McClave, seeing this Box-Cox transformation, would you have used the square root of dollars?

A. No.

Q. What would you have used?

A. The almost universal transformation that econometricians make is called the log transform, logarithmic transform. So I didn't plan my room here very well, but I will squeeze it in.

We could get, by taking the log of the dollar claim, a symmetric distribution just about matching what we get with the square root. If you look at the Box-Cox picture, zero is the log transform. So if he had taken the .3 and rounded down instead of up, he would have arrived at the most common transformation that I see over and over that I've used over and over, which is the log transform.

And there are two reasons for that, Your Honor. One I've already talked about, which is it tends to make a skewed distribution more symmetric, but it also makes the interpretation of the model much easier. And here's why: By using a log transform, we

are, in essence, changing from dollars -- from talking about dollar increases or decreases, say, due to age, to percentage increases or decreases.

And if you think about the way the economy is reported, when they talk about the cost of living, do they talk about how many dollars an individual's cost of living went up? No, they talk about inflation was 2 percent or 3 percent this year. The reason is they're using log models to do that.

When we talk about compensation in employment discrimination cases or just in general in compensation models, how much people get paid, they're all done in the log domain. Because, in essence, we say a college degree is worth 10 percent or 15 percent more, not a dollar amount more.

So by going to the log transform, all of this would have resulted in us being able to relate things in percentage terms. And it may have improved the reliability or may not, but we would have a -- you remember what I had to go through to get the margin of error. I had to multiply by 2 and square it. In the log domain, the residual standard error is already a percentage -- we have to multiply by 2, but it's a percentage of margin of error.

So, for example, in the log domain, if the

residual standard error was .2, we would multiply that by 2, get .4, and that would have told us it's plus or minus 40 percent. It's still unreliable. But it would have been directly interpretable.

Q. You mentioned that using the log transformation as opposed to the square root of dollars could have affected the statistical reliability of the model. Can you talk about why the type of transformation can affect the statistical reliability?

A. Well, the transformation determines the dependent variable. It tells us -- I talked earlier about the pie, the total amount of variability that we're trying explain. That will depend on what transform you use. So it can have an effect -- again, I haven't been able to get the data to do any of my own work on this, but it certainly can have an effect of overcomplicating and reducing the reliability when you use a transform that, quite frankly, I've never seen used in econometrics, the square root.

Q. Dr. McClave, if I could have you now turn to page 93 of the technical report. That's Appendix 2 to Joint Exhibit 6.

A. Okay.

Q. And based on what is on page 93 and 94 of the

technical report, do you have an understanding of whether any adjustments were made to the 2007-2008 expenditure data to be used as the dependent variable for the algorithm?

A. Yes. My understanding is this lists seven adjustments that are made to the actual expenditures prior to Dr. Niu undertaking the modeling of those expenditures.

Q. From a statistical reliability standpoint, do any of these adjustments concern you?

A. Yes. Most of them are non-statistical. The one that caught my eye from a statistical perspective is on page 94, the sixth -- yeah, the sixth one. It says, adjusted residential habilitation rates for Monroe, Broward, Dade and Palm Beach County by taking out their geographic differentials.

So it's my understanding that the expenditure amounts had a geographic adjustment for those four counties that was backed out prior to Dr. Niu undertaking the modeling.

So what that results in is the model is now treating all counties in the state as if they had exactly the same, for example, cost of living or cost of nursing care or whatever the various needs are that are being met. In other words, the model as it stands

is making no adjustment for, I'll call them, cost of living differences, economic differences across the state. It treats Dade County the same as Union County down near where I live.

Q. As a statistician, would it be something typical that the statistician would do to consider geographic differences, cost of living adjustments, in a state as large as the State of Florida?

A. Yes. Typically, if one is modeling an econometric model of almost any state, but certainly states the size of Florida, the model would need to -- to improve the reliability, one would need to take into account different costs across the state.

Q. From your review of the technical report, do you have any understanding of whether this algorithm in any way takes into account geographic differentiation within the State of Florida?

A. I see no evidence that it does. I don't think it does.

Q. If I could have you now turn to page 121 of the technical report, please, Dr. McClave. I think we're back here, this is Model 7b, right?

A. Yes.

Q. Okay. And from Model 7b that's at the top of the page, can you tell what the independent variables

are that are included within the iBudget allocation algorithm that's been chosen by the agency?

A. Yes.

Q. And what are those independent variables?

A. So going down the list, the intercept is just a constant. That's not a variable. It's just a constant that orients the equation.

So the independent variables start with age I, which is an indicator variable. It takes on the value zero if a client is 20 or under and a value of 1 if the client is 21 or older.

There are then three living setting variables, live-2, live-3, live-4. There actually are four values, Your Honor, but three are included in the model and the other one serves as a base level. So Living Setting 1 is a base level, and then 2, 3 and 4 are reflected up from that base by these variables.

There is a BS1, which is a behavioral status variable from adding certain items in the QSI instrument. There is an FS1, which is a functional status variable adding other items in the QSI questionnaire and then three individual question values from the questionnaire, Numbers 18, 20 and 23. And the QSI questionnaire is included in here, but those are three individual questions that Dr. Niu

determined to include separately in this model.

Q. From a statistical reliability perspective, do you have any concerns about the independent variables that are being used for Model 7b?

A. Yes.

Q. What are your concerns?

A. Well, so my overarching concern is the margin of error that the model produces. But getting down to the individual variables and why it might have such a large margin of error, for example, the age variable, age obviously is a continuous variable. It doesn't need to be broken just into two. It could be used in several ways in a continuous manner. He did some testing of that and determined that two values produced, in his opinion, a more reliable model.

I think there could have been other ways that the continuous variable could have been included possibly to increase the reliability. Again, I haven't been able to work on that, but age is one of the things that was redacted in the data that was given to me, so I have concerns about using it as an indicator variable.

Moreover, Dr. Niu shows that among these variables, the living setting is the -- I may have been calling it a status -- the living setting is the

most important. And as such -- so, Your Honor, you see the weight on BS-1 -- I'll just pick behavioral status, it's 2.5. That is applied no matter what your living setting is. So living setting is taken into account by the living setting variables. There is only one behavioral status variable.

One of the things that statisticians, econometricians, are concerned about is the assumption that that particular variable and all the others has to have the same value no matter what the living setting. There's a way to test that was not done, at least reported on, whether or not the behavioral status and the other variables should vary according to the living setting. It's called a statistical interaction of living setting with the behavioral status. That should have been tested, certainly one of the things that I would have routinely looked at, because it's determined that living setting's extremely important. Given that, we may want either separate models for living setting or at least allow the variables in the model to vary according to living setting.

And then I have two other concerns. The inclusion of these particular three questions from the QSI instrument certainly makes a big assumption that

they are able to characterize the rest of the instrument for all clients. Just because they're statistically significant, certainly doesn't mean they can carry that weight, and I think that may contribute to the 40 percent margin of error.

And, finally, just the small number of variables in this model, it's only got nine independent variables, I believe that certainly contributes. I've already given you several ideas of how it might be expanded, but one of the things I noticed after reading a report from another state is that it has nothing -- it has no variables in here for a service -- services that the clients need, like transportation, nursing care, psychological care.

There are no explicit variables in here of what the clients actually needed last year. It's strictly relying on age, living setting, and some items from the QSI.

Q. Let's talk about transportation for a minute, you mentioned transportation. Can you tell from the technical report what portion of the client's transportation cost response is included within the algorithm?

A. Yes. Dr. Niu actually did a separate model of transportation costs versus the variables that are

in the model. And he found that an R-square of 25 percent, which can be translated to mean of the client's varied needs for transportation, these variables are only accounting for about 25 percent of that; or to put it another way, 75 percent of the transportation costs reflected in the data are not being accounted for by these variables in the model.

(Petitioners' Exhibit No. 3 was marked for identification.)

BY MS. WALKER:

Q. Dr. McClave, I've handed you what's been marked as Petitioners' Exhibit No. 3 for identification purposes. Are you familiar with this document?

A. Yes. I believe this was one of the draft technical reports that was produced.

Q. Okay. And could you turn with me, please, to page 48.

MR. THOMAS: Which page?

MS. WALKER: Forty-eight.

BY MS. WALKER:

Q. Dr. McClave, you talked about the fact that you had reviewed some modeling that Dr. Niu had done of transportation costs. Is this what you were referring to?

A. Yes. This is one of the things I was referring to.

Q. Okay. And what does this tell you about transportation costs as looked at by Dr. Niu?

A. So, Your Honor, I'm focused on the model that's all crossed out at the bottom of page 48. And if you look at it, it's got the same variables as the model we've been discussing with one more at the bottom called T-cost -- that's the transportation cost -- in '07-'08.

And you will notice that moving over to what we talked about the T value and the probability of T, like all the others, it's got a very large T value and a very low probability, meaning that variable is statistically significant, is offering a positive predictive effect. And Dr. Niu so reports at the top of page 49 that it is significant and passes his other tests, but ultimately that variable was not included in the model.

Q. And this model that was tried out with the transportation costs as a variable is not -- is it reflected in the technical report that's in Exhibit 6?

A. This was all redacted, the part we've been talking about, so, no, it wasn't -- it didn't make the final cut of the technical report.

Q. And, Dr. McClave, if I could have you look, please, at page 132 of the technical report that's in Exhibit 6. Are you there?

A. Yes, sorry.

Q. And what does this model do?

A. Here, as I understand it, he's taking the same square root transform, but now the dependent variable. So if you see where he's describing Regression Model 11d, and it says, "square root of fiscal year '07-'08 transportation cost," T-cost is used as the dependent variable with selected independent variables from Model 7b.

Then he talks about having dropped some of them because they don't make sense, they have the wrong sign, according to his analysis. So he then presents a model of transportation cost, square root, as a function of age, living setting, and one of the questions -- QSI questions, Item 23.

Q. And based on that, what do we know about the percentage of total variation in transportation costs that are captured by age, living setting, and self-protection, which is Question 23 of the QSI?

A. Well, if you'll look right below the model, the second line says, "multiple R-squared, .2449." So 24-and-a-half percent of transportation cost is being

accounted for by those independent variables. And as I said earlier, that means 75 percent is not accounted for.

And he notes that, he notes the 24-and-a-half percent in his first comment where he says, "comments on Model 11d." And he said, "In Model 11d, the three independent variables, age, living setting, and self-protection," which is question 23, "explain about 24-and-a-half percent of the total variation in the response variable, the square root of the fiscal year '07-'08 transportation cost."

Q. Based on what's in the technical report, do you know what percentage of variation in transportation cost is reflected in the iBudget algorithm that's been adopted by the agency?

A. It's my opinion it can be no more than the 25 percent that's represented here.

Q. Which would mean 75 percent of the transportation cost is not captured by the algorithm that's in the proposed rule?

A. That's right.

Q. Dr. McClave, we talked a little bit earlier about the fact that the dependent variable doesn't change over time. Is there anything about the algorithm that would tell you if the independent

variables will change over time?

A. No. The algorithm itself, if we're back to Model 7b, does not contain anything that would reflect a time change in either the dependent or independent variables. They're all static. Now, that doesn't mean you couldn't have another questionnaire or additional questionnaire -- QSIs administered at some point. Then there would be changes in the independent variables, but it would still be using the equation that was established on the static '07-'08 dollars. That's the big issue.

Q. Does that concern you from a statistical reliability perspective?

A. Sure. If the prediction model -- any prediction model is going to be used to -- I call it forecasting -- to forecast needs in the future, then it needs to recognize the dynamic nature of forecasting. It needs to recognize the time series -- again, the area that I primarily study -- that time series in econometrics almost always has to -- not almost always -- always has to reflect changes in the economy over time. And this model would not do that.

Q. You also expressed a concern earlier about the adjustment made to the differences in the rehabilitation rates depending on geography. Is there

anything about Model 7b as depicted in the technical report that indicates there's any consideration in the independent variables of any differences in geography or rates by geography throughout the State of Florida?

A. There's nothing in these independent variables that reflect geographic differences, no.

Q. Does that concern you from a statistical reliability perspective?

A. Absolutely. I think it's one of many reasons that the margin of error is as large as it is.

Q. Okay. And going back to age, we talked a little bit about the fact that the Model 7b uses categorical age, in fact, two categories of age, zero to 20, 21 and over, and I think you talked about the fact that you don't look at age as a continuous for an independent variable.

Which would be more likely for a statistician or econometrician to do: Look at age on a categorical basis or a continuous basis?

A. I think we always start -- I'll speak for myself. I think I would always start with it as a continuous basis, and that doesn't mean it has to have exactly the same trend for young folks and old folks. I mean, there are ways of -- again, getting back to interaction -- allowing the relationship of claim

amount to age to vary for different age groups without just knocking it down to two.

So it's possible to do sort of a combination of continuous age that -- whose relationship varies over different intervals, whether it be zero to 20 and 21 to 40 and 41 and up. Still, within those groups, age could be treated continuously. I haven't had a chance in this particular case to see what effect it would have. In general, it would tend to improve reliability, in my experience.

MS. WALKER: Your Honor, before I forget, at this time, we'd like to move Petitioners' Exhibit 3 into evidence.

MR. THOMAS: Is that the draft?

MS. WALKER: That is the draft.

MR. THOMAS: No objection.

THE COURT: Without objection, Petitioners' 3 is admitted.

(Petitioners' Exhibit No. 3 is admitted into the record.)

BY MS. WALKER:

Q. Dr. McClave, are there standard tests that a statistician would use to test an algorithm?

A. Yes.

Q. What type of test would a statistician

typically use to test an algorithm?

A. Well, we've talked about some of the tests that he tests in the margin of error, but ultimately, if a model is going to be used for forecasting or predictive reasons, it's typical to do what we call an out-of-sample or cross-validation test where you withhold part of the data and don't use it -- when we use a certain set of data to fit the model, that's the best case. I mean, we've used '07-'08. It's going to fit there better than any other year because it's the data that's determining the weights that are -- or the coefficients that -- actually, it's called weights in the algorithm -- the weights for the model.

So when I read the introduction to this, I noted that Dr. Niu held out the '06-'07 data, didn't use that to fit the model. And I fully expected to read on that he had done an out-of-sample or cross-validation test whereby you use the co- -- you use the weights that you get when you fit the '07-'08 and then see how well that same model or algorithm does on '06-'07. You do the predictions for '06-'07 and see what the margin of error is.

We know it's roughly plus or minus 40 percent for '07-'08. Is it still 40 percent? Does it get better? Does it get worse? Typically, it gets worse

when you do an out-of-sample test. He didn't do that -- ultimately, he did not do that test the way I expected to see it done.

Q. Is there anything in the technical report indicating that he had the '06-'07 expenditure data?

A. Yes.

Q. Could you turn to page 135 of the technical report, please?

A. I'm sorry, page?

Q. 135.

A. Thank you. I'm there.

Q. Okay. And you will see it says, "Best Selected Models for '06-'07 Claims." Is that the page you're on?

A. It is, yes.

Q. Okay. And based on what's stated on this page, do you understand that Dr. Niu did some type of test with the '06-'07 data?

A. Yes.

Q. What did he do?

A. He basically just forced the same variables into the model; in other words, he re-estimated the model using '06-'07 and exactly the same set of independent variables that we've been discussing, as opposed to a true out-of-sample or cross-validation

test, which, as I said, would have use the '07-'08 weights to predict the '06-'07 values.

So all this does is say '06-'07 data appear to have similar relationships to this set of variables, but it doesn't speak to -- it doesn't speak to what margin of error.

Now, you'll notice that the residual standard error, when he's using all the data, is still in the 50's, 53.1; it's right under the model on page 135. So we've got still at least plus or minus 40 percent even with this model. The problem is with this model he's using different -- he gets different weights than he got when he used the '07-'08 data.

A true test of the algorithm is to take the algorithm as it appears in the first thing you asked me about today, the rule, and apply it to the '06-'07 data, not re-estimate the weights, but use exactly the weights from '07-'08 and see how well you do in '06-'07.

Q. So you would have taken the client, their data, run them through the algorithm and then compared the results of the algorithm produced to the actual '06-'07 expenditures?

A. That's exactly what a cross-validation is, and that's what I would have done, yes.

Q. And then you would have looked at the difference between your actual '06-'07 dollar amounts they got from the agency and what the algorithm would have predicted to determine the margin of error?

A. That's exactly right.

Q. And there's nothing in the technical report indicating that Dr. Niu did that?

A. No.

Q. What is bootstrapping? We talked about it a little bit earlier, but can you describe what it is?

A. It's a computerized way of computing confidence intervals by re-sampling the data and -- over and over again and re-estimating the model to see what sort of variability you get. It's an -- just almost a check on confidence intervals that you can get using, what I'll call, more normal, standard techniques, highly computer-intensive method of doing the same thing.

Q. From the technical report, does it describe any bootstrapping that was done by Dr. Niu?

A. In the technical?

Q. Technical report.

A. No. There's nothing in the technical report that describes any bootstrapping.

Q. Have you seen anything since then that

indicates that Dr. Niu has now done some bootstrapping?

A. Yes.

Q. And would that be reflected on Petitioners' Exhibit No. 1?

A. Yes.

Q. And what does Petitioners' Exhibit No. 1 tell you about the type of bootstrapping it appears Dr. Niu has done recently?

A. It appears that he's done 10,000 re-samples or bootstrapping samples. He reports on page 1 that the weights he gets, on average, are very close to the weights he originally got. He doesn't report a confidence interval for those weights, which is really the reason for doing bootstrapping, so I see that as an oversight.

And then as we discussed on page 2, he reports for a given individual what kind of variability he got in 10,000 bootstraps. But that's treating it as if you had a sample of 10,000 with the same characteristics. It's a not a prediction interval; it's a confidence interval on the mean value.

Q. Okay. And is there information in Exhibit 1 that indicates that bootstrapping was done on the

mean?

A. Yes. The interval width tells me that it was done on the mean.

Q. But would it have been possible to calculate a prediction interval for each of the independent variables using bootstrapping?

A. I believe you could have recal- -- we have the residual standard error, so we don't really need a bootstrap. But, yes, I think you could design the bootstrap properly to confirm what the margin of error is. This doesn't do it.

Q. So there's nothing in Petitioners' Exhibit 1 that tells you the bootstrapping analysis done by Dr. Niu can tell you the margin of error for Model 7b?

A. That's right.

Q. Dr. McClave, if I could have you now turn to Joint Exhibit No. 23.

THE COURT: Ms. Walker, if you're at a stopping point, let's start thinking about breaking for lunch. What's a good time? How much longer do you have for this witness?

MS. WALKER: Your Honor, I have just maybe five to ten minutes longer.

THE COURT: Okay. Let's go forward.

MS. WALKER: I'd like to finish the direct of

Dr. McClave at this point.

THE COURT: Sure.

THE WITNESS: I'm sorry, which exhibit again?

BY MS. WALKER:

Q. Twenty-three.

A. Okay.

Q. Dr. McClave, are you familiar with what's been admitted into evidence as Joint Exhibit 23?

A. Yes.

Q. What do you understand this document to be?

A. I understand this to be an evaluation of something called the DOORS model, which, as I understand it, is an individual budgeting model used by the State of Wyoming. And I understand this evaluation was conducted by Navigant Consulting, the firm I believe for which Dr. Martin works.

Q. Okay. And does this document, Joint Exhibit 23, does it describe an algorithm that was used for the DOORS model?

A. It does.

Q. Okay. Can I have you turn to page 63 of Joint Exhibit 23?

A. Yes.

Q. Okay.

MR. THOMAS: Pardon me, what page?

MS. WALKER: Sixty-three.

MR. THOMAS: Thank you.

BY MS. WALKER:

Q. And what does page 63 appear to show?

A. I believe it shows for the adult waiver program that they have, which independent variables -- a list of independent variables that are used in that model.

Q. Okay. And have you compared the algorithm that's in Joint Exhibit 23 for the DOORS model to the iBudget allocation algorithm that's reflected in the proposed rule being challenged in this case?

A. Yes.

Q. Are there differences between those two algorithms?

A. There's some very significant differences, yes.

Q. What are the significant differences?

A. Well, for one thing, instead of nine variables, this is using -- I think I counted 22 independent variables.

For another, you will notice at the bottom that they actually have services that clients utilize in the system as part of the independent variables, and elsewhere in this document, the Navigant folks

conclude that that's a very important component, accounting for somewhere, I think, 25 to 30 percent of the compensation amounts derived from the model.

So, I mean, there are other differences as well, but I think age, for example, is treated as continuous in this model, but I think, to me, the thing that stood out was the inclusion of services, the conclusion that it was a very important set of variables and the failure to have any such variables in the Florida version of iBudget.

Q. Can you tell from Joint Exhibit 23 how age is treated as an independent variable?

A. I -- you can't tell for sure here, but usually if it were -- if it were a binary variable, it would tell you it was an indicator as opposed to just calling it age. And I think -- and Dr. Martin when he testifies can confirm or not, but I think you asked him that in deposition, my recollection is he said he thought it was continuous.

Q. How do the differences between the model that's reflected here in Joint Exhibit 23 and the iBudget allocation algorithm, how do those differences relate to the concerns you've expressed today during your testimony?

A. Well, I think the inclusion of many more

variables and the service variables are likely to be manifested -- again, I haven't seen the DOORS final model, but I think it's very likely to be manifested in a smaller margin of error. Again, the Navigant folks concluded services were 25 to 30 percent of the compensation. If we're leaving that out of the Florida model, that could explain a very large fraction of what we see as an unacceptable -- what I see as an unacceptable margin of error.

Q. Does the DOORS model as described in Joint Exhibit 23 use a square root transformation?

A. No.

Q. Does it use a transformation?

A. Yes. It uses the standard I talked earlier about, the log transform that was standard in econometrics. The DOORS model uses a log transform of the expenditures.

Q. Are there any -- let me ask you this: In Joint Exhibit 23, did Navigant Consulting make some recommendations regarding the DOORS model algorithm?

A. They did.

Q. And do any of those recommendations -- are any of those recommendations consistent with your concerns about the iBudget algorithm?

A. Yes.

Q. Can you talk about what is consistent about their recommendations with your concerns?

A. In particular, Navigant expressed concern about the DOORS model with respect to it, too, does not have any variable in this list that takes into account different costs of living across Wyoming. I don't know what that would be in Wyoming, but I dare say it would probably be less than Florida. But it does -- they did express a concern that that ought to be considered being added to the model or somehow compensated for in the model, that there are different costs in various areas of the state for nursing care, et cetera.

They also expressed a concern about the static nature of the model, the model not having time-varying capability and discussed that that is something that ought to be looked at as well.

And even with respect to the services variables, right now the DOORS model says you either have the service or you don't. So you either have nursing service or you don't; you either have personal care or you don't. And they expressed some concern that an on/off switch wasn't necessarily enough, that maybe there should be the level of service. I concur with that. That would be likely to improve the model.

At least Wyoming is at least recognizing these services. Again, the Florida model doesn't recognize them at all. So those three recommendations stood out to me as applicable in this case.

Q. Dr. McClave, based on the information you have reviewed and based on your expertise as a statistician and an econometrician, do you have an opinion regarding whether the variables in Florida's iBudget algorithm equitably allocate available funds to each client based on the client's level of need?

A. I do have an opinion.

Q. What is your opinion?

A. From a statistical perspective, I do not believe that it achieves the equitable distribution goal due to the extreme margin of error and all the other issues that we've discussed.

MS. WALKER: Thank you.

THE COURT: Okay. It's 12:05. Let's break for lunch. Come back at 1:15.

(Thereupon, a lunch recess was had at 12:05, after which the proceedings continued in Volume II.)

PROCEEDINGS

(Continued from Volume I.)

THE COURT: All right. Ready for cross-examination?

MR. THOMAS: Yes, sir.

CROSS-EXAMINATION

OF JAMES T. MCCLAVE, Ph.D.

BY MR. THOMAS:

Q. Dr. McClave, when you started your direct examination, you were asked to look at the rule, and I believe you identified in the rule the algorithm that you looked at and then you gave some testimony that that algorithm was -- had a margin of error of plus or minus 40 percent.

Now, subsequently, you did some drawings on the board up there, and so the algorithm that you testified about having a 40 percent margin of error, that was Model 6, not the model selected by the agency, correct?

A. It was either Model 6 or Model 7b applied to the entire population. That's what I tried to make clear.

Q. Model 7b was the one that was selected by the agency, and it wasn't applied to the whole universe, and you calculated a margin of error of plus or minus

25 percent for that model?

A. Right. If you exclude the 10 percent outliers that the model does the worst for and totally disregard them, then the margin of error comes down to 25 percent, that's right.

Q. Right. Now, you indicated that you also use outliers when you are performing a -- developing a regression model, correct?

A. I typically look at what the result is with and without outliers.

Q. And it's true, is it not, that you would not be critical of the removal of outliers from Model 7b if you knew that the agency was going to separately identify the outliers and provide a methodology by which the budget produced by the algorithm could be modified to address the particular circumstances and expenses of the outliers, correct?

A. No, that's not quite correct, because there won't be any way to identify -- remember, I talked about the $25,000 outlier, $25,000 claimant that the model says it's 10,000 or 8,000? You're not going to know that in future years, right? You're just going to have the $8,000, and that's what the iBudget is going to tell you. So you won't be able to identify outliers in future years. The only year you can

actually identify them is '07-'08. After that, you can't.

Q. Well, you're not expecting that this algorithm is going to be updated?

A. I understand it might be updated, but if it's used for any year for which you don't have actual values -- in other words, as I understand it, it's going to determine the actual values -- then you won't know who's an outlier and who isn't.

Q. All right. But for the initial year, is it -- your testimony is that they can't determine who the outliers are?

A. For '07-'08, that can be determined.

Q. Is it your understanding that the algorithm produces the final budget amount for each client?

A. No, I understand that there are potential adjustments made to the amount.

Q. Okay. Look at page 113 of Exhibit 6. That's Dr. Niu's report.

A. Okay, I'm there.

Q. The graph that's on that page, I believe you indicated that a movement to .5 would be an indication under the Box-Cox power transformation to use the square root?

A. That's right.

Q. Then you indicated that if it were at zero, you would use the log transformation, correct?

A. That's right.

Q. Well, this one comes in at .3 now. .3 is closer to .5 than zero, correct?

A. Very slightly, but if you look at the peak, the graph itself, looks to me like it's pretty much at its maximum up -- from zero to .5, and I'm just pointing out that the log transform is much more like what -- much more used, but, yes, .3 is closer to .5 than it is to zero.

Q. And if you strictly applied this, you would go that direction instead of to the log?

A. No. If you strictly applied this, you'd raise everything to the .3 power, and we'd be talking about .3 instead of square roots.

Q. That could have been done, but .5 is closer to .3, correct?

A. Than zero is, it is.

Q. Is there any standard in statistics for how low a residual error must be or how high an R-squared must be to signify statistical validity?

A. In my experience -- there's no hard rule. There is a general understanding that we want the margin of error to be reasonable and that is

typically -- we try to get it below 10 percent in order for the model to have any real utility and certainly no higher than -- in my experience, no higher than 15 percent and feel good about it.

So, again, I talked about polling -- achieving margin of errors of .3 and .4 -- I'm sorry, 3 and 4 percent using much smaller samples than this. So, in my view, in my opinion, and based on my experience, I would expect this to be down in the 10 percent or below range margin of error in order to be -- to accomplish the equitable distribution requirements.

Q. You say there's no hard rule. Can you point to any texts or any literature that support that opinion?

A. Well, all texts, including my own, that address regression analysis certainly talk about the standard error and its -- the relative utility of the model with respect to the margin of error. Again, there's no -- I don't think any text is going to say if it's higher than this, then it's not useful. That comes down to a matter of judgment.

Q. Let's look at Model 7b that's on page 121 of Exhibit 6.

A. Yes.

Q. And you testified earlier about the variables here. Are each of these variables statistically significant?

A. Yes.

Q. Do you consider Dr. Niu's conclusion that these variables have statistical significance in projecting costs to be a statistically valid conclusion?

A. Yes.

Q. Now, I believe you said there were nine variables here?

A. Yes.

Q. Isn't it accurate that the entry on BS1 reflects a sum score of six variables?

A. It's a sum of six numbers, yes, equally weighted.

Q. Six variables?

A. It creates one independent variable.

Q. Yeah. And, likewise, the entry for FS1 is the sum score of 11 predictors, correct?

A. Eleven QSI questions or entries creating a single independent variable.

Q. So if you look at it that way with a 17, you have 17 predictors, those two, plus the other five, you end up with 22 predictors in Model 7b?

A. No, that would be an incorrect statistical conclusion. For it to be a separate predictor, it's got to be a separate variable in the model. If he had taken each of those six or eight or ten, however many components there are, and put them in separately, then I would be agreeing with you. But since he assumed that they all have equal weight and just added them up, that's one variable. It's not six or eight.

Q. Have you done any analysis to determine whether they should have been given equal weight?

A. No, I didn't have the data to do that. I have not.

Q. You have no opinion on that?

A. Oh, I do. By making that assumption, it can't be any more reliable than treating them separately. In other words, treating them separately has to be at least as reliable as making the assumption they should have equal weight.

Q. And I believe you testified that you would have liked to have seen more predictors here?

A. Well, my opinion was the plus or minus 40 percent, if we're talking about the whole population margin of error, indicates to me that the model is likely to be improved by other relevant predictors like service requirements and so forth.

Q. Service -- services. I believe -- let's see, I believe it was over in Exhibit 23 where you pointed out the DOORS model that had 22 variables?

A. That was an example of a model that I understand uses service variables as predictors, yes.

Q. And you thought that was a positive aspect of the algorithm used by Wyoming?

A. That, at least, was what I understand the Navigant report, Exhibit 23, represents to say, yes. They said it accounted for something like 25 to 30 percent of the budgeted amount.

Q. And it's your opinion that Model 7b could perhaps be improved if these additional variables had been included in it by Dr. Niu?

A. Certainly possible, yes.

Q. You don't know one way or the other; it's just a possibility, correct?

A. That's right.

Q. Would you look at page 73 of that report that was prepared by Navigant -- I'm sorry, page 72, of the report prepared by Navigant?

A. Okay.

Q. And if you look at the middle paragraph, "Improving Needs Assessment, the Supports Intensity Scale," you can read all of it, but I'm going to focus

you on the sentence that starts about six lines, seven lines from the bottom which says: "We recommend that the state consider using the SIS on a trial or pilot basis to assess its potential as a replacement to the ICAP. In the longer term, the State of Wyoming may not want to consider the migration of its needs assessment tool -- may want to consider the migration of its needs assessment tool from the ICAP to the SIS."

Are you familiar with either the ICAP or the SIS?

A. Only with regard to what I read in this report. So, no, I don't have familiarity with it.

Q. "This could lead to an eventual reduction in the reliance on service variables that come from consumer claims history. This reduction could progress the DOORS model toward prediction of services best suited to a consumer rather than a predictive model based on the service the consumer has received in the past."

Do you agree with that?

A. I see it.

Q. All right. And they're recommending ultimately that the service predictables can come out of that model, correct?

A. I don't know if it went that far or not. I saw in the conclusion that the recommendation was to at least increase the scale of the service variables from an on/off switch to a larger scale. I did not see the recommendation that they be totally replaced.

Q. Would you expect that any model associating cost to a consumer's characteristics would have a margin of error for individual consumers?

A. If I understand your question, I would expect some margin of error with any statistical model --

Q. Okay.

A. -- no matter what it includes.

Q. Could you create a model that has a very small margin of error?

A. I don't know that for sure, but in order for -- in my view, in order for such a model to be used as it's being used here, that would be a requirement I would certainly as a statistician impose.

Q. Would you consider that model to be statistically valid even if it had many variables with no statistically significant relationship to cost?

A. That gets into a technical area that Dr. Niu, I think, addresses in several places that some variables act as proxies for other variables. We call

it collinearity in statistics, and it can appear as if a variable is not statistically significant because it is correlated with some other variable in the model.

I think it boils down to whether you're more interested in ending up with a small number of predictors or a small margin of error. I think in a prediction model I would be more interested in a small margin of error, even if the model ended up including some correlated variables that appeared not to be -- some of which appeared not to be statistically significant.

Q. You testified about transportation costs. Transportation costs are an expenditure, correct?

A. Correct.

Q. And isn't the purpose here to try and predict expenditures?

A. Future expenditures, yes.

Q. So wouldn't you expect that something we were trying to predict would do a good job of being a predictor?

A. Well, it depends, I think, how you included it in the model. If we use the DOORS as an example, those services are expenditures too. They don't include them as expenditures; they include them as you either need that service or you don't. So you could

start with just whether or not clients used and were paid something for transportation without getting into the cost, or you could end up using the cost.

Sure, it helps make the prediction. It's not going to make it perfect, but, again, it might greatly -- but by recognizing that a client in a previous year needed transportation and was paid something for it, I would expect the model to be improved no matter how you include it.

Q. In what way is this model, Model 7b, a time series model?

A. I would not call this a time series model.

Q. So would you agree, then, that the relationship between a client's needs and expenditures, there is no time trend?

A. Yes. Right. That's one of the issues I have, that it is a static model at a given year, '07-'08, and it has no adjustment in it for time trends.

Q. Why would the relationship between a client's needs and expenditures drive a time series trend?

A. So if the client is using nursing services, for example, and the economy is such that costs of nursing are going either up or down, but changing, as they do over time, this model would not provide any

variation -- any account of that trend. I think that's probably -- well, that is one issue, I think, that would cause it to have even larger margins of error in future years than it has in '07-'08.

Q. Is it reasonable to take a piece of the dependent variable and make it into an independent variable?

A. Well, yes, it can be, if it's a component that only exists, in this case, for certain clients, going back to transportation costs -- and, again, you don't necessarily have to include the cost, but you could include variables that indicate the level to which particular clients need transportation.

Q. Have you been able to determine a reliable predictor for transportation costs?

A. I have not.

Q. Do you disagree with Dr. Niu's opinion that historical transportation costs are not a reliable independent variable to use in the algorithm?

A. No.

Q. If I understand your testimony, it is that the outliers in the 9.37 percent are not those who have the highest or the lowest claims; is that correct?

A. That is correct.

Q. So for those 9.37 percent, they either had claims which were greater than the model projected or they had claims which were less than the model projected; is that correct?

A. I would only add significantly greater or significantly less. Again, it was the 10 percent for which the model was doing the worst.

Q. How many projections have you made when you were projecting budgets within a budget which is limited?

A. Certainly not in this setting. There may have been others that I'm not recalling, but I don't recall having done so.

Q. Well, most of the projection you do may involve things like anti-crush damages, may involve suits on employee discrimination where you're trying to calculate damages. In those instances, the sky is the limit; you're not constrained by any budget set by the legislature, correct?

A. There's no budget set by the legislature. You're constrained by the requirement that the expert on the other side will require that that model be a reliable estimator of damages. So you won't come in with a margin of error of plus or minus 40 percent and pass muster in a damages case.

Q. Have you examined Florida's Medicaid reimbursement rate for DD waiver services?

A. I have not, other than maybe as reflected in the data for this case, but in general, no.

Q. If I represent to you that there will be testimony that in Florida the Medicaid rates are generally set statewide and do not fluctuate by geographic area, does that impact your opinion regarding the need for geographic differentials in the model?

A. No. My opinion is a statistical opinion, and I'm simply pointing out that I believe the model would be more reliable if it recognized what we know to be true, which is costs vary depending on where you are in the state.

Q. We're talking about rates, not costs, Doctor. The rates are set, correct?

A. Are you -- I'm sorry.

Q. The rates are invariable.

A. Which rates are you talking about?

Q. I'm talking about the Medicaid rates.

A. The claim --

Q. Providers --

A. The rates we're talking about here --

THE COURT REPORTER: One at a time, please.

Sorry.

THE WITNESS: The waiver amounts? Is that what you're talking about? Yeah, well, that may influence how that budget -- if I understand what you're saying -- how a provider's budget gets allocated. But, to me, it certainly doesn't affect the fact that services are going to cost different amounts in different parts of the state. And any model that ignores that, whether it's legislatively determined or not, is not going to be as reliable as one that does.

BY MR. THOMAS:

Q. If the rate is the same in Tallahassee, Jacksonville, Gainesville, Tampa, Fort Lauderdale, what difference does it make?

A. So how are those -- within those areas, how is that going to be -- even within those areas, you've got -- I live in Alachua County. The cost of living is very different there than it is in Trenton County right next to us -- or Union County, I'm sorry. So it still could make a difference in terms of -- so my understanding, and I may be incorrect, is that this model is supposed to be making an equitable distribution, and I'm saying the reliability of that, to me, to some extent, would be -- would depend on

recognizing that cost of services is going to vary depending on where you are.

Q. But cost doesn't matter, does it, because Medicaid pays one rate, sir?

A. Again, if you're saying to me I want you to assume that by law Medicaid is going to freeze that rate no matter where it is and not allow nursing service costs to vary, and then it doesn't allow it, but to me --

Q. Then you don't need your geographic distinction that you testified about the cost of living, do you?

A. I don't know. I just don't know. To me, you do, but --

Q. Would you take a minute and go to the board, get a clean sheet, and would you write the formula on there by which you calculated the margin of error, please?

(Witness goes to easel.)

A. So I took two times the reported residual standard error, which for each of the documented models, that's the first thing that's reported. I squared that because we're dealing in the square root domain, just gets it back to dollars. And then I divided it by what I calculated to be approximately

the middle of the dollar distribution, 25,000.

So when I got 10,000 up here, I said that was 40 percent, and when I got 6,400, I said that was about 25 percent.

Q. Okay. That's the formula you used?

A. Yes.

(Witness returns to stand.)

BY MR. THOMAS:

Q. All right. Thank you. Why did you use the median and not the mean?

A. Because we're dealing with a skewed distribution. The -- remember, I talked about the skewness caused by the few that get something in the hundred thousand, few clients. I believe the median gives us a better -- typically, in skewed distributions, we cite the median as a better idea of where the central tendency is.

Q. If you use the mean, would the margin of error go down?

A. If you used anything higher than 25,000, the margin of error will be lower.

Q. Is the mean higher than 25,000?

A. I believe it is. But median tells us that 50 percent of the clients are below that and 50 percent are above that. So we're taking a typical client when

we use the median.

Q. What is the algebraic relationship between R-squared and residual standard error?

A. Wow, so R-squared is -- I'll go back to the board.

Q. Go ahead.

(Witness goes to easel.)

A. So for the dependent variable, we have something called the total sum of squares. It's total variability. I won't write out the formula. I'll just tell you it's total variability -- I didn't write that very well -- of the dependent variable.

And then there's something called the sum of squares for error. This is remaining variability after estimating the model. Okay. R-squared is total sum of squares, minus remaining variability -- total variability, minus remaining variability, divided by total variability.

So it's telling us how much of the total variability is accounted for by the model, that's the numerator, divided by the total.

Q. Okay.

A. And -- well, we've got to get to standard error. Unless you have a question about this? I was going to write the standard error.

Q. No. In order to just not have confusion going forward, would you just draw a straight line across the board between those two things that you wrote so that there's a division between the top one and the bottom one that you're working on now?

A. (Witness complies.)

Q. Thank you, sir.

A. So then the residual standard error is the sum of squares for error divided by what we call the degrees of freedom for error, which is a function of how many parameters are in the model. It's the sample size -- and I will write this down in a minute -- minus the number of variables in the model -- and I will call that K -- plus one for the intercept. So N equals total sample size. K would be nine in our case, number of independent variables. And I apologize for -- well, I'm sorry, this is still in the square, so it's the square root of this.

Q. Thank you.

A. Okay.

(Witness returns to stand.)

BY MR. THOMAS:

Q. When the residual standard error goes down, does the R-squared go up?

A. I believe that would be -- all other things

equal, not changing scales and so forth, I believe that's true. The other way around is not true, but the way you ask it, I think you said if the residual standard error decreases, is it necessarily true that the R-squared goes up, I think that's true.

Q. Is there any practical difference between selecting a model based on the low residual standard error and a high R-squared?

A. Big difference. High R-squared doesn't tell us one thing about margin of error. You've got to go look at the residual standard error before you know what the margin of error is. So I can -- excuse me.

Q. No, go ahead.

A. I can have an R-squared of 90 percent, which has a margin of error of plus or minus 5 percent or plus or minus 50 percent. It really depends on the application and the transformation that you use. You've got to look at both, in my opinion, and in the opinion of any textbook you look at.

Q. If you were to create a model aiming to come up with a low residual standard error, would you potentially include variables with no statistical significance?

A. I think you asked me that, and it's possible in the sense that there would be variables that are

highly correlated that nonetheless are important. So I'd take a careful look at it, but it's possible. If it was significantly helping the margin of error, then I would do something.

(Brief pause.)

BY MR. THOMAS:

Q. The two formulas that you've put up on the board, the top one uses the median, but below that, everything is based on an average, right?

A. No, not really, not in this case. Remember, we're doing -- all that stuff is in square root of dollars in this case. So, no, it's not based on an average.

Q. Is the sum of squared errors based on differences from the average?

A. No. The sum of square of errors is defined as the sum of squares and the differences between what your model predicts and what the actual value is squared. So there's no averaging in there. It's actually a prediction from the model.

Q. The predictive value, is that based on the average characteristic for the consumer?

A. No. If we look at Model 7b, it's based on each consumer's age, living setting, and so on. There's no averaging in there. It's an actual

consumer or client value.

Q. Does the model predict an individual's average cost based on the individual's characteristics?

A. No. That's exactly what I was trying to get at earlier when I was criticizing the bootstrapping analysis. We're not doing an average here. We're predicting what an individual consumer's needs will be, and we're told to do it in an equitable way. So, in this case, there's no averaging going on.

Q. Do you use the median anywhere else other than in your top formula there?

A. No. I did it when I did the margin of error to try to find out where -- what margin of error would be such that 50 percent of consumers would be less and 50 percent would be more, and that's the number.

Q. So that gives you a higher margin of error using the median, correct?

A. Than if you use a higher number, yeah.

MR. THOMAS: I have nothing further.

THE COURT: Redirect.

REDIRECT EXAMINATION

BY MS. WALKER:

Q. Dr. McClave, can we go back and look at Joint Exhibit No. 16? And Mr. Thomas asked you some

questions about whether the algorithm was going to be updated. Is there anything that you've reviewed in Joint Exhibit 16 indicating that the algorithm is going to be updated?

A. I have seen nothing that indicates that.

Q. Is there anything in the technical report prepared by Dr. Niu that you've reviewed indicating that the algorithm would be updated?

A. No.

Q. You were asked some questions about outliers and what your opinion would be with respect to outliers if you knew there was some other process to deal with outliers. And I think -- are you familiar with the concept of extraordinary need?

A. Yes.

Q. What's your understanding of extraordinary need as it relates to iBudget?

A. That when the agency makes a determination through what I think of as an appeal, that there might be an extraordinary need, that they can take that into account.

Q. And if I understand your testimony correct, you've said that the outliers include individuals for whom the algorithm does not as accurately predict their actual expenditures, right?

A. That's right.

Q. It does the worst for? The 10 percent the algorithm does the worst for?

A. That's exactly right. No matter what their actual compensation is.

Q. Okay. Would those outliers include people that the algorithm predicts too much for compared to what their actual expenditures should be?

A. Absolutely. In other words, predicted is much higher than the actual? Yes.

Q. Okay. Are you aware of anything you've reviewed that indicates that those people will be dealt with in some process outside of the algorithm?

A. I believe I've seen indications that they'll use the actual value when that happens as opposed to the predicted values. So, to me, if that's true -- if I'm right about that, that, in essence, is -- if I can go back to the board?

Q. Sure.

(Witness goes to easel.)

A. So if any time I'm too -- my prediction value is way out here, too high, if what we're going to do is bring that individual's compensation from what the algorithm is predicting back to -- assuming that that's what he got last -- you know, that's what his

current needs are from last year, then we're, in essence, wiping out this part of the distribution. We're taking the upper end of the distribution and saying we're going to ignore that.

Anytime we've got a high prediction -- and last year, this client got 25,000 -- if I'm right about what I've read, then we're taking the high margin of error and -- high level of margin of error, plus margin of error and reducing the client to this number; whereas, if we're down here with our prediction, we take -- we ignore last year and give them this value.

So we're basically, again, if I'm right, only looking at this half of the distribution. We're only going to use the algorithm to the detriment of a client, not to increase the amount.

Q. And if the algorithm produces too much money for people compared to what they should get, how does that affect the equitable distribution of funds under the algorithm?

A. Well, in my view, it only exacerbates the fact that the model is not statistically reliable because it's what -- it's totally wiping out this half of the distribution, so it's -- it's making the model even more unreliable. It's making the application of

the model more unreliable.

Q. Dr. McClave, if I can have you turn back to the technical report that's in Exhibit 6 and go back to page 113, the Box-Cox power transformation.

A. Okay.

Q. And I know Mr. Thomas asked you some questions about the .3 value there where the curve hits being closer to .5. If .3 is closer to .5, why did you say you would use the log transformation?

A. Because in my experience, the log transform is used in 90 percent of econometric modeling. It's standard. In fact, we econometricians typically don't even do the Box-Cox anymore because it is so standard. It's what econometricians expect to see, so unless there's some strong countervailing evidence, we would do the log transform.

This is not strong countervailing evidence. This is, to me, saying you need to make a transform to make this distribution symmetric, to remove the skewness. And the log transform is right in the range of values that will do that.

Q. Can I have you now turn to page 121 of the technical report?

A. Yes, sorry.

Q. Okay. Mr. Thomas asked you some questions

about the independent variables represented as BS1 and FS1. And if I understand it correctly, that's the behavioral score where it's all added up in one sum, correct?

A. Yes.

Q. From a perspective of a statistician, would you ever count items added up as a sum and used in this fashion as multiple independent variables?

A. Never. You saw the formula that I put up there where K was the number of independent variables? That's counted in one and only one way. You count the number of independent variables in the model no matter how they're calculated.

Some of them are categorical, like age in this case. Some of them are sums, like behavioral status. Those are each one predictor. If you want to count it as six, you have to put them in as six.

Q. And if you could look with me back at Joint Exhibit 23, and if you turn to page 63. And we're back on the DOORS report, correct?

A. Yes.

Q. Okay.

A. I'm there.

Q. And do you see there where it has a category entitled "Composite"?

A. Yes.

Q. And then do you see where there's a reference to ICAP?

A. Yes.

Q. And I think Mr. Thomas asked you some questions about ICAP, and you said you really weren't familiar with it, but that appears to be something somewhat probably similar to QSI from at least what you've read. Is that what you understand?

A. Yes.

MR. THOMAS: Object to the form.

THE COURT: Don't lead.

BY MS. WALKER:

Q. What do you know from reading this report that ICAP is?

A. My understanding, and, again, I'm not totally familiar with these instruments, but it's some instrument that is measuring need.

Q. So when it's a composite, what does that mean to you?

A. That it's probably the sum of some other values. It's a composite. It's a -- again, I don't know exactly how these were calculated, but it would indicate to me it's -- composite means it contains -- it's a sum of other variables.

Q. And so if you were to count -- if you were to take Mr. Thomas' theory and count all the various questions added up in the BS1 and FS1 in the Florida algorithm, and if that, in fact, is a composite sum of scores on some questionnaire, would you need to do the same there?

A. Well, I wouldn't do it that way in any case, but, yes, if you're going to do it in one, you would do it in another. It's wrong in both.

Q. Could you turn to page 72 of the DOORS report?

Mr. Thomas asked you some questions about the paragraph entitled, "Improving Needs Assessment." Could you look at the paragraph below that?

A. Okay.

Q. And what do you understand Navigant's recommendation was in the paragraph that's entitled "Reviewing DOORS Service Variables"?

A. Yes. So the first sentence tells how DOORS is doing it currently, where they're taking binary or 0/1 variables, on/off switches, whether you need nursing or not, for example. And the next sentence says that means there's no way to demonstrate gradations of need. They give an example two sentences later of a five-point Likert scale, for

example, could replace the current two-point scale. "This change may be especially helpful for consumers who wish to transform from group homes to other housing, but still anticipate a need for some supports and services." And then, "We recommend the division review the service variables to include in the DOORS model to ensure they provide a level of specificity required to accurately predict service costs."

So I read that to say this -- service variables are important. You may want to do more than just have an on/off switch. You may want to have gradations of on and off.

Q. Mr. Thomas also asked you some questions about an algorithm developed under constraint where there's a budget set by the legislature. Did you see -- first of all, going back to Joint Exhibit 16, is there anything in the algorithm that is in that definition that indicates it's influenced by the amount of the budget set by the legislature?

A. In Dr. Niu's technical report? Is that what you're asking about?

Q. Yes. And then what's described as the algorithm in Dr. Niu's technical report, is there anything in his technical report indicating that his development of the algorithm was affected by any cap,

budget cap, by the legislature?

A. No. The algorithm could produce an amount that's twice the budget or half the budget. There's nothing in the algorithm that's constrained one way or the other by any budgeted amount.

Q. If you can go -- I'm sorry to keep switching between documents on you here, but if you could go back to the technical report in Exhibit 6 and page 94.

A. Okay.

Q. And I think you talked about, when you testified earlier, the fact that there was an adjustment made to the dependent variable for certain geographic differences in residential habilitation rates in certain counties in South Florida, right?

A. Yes. That's what number six adjustment is.

Q. If there weren't geographical differences in residential habilitation rates, then why would that adjustment have been needed to be made to the dependent variable?

A. It makes no sense to me. If the rates weren't adjusted for geography, I don't see what the adjustment would -- I don't see why it would be there.

Q. And going back to the DOORS report, on page 71 --

A. Okay.

Q. -- do you see the last paragraph there addressing regional wage concerns?

A. I do.

Q. And when you read the DOORS report, did you understand that Navigant had a recommendation regarding geographic differentiation?

A. Yes. If you go to the end of the paragraph, which is at the top of page 72, "we recommend the state consider adding an adjustment factor into the DOORS model to address legitimate regional differences," and the regional differences they talk about there are cost differences.

Q. And from reading the DOORS report, did you understand the purpose of the DOORS report was -- or the DOORS algorithm was to help develop individual budgets to allocate funding for developmental disability waivers?

A. That's my understanding, yes.

Q. I'm going to try to get this right, because I think you said Mr. Thomas asked you a question, and if you did the reverse, the answer might be different, so let me see if I can do the reverse in my question here.

If the R-squared goes down, does the residual standard error go up?

A. Not necessarily. And, vice-versa, if the R-squared goes up, the residual standard error may or may not go down.

Q. So is the R-squared always correlated with the residual standard error?

A. No. And the reason is -- I want to make myself clear, so, I'm sorry, but I'll go back.

(Witness goes to the easel.)

THE WITNESS: So every time I add a variable to the model, this denominator decreases. So if SSE remains the same or goes up just slightly, but this goes up by one every time you add another independent variable, this ratio may or may not go down. It could stay the same. It can go down -- I'm sorry, may or may not go down. It actually could go up if the reduction in SSE was less than the increase in the -- I'm sorry, the decrease in the degrees of freedom caused by the denominator.

So the fact that R-squared doesn't have this term in it means that they aren't perfectly correlated. Don't get me wrong, they're highly correlated, but it's the reason we look at residual standard error separately because it is the number that tells us in the end what our margin of error is going to be.

(The witness returns to the stand.)

BY MS. WALKER:

Q. Dr. McClave, do you think it's possible to create an iBudget model with statistically significant variables and a smaller margin of error than the iBudget algorithm that's in the proposed rules?

A. Do I think it's possible?

Q. Yes.

A. Yes. I've not seen anything to indicate it's impossible. I've not -- I don't know, but given there's only nine variables in this model and it's got such a high margin of error, I think it's at least possible that it could be developed. But it -- on my part at this point, it's a judg- -- I'm giving you a judgment call as opposed to a quantitative opinion because I haven't tried it.

MS. WALKER: Thank you.

THE COURT: All right. Thank you, sir.

MR. THOMAS: Can I follow up at all?

THE COURT: Very briefly.

MR. THOMAS: Very briefly.

RECROSS-EXAMINATION

BY MR. THOMAS:

Q. The top line in your formula there, the TSS?

A. Yes.

Q. Could you write the formula for that, please?

A. Sure.

(The witness goes to the easel.)

THE WITNESS: So we take each observation, subtract the mean, sum the square, that's total sum square.

Q. That's an average, isn't it?

A. Yes, this is mean.

(The witness returns to the stand.)

BY MR. THOMAS:

Q. You have no knowledge as to whether the rates are fixed or not fixed in the State of Wyoming, do you?

A. I don't know.

MR. THOMAS: Thank you.

MS. WALKER: Your Honor, may this witness be excused?

THE COURT: He may.

THE WITNESS: Thank you, Your Honor.

(The witness steps down.)

MR. THOMAS: Would it be possible to get these pages marked? I don't know whether they're going to come in or not, but they at least should be marked in some way.

MS. WALKER: Sure. Your Honor, we can mark

Navigant Report

State of Wyoming
Department of Health
Developmental Disabilities Division

DOORS Model Evaluation

February 23, 2007

Navigant Consulting, Inc.
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NAVIGANT
CONSULTING

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Executive Summary

In 1998, the Developmental Disabilities Division ("the Division") set out to find a more effective way to allocate available Home and Community Based Services ("HCBS") waiver resources to consumers. The Division administers three HCBS waivers, referred to as the Adult Waiver, the Child Waiver, and the Acquired Brain Injury ("ABI") Waiver. The combined Fiscal Year ("FY") 2006 expenditures for these three waivers were approximately $84 million.

The Division believed that individual budgets based on individual characteristics and needs could meet its goals to allocate resources equitably while providing consumers with needed services and supports. DOORS (not an acronym) is an individual budgeting model designed using a multiple regression based on elements derived from a standardized needs assessment tool, historical funding data, and other predictive variables such as residential services and behavioral health indicators.

The DOORS Model establishes an individual budget amount ("IBA") using a set of predictive variables that capture service needs on the consumer level. By including both the quantitative predictive model and a process for considering adjustments to the IBA produced by the model, DOORS combines a statistical approach to address the needs of the majority of consumers with a qualitative approach to address model outliers. The DOORS Model was recalibrated in 2003.

In 2004, the Wyoming Legislative Services Office ("LSO") issued a report reviewing the Adult HCBS waiver program. The report identified concerns with the existing DOORS individualized budget model. The Centers for Medicare and Medicaid Services ("CMS") also conducted a review of HCBS waiver administration in 2003. CMS expressed concern that some of the Division's adjustments to formula-based IBAs may have been excessive. The LSO report explained that DOORS can theoretically meet the Division's policy goals, but in practice it may not always do so. In response to CMS' report, the Division reviewed and revised policies and procedures. The Division contracted with Navigant Consulting, Inc. ("Navigant Consulting") in August 2006 to conduct an independent evaluation of the DOORS Model. This evaluation focused on the effectiveness of the DOORS Model in furthering the Division's overall mission "to provide funding and guidance responsive to the needs of people with disabilities to live, work, enjoy, and learn in Wyoming communities with their families, friends, and chosen service and support providers."

This report describes Navigant Consulting's comprehensive qualitative and quantitative evaluation of the DOORS Model. The qualitative evaluation assessed the validity of the DOORS Model and examined the extent to which the methodology reflected the relevant issues, variables and current thought leadership in the financing of developmental disabilities services. The quantitative evaluation analyzed the statistical and methodological components of the DOORS Model.

The following are highlights of the findings we detail in this report:

Overview

- The DOORS Model continues to be considered part of the emergent national best practices approach to financing services and supports for individuals with developmental disabilities. It continues to perform as it was originally intended: distributing waiver funds equitably across the population of individuals enrolled in the HCBS waivers while matching consumer needs with available supports.

- With a few targeted modifications, the system should continue to meet the State's objectives in the future.

- Consumer satisfaction with the DOORS Model is relatively high, but individual budgets do not offer the consumer-directed decision making that stakeholders expect, either because, in their thinking, the provider and consumer's "team" control service planning or because services are not available. This is a function of the Division's policy governing the use of the DOORS Model and does not appear to reflect any inadequacy of the model's architecture or individual budget amounts.

- Many consumers are unclear about the objectives and purpose of the DOORS Model, expecting it to fund all needed services rather than equitably distribute funding for services in an approved service plan. The Division's considerable efforts to make the DOORS Model transparent could be expanded to clarify this distinction.

DOORS Statistical Model

- Statistical analysis and review of the model did not indicate that the latest calibrations had become outdated or that a new regression analysis with a sample of data from a later year would yield different results.

- Service claim expenditures under the DOORS Model have increased steadily, primarily due to increases in the number of people enrolled in the waivers and the Extraordinary Care Committee ("ECC") process for funding outliers[1]

[1] The legislature also appropriated additional increases for direct care wage increases and the division subsequently raised the IBA to accommodate the increase in the Adult Waiver as follows: 2002 – 28%; 2003 – 3%; 2004 – 3%

- In its reliance on historical service use and its relative under-emphasis on information related to current support needs, the model tends to produce relatively static IBAs from year to year. Consumers and families may consider these budgets unresponsive to the changes in consumers' lives. As a result, families and providers appear increasingly likely to seek increases in IBAs through the ECC process.

- The DOORS regression formula uses the Inventory for Client and Agency Planning ("ICAP") residential setting element as a key IBA predictor. Consumers may be concerned about losing service funding if they move into a less restrictive setting, even though their current residence no longer meets their needs.

- Provider regional wage differences may not be adequately addressed in the DOORS Model. This creates variability in the level of services that can be purchased by consumers with similar IBAs, given the location of their residence. Since provider costs are predominantly a function of personnel related expenditures, the Division should consider adding an adjustment factor into the DOORS Model to address legitimate regional differences in labor costs.

- The Division should initiate electronic documentation of the individual ECC process deliberations and decisions. This will enhance ongoing management of the new appeals rules as well as analysis of trends in requests and decisions to better determine appropriateness of IBAs and if some appeals could have been avoided. This will be important as the Division seeks to analyze the impact of individual ECC process decisions on overall funding and the migration of average per capita funding levels.

- The Division does not adequately store the historical or anticipated service variables collected as a statistical component of the DOORS Model. The Division should take steps to improve its data storage capacity and practices as soon as possible.

- In the current DOORS Model, the historical or anticipated service variables are binary, entered as either a zero or a one. This means that there is no way to demonstrate gradations of need in this component of the DOORS Model. The Division should consider allowing partial coding of these variables to fine tune the model by providing a range of service levels.

- The Division needs to examine possible age bias in the DOORS Model, especially in the Child waiver. As applied to the Division's youngest waiver consumers, the current DOORS methodology tends to generate budgets that significantly exceed utilization. This appears to be due to the influence of certain ICAP variables designed to capture data about adults. The Division should evaluate

the DOORS methodology as applied to young children enrolled in the Child Waiver and develop polices to mitigate inappropriate budget assignment.

- Consumers, families, advocates and others in Wyoming expressed dissatisfaction that the model is not used to reflect need, but to equitably fund known historical service choices. The model's architecture is capable of doing both, but Division policy, which is constrained by State budgetary obligations, has created a high threshold for increasing services. This has led to a need to appeal decisions to increase services rather than identify current consumer needs. This creates a dynamic tension that appears misdirected toward the effectiveness of the DOORS Model.

- During our study, many stakeholders expressed concern about the ability of the DOORS Model to accurately predict and set service costs for waiver participants with co-existing developmental disabilities and mental illnesses. According to our qualitative research, individuals with a dual diagnosis may require more funding than a standard DOORS Model generated budget would indicate. The Division should consider adding an element or factor for additional funding to the DOORS Model to better reflect the needs of individuals with co-existing developmental disabilities and mental illnesses.

Needs Assessment Tool

- The ICAP is administered every five years for the Adult Waiver and every three years for the Child Waiver. Because the entity responsible for ICAP administration changed in 2003, the Division should consider re-administering the ICAP to all individuals assessed prior to the transition.

- The ICAP is now administered by gathering information from two individuals, typically a family member or guardian and the consumer. Providers believe this tool may not capture needs information accurately because of both unfamiliarity with the tool and a natural inclination for consumers and family members or guardians to present a consumer's abilities and behaviors in the best light possible.

- Service needs are assessed indirectly in the DOORS Model. We recommend that the State consider using the Supports Intensity Scale ("SIS") on a trial or pilot basis to assess its potential as a replacement to the ICAP. In the longer term, the State of Wyoming may want to consider the migration of its needs assessment tool from the ICAP to the SIS. This could lead to an eventual reduction in the reliance on service variables that come from consumer claims history. The integration of more effective needs assessment into the DOORS Model, at a later date, would move it toward a prediction of services best suited to a consumer,

rather than a predictive model based on the services consumers have received in the past.

Introduction

The Developmental Disabilities Division ("the Division") of the Wyoming Department of Health administers three Home and CommunityBased Services ("HCBS") Medicaid waivers. The waivers are referred to as the Adult Waiver, Child Waiver, and Acquired Brain Injury ("ABI") Waiver. Each waiver program has a different set of services available to consumers. The level of care required for eligibility is the same. All waiver enrollees must have the need for a level of care at or above the standard for admission to an Intermediate Care Facility for the Mentally Retarded ("ICF-MR"). The target population for each waiver differs by age or the nature of the onset of their disability. Together these three waiver programs provide needed supports and services to less than one percent of Wyoming's population.[2] In Fiscal Year ("FY") 2006, the Adult Waiver provided supports and services to 1,219 adults who have developmental disabilities at an average cost of $55,862 per person. The Child Waiver provided supports and services to 826 children with developmental disabilities at an average cost of $14,611 per person. The ABI Waiver, the smallest waiver program, provided supports and services to 143 individuals with Acquired Brain Injury at an average cost of $30,606 per person. Total spending for each waiver during FY 2006 was $68,095,706 million, $12,068,543 million and $4,376,700 million, respectively. The combined FY 2006 expenditures for these three waivers were $84,540,949.[3]

Wyoming spends more money, as represented by average cost per person served, on home and community based care than most states. This reflects a long-standing State policy commitment to offer sufficient supports and services in the community to avoid unnecessary institutional placements, offer appropriate options and choice to people who need services and the general evolution of care in the industry. As a share of all long-term care Medicaid spending in FY 2005, Wyoming spent 43 percent of the funds appropriated for long-term care on HCBS.[4] The national average for FY 2005 was 18 percent of all long-term care Medicaid spending. This also reflects the State's commitment to minimizing unnecessary institutional placements. HCBS spending compared to total Medicaid spending presents a similar contrast. Wyoming's HCBS expenditures comprised 18 percent of the State's total Medicaid spending; nationally the proportion was only 6 percent.[5] Discussion with a broad set of stakeholders in the developmental disability service system in Wyoming suggests that this funding reflects a commitment to support individualized consumer needs and interests and the economic realities of providing services in a state with the demographic, geographic and business cycles that exist in Wyoming.

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[2] Based on 2005 population data and Fiscal Year 2006 waiver data, the proportion of Wyoming's population served by all three waivers combined was 0.43 percent.

[3] Based on all data provided by the Developmental Disabilities Division. These expenditure figures represent the number of consumers receiving approved services through claims by service date.

[4] "Residential Services for Persons with Developmental Disabilities: Status and Trends Through 2005," Research and Training Center on Community Living Institute on Community Integration/UCEDD, The College of Education and Human Development, University of Minnesota, July 2006.

[5] Ibid.

During the past decade, national developmental disabilities policy and practice has been undergoing significant change in favor of an increasing emphasis on individualized services and supports. The measures of successful home and community based programs have evolved to include quality-of-life, person-centered outcomes and increased independence. A recent article in the Journal of Disability Policy Studies explains that, "from a policy perspective, eligibility, classification, and funding need to be based on the type and intensity of individualized supports needed for a particular person."[6] The article identifies the following challenges: defining supports, evaluating support needs and intensity, developing individualized budgets and evaluating outcomes. Individualized budgets like those generated by the Wyoming allocation model, called the DOORS Model[7] fit this emerging policy paradigm.

In 1999 the Division implemented a statistically-based resource allocation model in its administration of the Adult Waiver. The DOORS Model was created to set individual budget amounts that define the total amount of HCBS funding that could be spent for services for an individual in the Adult Waiver. In subsequent years the DOORS Model was adapted for the Child and ABI Waivers. Because each waiver is different there are three distinct DOORS statistical models, but the variables entered into the models are of the same type.

In 2004, the Wyoming Legislative Services Office ("LSO") issued a report reviewing the Adult HCBS Waiver program. The report identified concerns with the DOORS Model. The Centers for Medicare and Medicaid Services ("CMS") also conducted a review of HCBS waiver administration in 2003. The CMS report found that the process used to approve funding in amounts greater than those generated by the statistical formula within the DOORS Model resulted in increased budget amounts that were several times the original formula-based individual budget amount ("IBA"), a potential concern. The LSO report explained that DOORS can theoretically meet the Division's policy goals, but in practice it may not always be meeting those goals and it may be administered in ways that do not exhibit sufficient internal controls. In response to the LSO report, the Division reviewed all relevant internal policies. The Division modified its individual budgeting appeals process and promulgated new rules for the Extraordinary Care Committee ("ECC"). LSO requested the Division obtain an outside, independent, comprehensive evaluation of the DOORS Model. The evaluation presented in this report is the result of that request.

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[6] "The Emerging Disability Paradigm and its Implications for Policy and Practice," Robert L. Schalock, Journal of Disability Policy Studies, 204(12) Vol. 14 No. 4 ISSN: 1044-2073, March 22, 2004

[7] The "DOORS" of the DOORS Model is not an acronym, simply a name chosen for the model.

The DOORS Model: Development, Design and Purpose

In 1998, the Developmental Disabilities Division set out to find a more effective way to allocate available HCBS waiver resources to consumers. Prior to that time, Wyoming approved an individual service plan and negotiated service rates with providers individually. The funding process involved "setting conventional rate schedules and cost caps, using funding tiers, and conducting ad hoc negotiations with provider agencies."[8] The Division developed the Wyoming DOORS Model for two fundamental purposes: 1) to allocate available HCBS waiver funding appropriations to consumers equitably and 2) to match the needs of consumers with available services and supports. It was believed that individual budgets based on individual characteristics and needs would best fulfill both objectives.

To design a system that could be credible and acceptable to all stakeholders, the Division combined elements of a standardized needs assessment tool with historical funding data and other predictive service variables, such as residential services and behavioral health indicators. The resulting stepwise multiple regression identified variables correlated to historical funding amounts, while equitably distributing finite resources across the population of developmentally disabled consumers. Historical data allowed for the assignment of predicted resource needs. To state it simply, because individuals with certain characteristics required a given amount of funding for services they, or people similar to them, had received in the past, it was expected that they would need a similar amount in the future. The statistical nature of the DOORS Model removes some, but not all, of the subjective elements of awarding funding to individuals. The DOORS Model is more transparent than the system in place prior to its implementation.

As a resource allocation model, DOORS has always had a mechanism to address funding for extraordinary needs, or outliers. The individualized budgets generated by the model do not always provide sufficient funding to meet the needs of consumers. This is a result common to all such allocation models. At its inception, DOORS used a committee process to address outliers called the State Level of Care Committee ("SLOCC"). This committee considered requests to increase IBAs based on a proposed service plan. The proposed plan identified additional costs necessary to provide an appropriate array of services or "forced rates" that reflected provider costs to deliver a selected service that exceeded the budget amounts predicted by the DOORS Model. The process represented by the SLOCC has evolved into the Extraordinary Care Committee ("ECC") review process. This and other components of the model are explored in more detail throughout the report.

Prior to 1990, the only individuals who received State-reimbursed community residential services were those residing in the Wyoming State Training School ("WSTS"), the State's only

[8] "Developmental Disabilities Division Adult Waiver Program," Legislative Services Office report to the Management Audit Committee, January 2004.

public institution for disability services.[9] In 1991, the Division began the HCBS waiver program for adults with developmental disabilities. According to a report on the DOORS Model by Fortune, Smith, Campbell, et al., Wyoming's total spending for developmental disabilities services almost quadrupled between 1990 and 2002, from $30 million to $114 million[10]. During that same period, the number of residents of the WSTS dropped approximately 75 percent. Shortly after the Adult Waiver was in operation, the State added the Child Waiver. In 2002 the State added the ABI Waiver.

The DOORS Model establishes an IBA using a set of predictive variables that capture service needs on the consumer level. Three separate models with different sets of predictive variables exist respectively for Adult, Child and ABI Waiver populations. These predictive variables calculate the consumer's IBA without bias due to the location of the consumer, date of consumer entry into the model or choice of provider. The model's ability to produce identical budget amounts for separate individuals who possess the same variable inputs demonstrates its objectivity. The consistent nature of the model provides an equitable and standardized method of determining budgets for all consumers.

However, the formula-based IBA alone may not be sufficient to determine funding for services for individuals with unique characteristics. For these outlier cases, the person who has the disability or his or her Independently Selected Service Coordinator ("ISC") can submit a formal request to have the IBA increased to reflect the cost of services included in their service plan. This request is submitted to the Extraordinary Care Committee ("ECC") which, upon review of appropriate supporting information and discussion with the ISC, identifies the appropriate amount of funding needed to supplement the IBA generated by the model. The ECC, comprised of the Division Financial Manager, Office of Healthcare Financing representative, and Respective Waiver Manager determines whether the IBA should be increased and by what amount. The supplementary amount designed to cover the cost of outlier cases is the "ECC adjustment." By including both the formula-driven predictive model and the process for considering adjustments to the IBA generated by the model, DOORS combines a statistical approach to addressing the needs of the majority of consumers with a qualitative approach to address model outliers. The predictive characteristic of the model is heavily dependent on the proficiency of two types of variables: Inventory for Client and Agency Planning ("ICAP") needs assessment variables and service variables. Service variables include indicators such as historical, residential, psychological and other services along with other measures not captured in the standard ICAP needs assessment.

[9] Chapter 11, Costs & Outcomes, "Individual Budgets According to Individual Needs," Fortune, Smith, Campbell, et al.
[10] Ibid.

Methodology

The State of Wyoming Developmental Disabilities Division contracted with Navigant Consulting, Inc. ("Navigant Consulting") to conduct an independent evaluation of the DOORS Model. The evaluation focused on the effectiveness of the model to further the Division's overall mission "to provide funding and guidance responsive to the needs of people with disabilities to live, work, enjoy, and learn in Wyoming communities with their families, friends, and chosen service and support providers."

The framework for the evaluation is built around guiding principles that embody the Division's administration of its service system:

- Consumers should be empowered to make their own service and support choices
- Selection of services and supports should be cost-effective
- The State should fund services at a level that will maintain adequate consumer access to services and supports
- Payments to providers for services and supports should be made consistently and equitably
- There should be an appropriate balance between the consumer's choice and fiscal responsibility
- The methodology used to determine payments to providers for services and supports should support the Division's need to predict required program funding

Navigant Consulting conducted a comprehensive qualitative and quantitative evaluation of the DOORS Model. The qualitative evaluation assessed the validity of the DOORS Model and examined the extent to which the methodology reflected the issues and variables that it was intended to address. The evaluation synthesized and analyzed the current thought leadership in the industry, stakeholder perspectives on the DOORS Model and research conducted in other states. The quantitative evaluation analyzed the statistical and methodological components of the DOORS Model. The original work plan required some modification after initial data analysis, literature review and stakeholder interviews. As the impact of the model's process for identifying funding requirements for outliers became apparent, a more intensive analysis of this process emerged.

Key Elements of Evaluation Components

Qualitative Components:

- Establishment and periodic meetings of an Advisory Panel made up of key stakeholders to inform the evaluation process

- Interviews with key stakeholders in the DOORS Model including division leadership, Medicaid leadership, LSO staff, legislative committee members, consumers, advocates, providers, industry experts and officials in other states
- Review and analysis of current thought leadership, best practices, scholarship and relevant reports developed in other states
- Development of recommendations for changes in policy and administration of the DOORS Model

Quantitative Components:

- Data collection and development of descriptive statistics
- Initial model analysis including mathematical verification of model variables
- Examination of ECC adjustments to IBAs
- Impact analysis of DOORS Model on consumers' service utilization
- Development of recommendations for changes in quantitative components of the DOORS Model

Navigant Consulting held a series of meetings with a designated Advisory Panel in order to gather input from key stakeholders and most effectively implement the assessment framework as our understanding of the DOORS Model progressed. The panel membership was established during the initial project meeting on August 25, and Advisory Panel meetings took place on October 12, November 15, 2006 and January 25, 2007. The Advisory Panel consists of Division officials, legislators, provider representatives and consumer representatives. In addition to sharing our progress with the Advisory Panel, Navigant Consulting gathered stakeholder input through meetings with specific provider groups and State officials. As part of the Wyoming State Mega Conference held in Casper in mid-October, Navigant Consulting conducted a session to interview consumers and their families about the DOORS Model. Additionally, a session with large and small providers and State officials occurred on October 13. Individual discussions with Division officials, the State Medicaid Director, legislators and other State officials contributed to this comprehensive evaluation. Communication with the Division throughout this evaluation has been open and collaborative. This positive relationship has contributed to the quality of the evaluation and the validity of the results.

Navigant Consulting also gained perspective on the DOORS Model by conducting a literature review that included articles published by industry experts, review of State reports on individualized budgeting and a comprehensive review of current needs assessment tools. In addition to the literature review, Navigant Consulting conducted a series of targeted interviews with state officials in four selected states. Charles Moseley, Ed.D., a nationally recognized thought leader on individual budgeting, provided the criteria for state selection, questions and overall guidance to the interview process. Navigant Consulting staff conducted the interviews at the end of November 2006.

The quantitative component of the evaluation required careful examination of the Division's data. Navigant Consulting collected data through electronic transfers, onsite meetings and individual case file examination. The Division provided all data for the three waivers analyzed

in this section. The types of data were consumer claim amounts, plans of care including IBAs, detailed ICAP scores and provider descriptions. Data was available through the end of State Fiscal Year 2006, which ended on June 30, 2006. Division staff provided assistance in understanding the layout of the data files and confirmed that our totals from summaries of the data were consistent with their reported statistics.

Current Thought Leadership

Elements of Effective Individual Budgeting Systems[11]

Through both research and experience, a generally accepted definition of what constitutes a well-structured approach to individual budgeting has emerged. In this section, we review various approaches and methodologies used by other states. As described by Charles Moseley, Ed.D, of the National Association of State Directors of Developmental Disabilities Services ("NASDDDS"), a well-structured IBA approach is built around a number of key organizing principles. The approach to individual budgeting and resource allocation in successful IBA systems are developed with input from key stakeholders including individuals receiving support, provider agency representatives, citizen advocates, and legislative and governmental staff. Budgeting approaches reflect and address issues related to the availability and equitable distribution of funding. Other important considerations include the need to meet Medicaid and other funding requirements set by federal, state and regional governmental entities, and maintaining accountability and fiscal integrity. IBA models accomplish this with an overall focus on service quality.

Many IBA methodologies use a standardized, valid and reliable process for evaluating each eligible person's strengths and needs for support, treatment, training and supervision. This includes the use of needs assessment tools that directly measure the extent of service needs. Instruments that infer support needs using an analysis of disability-related functional factors should use an appropriate statistical design. IBA methodologies also identify existing "natural" supports that would not be funded through public resources, assess the individual's living situation and include a mechanism for separating "needs" to be addressed in the person's plan of care from un-funded service "wants" that are not required by the treatment or service plan of care. Service recipients should be able to choose the supports, services and providers that best meet their needs and preferences. Ideally, the process should not force the person to choose among a list of limited service options.

Some IBA models establish allowable service rates based on statistical analyses of the impact of key clinical, demographic and individual variables on service costs and utilization. Such models also identify the individual, program and service-related factors that influence or drive increases in costs and expenditures, producing payment levels for specific services. These statistical models appropriately address provider costs related to staff salaries, employee expenses, program-related costs and administrative expenses.

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[11] This information provided to Navigant Consulting by Dr. Charles Moseley, information also found in Appendices A, C, and D.

Another component of a functional IBA model is adherence to state and federal regulations. Federal Medicaid waiver rules require that individual budgets be set through a data-based or standardized process. There are two general approaches states can take. They can determine the services and service hours to be provided through the service planning process and base payments and the IBA on state set service specific rates. These rates could be determined through an analysis of current service provider "market" costs. The other approach is a tighter statistical framework to predict and assign costs using historical or projected service costs, like the DOORS Model. Many states previously using developmental approaches are moving or have moved to statistical, data-based models. Effective statistical models used to develop and set IBAs produce valid, reliable and predictable results across individuals and regions of the state. Other key elements include a mechanism for funding "cost outliers," individuals whose needs legitimately exceed those that might be anticipated by the individual budgeting methodology, and the production of an IBA amount that is portable and can be taken by the person receiving support from one provider to another. Assessment of risk, transparency and the availability of funds for short term intensive emergency services and supports are also important.

The fourteen key elements of a well-structured and well-designed individual budgeting system follow, as defined by Charles Moseley, Ed.D. Appendix A describes these elements in more detail with associated specific information about the Wyoming DOORS Model.

1. **Eligibility**: a process for determining eligibility for an individual budget, which includes service priorities and targeting criteria.
2. **Needs Assessment**: the policies, procedures and assessments used to identify support needs, identify "natural" supports and separate needs from wants.
3. **Consumer Profile Data**: the existing data on the service needs and functioning levels of current waiver recipients, which include level of physical disabilities, medical needs and behavioral needs.
4. **Service Selection**: the process used to select services and supports.
5. **Covered Services and Costs**: the specific services or expenditures that may be authorized for purchase under the individual budget.
6. **Budget Development**: the statistical process used to determine the amount of the individual budget.
7. **Budget Timing**: the point in the individual budgeting process when the budget is assigned to the consumer.
8. **Cost or Rate Setting**: the basis upon which provider costs are reimbursed.
9. **Dealing with Risk**: budget methodologies should allow for cost increases due to the unanticipated needs of current waiver recipients and they should respond to the need to serve new individuals entering the system for the first time.

10. **Crisis Services:** the ability of the established budgeting format to respond to individuals in crisis with emergent needs.
11. **Equity:** the budgeting methodology should be equitable, fair and consistent across individuals.
12. **System Funding:** the mechanisms by which the provider agencies and systems are supported through the current budgeting approaches and methodologies.
13. **System Mechanics:** the means by which funding decisions are actually made.
14. **Cost Neutrality:** the approaches used to assure the costs to the state of services furnished under each waiver meet relevant state cost neutrality requirements.

The DOORS Model

Although significant progress has been made nationally in the development and implementation of valid, reliable and responsive individualized cost allocation methodologies, the practice continues to evolve. Many states, like Wyoming, have continued to refine their allocation practices to improve their ability to accurately equate service costs to support needs and distribute resources to individuals on an equitable basis. The DOORS Model continues to provide an industry standard that many states use when evaluating their own individualized resource policies, practices and procedures. The following states have explicitly considered or evaluated the DOORS Model for use in setting individual budgets for individuals with developmental disabilities in the last few years. These reports, described in greater detail later in this report, reflect a number of those efforts.

- Idaho published the results of its Supported Living Project in December of 2002. The Idaho report points to the DOORS Model as a successful example of budgeting for individualized, person-centered services.[12]
- Delaware commissioned an analysis of the "money follows the person" concept for the Governor's Commission on Community-Based Alternatives for Individuals with Disabilities. The commission considered the individualized budget concept, including a review of the Wyoming DOORS Model.[13]
- California's Department of Developmental Services, Self Determination Pilot Project uses individualized budgets. The Wyoming DOORS Model was a key example in the review of budgeting design.[14]

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[12] "Supported Living Project: A Final Report," Submitted to Idaho Council on Developmental Disabilities by Allen, Shea & Associates, December, 2002.

[13] "Money Follows the Person," Prepared by The Lewin Group for the State of Delaware Governor's Commission on Community-Based Alternatives for Individuals with Disabilities, February, 2006.

[14] "The California Self-Determination Pilot Projects," State of California Department of Developmental Services, Self Determination Pilot Projects.

- The Pennsylvania Office of Mental Retardation ("OMR") considered the use of the DOORS Model to set funding allocations and develop individual budgets. After a comprehensive review, OMR decided to investigate the use of alternative individual budget setting methodologies.

Individual budgeting for people who have developmental disabilities and are receiving HCBS waiver services is now the industry standard. As we explore further in the following section on the qualitative evaluation, many states have implemented innovative ways to create budgets that are specific to the individual needs and characteristics of each person served. In a survey of state individual budgeting methodologies conducted by NASDDDS, Moseley, Gettings, and Cooper received responses from 43 of the 51 state developmental disabilities program agencies.[15] Seventy-five percent of these states reported the availability of some sort of individual budgeting process. The report categorizes most individualized budgeting processes as developmental, statistical or standardized or research-based. Each type of budgeting process is described below.

Seventy percent of responding states described the individual budgeting process as "based on discussions of the person's needs for support and assistance during the individual planning process."[16] This non-statistical method is referred to by the NASDDDS as the "developmental approach."

The statistical or standardized approach is data-based and uses a standardized needs assessment tool and fiscal data to generate a budget through statistical means such as a regression analysis. Generally this model separates funding decisions from service planning decisions. Only 30 percent of the states surveyed distinguish and isolate funding decisions from service planning decisions and 66 percent do not consider their individual budgeting approach to be data-based. The states that use the statistical approach usually use a standardized needs assessment tool like the ICAP, the SIS or the Developmental Disabilities Profile ("DDP").

The Wyoming DOORS Model is also a statistical approach, as it separates funding from the service planning process and relies on data input into a model to generate funding budgets. However, DOORS is best described as a research-based approach.[17] According to the NASDDDS report, this approach involves statistical models used to estimate relationships among independent and dependent measures.[18] Independent measures include individual characteristics collected through the ICAP as well as other service variables. Dependent measures include other elements such as historical budgets, provider expenditures, staff time and reimbursement amounts.

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[15] "Having It Your Way: Understanding State Individual Budgeting Strategies," Moseley, Gettings, and Cooper, National Association of State Directors of Developmental Disabilities Services, 2003.
[16] Ibid.
[17] MR/DD Individual Budgeting/Reimbursement Systems: Design Strategies, NASDDDS.
[18] Ibid.

Current Literature

The DOORS Model is part of the emergent best practices approach to services and supports for individuals with developmental disabilities. The current literature supports the use of individualized, data-based budgets as a means to support both choice and to manage state and federal resources effectively. In May of 2004, Roger Stancliffe and Charlie Lakin published a Policy Research Brief that reviewed current research on the costs and outcomes of services in the community for individuals with developmental disabilities.[19] The report discusses the shift in focus from institutional to community settings. The importance of needs-based funding is highlighted, with Minnesota and Wyoming presented as good examples of how to design and operate an individual budgeting system. According to Stancliffe and Lakin, the field is facing several challenges that require states to evaluate how, to whom, where and when services will be provided to HCBS waiver participants.

One concern is the steadily increasing number of individuals accessing services. The reasons for the increase include increased life expectancy and changing expectations for participation in community life. States must find ways to manage the increase in demand in the context of available resources. Distributing these available resources will ideally be done in an equitable manner and match the needs of consumers with services. The research by Stancliffe and Lakin demonstrates that the developmental disability systems in many states are moving toward needs-based funding allocation and in many cases, individual budgets. Increasing consumer choice is also a theme of this research. Choice can range from the ability to hire and fire direct support staff, to the choice of whom people who have developmental disabilities are able to live with, the choice of case managers and the type of home or residence in which they live. According to Stancliffe and Lakin, IBAs were not as strongly related to an individual's degree of choice as was living in a small-scale residential setting. Although the size of a person's home may be an indirect indication of choice, it is more associated with program policy decisions at this point in the industry's evolution. As will be seen later in this evaluation, the living environment appears to have a similar impact in Wyoming.

Costs and Outcomes, edited by Stancliffe and Lakin, explores current thinking on home- and community-based care across the industry.[20] In addition to a comprehensive review of the DOORS Model by Fortune, Smith, Campbell, Clabby, Heinlein, Lynch and Allen, the book includes analyses of how other states are approaching individualized budgeting. Charles Moseley's research on state individual budgeting practices with colleagues Robert Gettings and Robin Cooper appears as Chapter 12. The themes found in this chapter are explored in the subsection on the DOORS Model, above. Also included is an evaluation by Campbell, et al., of predictors of developmental disabilities service expenditures in Montana, Nebraska, South Dakota and Wyoming. The authors found that reimbursement rates were higher for

[19] "Costs and Outcomes of Community Services for Persons with Intellectual and Developmental Disabilities," University of Minnesota Policy Research Brief, Research and Training Center on Community Living, Roger J. Stancliffe and Charlie Lakin, May 2004.
[20] Costs and Outcomes, Stancliffe, Lakin, et al, October 2004

individuals with severe levels of disability, as measured by the ICAP. The authors also found that residential settings had a significant affect on reimbursement rates. Our analysis of the DOORS Model also illustrates the influence of residential setting on individual budgets.

Industry expert Jon Fortune was involved in the original development of the Wyoming DOORS Model and the South Dakota individual budgeting model known as SBR. He collaborated with statistician Ed Campbell to develop the regression-based budgeting concept. His work is well documented in a number of publications. Some of his scholarly work includes broader discussions of the individual budgeting concept. His work has set a standard for much of the movement in individual budgeting today. A comprehensive bibliography, including Fortune's work and that of other experts, can be found at the end of this report.

State Research and Evaluations

Many state developmental disabilities agencies have taken steps to evaluate and update their current systems of HCBS waiver funding distribution. The individual budgeting model is widely accepted nationally, but, as indicated in the NASDDDS and other works, many states have not implemented IBAs that are reliant on statistical or data-based models. To illustrate the public policy development process many states use as they seek to update funding approaches, two state-sponsored reports on approaches to HCBS waiver services are discussed below.

The first example is "Supported Living Project: A Final Report," submitted to the Idaho Council on Developmental Disabilities by Allen, Shea & Associates in December of 2002. The authors found that there is no perfect formula or model for individual budgeting.[21] That report instead categorized current methodologies into three categories: tiers or grids, which are systems that use assessment information to assign people to funding tiers, also described as payment levels; data-based or data-driven models, which use information about an individual to statistically generate a budget, which can result in individual budgets or general payment levels; and "person-by-person with 'wiggle-room',"[22] which is an approach that builds a budget cooperatively with the consumer. The Idaho report points to DOORS as an effective way to structure an individual budgeting system, one that allows for choice, equity, and manageable administration.

The second example is the State of Delaware Governor's Commission on Community-Based Alternatives for Individuals with Disabilities. This is a study designed to examine the "money follows the person" concept published in February of 2006.[23] Money Follows the Person is a policy initiative that was included in a 2004 unfunded budget proposal to Congress and subsequently included in the Deficit Reduction Act of 2005. The provision allows states to

[21] "Supported Living Project: A Final Report," Submitted to Idaho Council on Developmental Disabilities by Allen, Shea & Associates, December 2002.
[22] Ibid.
[23] "Money Follows the Person," Prepared by The Lewin Group for the State of Delaware Governor's Commission on Community-Based Alternatives for Individuals with Disabilities, February 2006.

receive time limited Federal funds to assist in placing institutional residents into community settings. Once assigned a budget amount, individuals can move to different residential settings or change the mix of services purchased without losing funding in the process. This is a conceptual shift from basing budgets on the cost or provider rates in specific residential settings.

The report explores a few ways states have made "money follows the person" work, or at least change in that direction. The first example is consolidation of a state's long-term care Medicaid budget. The legislature sets the appropriation as one budget line item, and allows the executive branch to fully manage those funds. The second example is the use of capitation. Managed care models can encourage individuals to live in less costly community settings. The third example explored in this report is individualized budgeting, like the Wyoming DOORS Model.

Needs Assessment Tools

The selection of an appropriate needs assessment tool that allows for the most effective and accurate correlation of indicator variables, or scores, to associate with funding needs in a statistical IBA model remains a subject of debate in the field. Needs assessment tools provide health status and functional information about individuals with developmental disabilities. There are a number of such tools; some are state-specific, some are proprietary and broadly used, and some are a combination of the two. Scores generated by most needs assessment tools can be correlated to historical budget indicators using a regression model.

The two most commonly used standardized needs assessment tools are the ICAP and the SIS. Both of these assessment tools are proprietary and require states to pay a fee for use. Robert Bruininks, Bradley Hill, Richard Weatherman and Richard Woodcock developed the ICAP as a comprehensive needs assessment tool. The American Association of Mental Retardation ("AAMR") developed the SIS needs assessment tool with the input of industry experts over several years. There are several other needs assessment tools in use around the country. **Appendix B** is a table of states and associated needs assessment tools. Our study focused on state's use of the ICAP and the SIS, as they represent the two instruments most widely used or discussed in relation to setting individual budgets. The ICAP is currently a component of DOORS and is used by many states as both a needs assessment tool and as a component of individualized budgeting. The SIS is a new needs assessment tool designed to measure support needs in support of service planning. The SIS is being adopted by many states because of its focus on an individual's service needs rather than his or her functional limitations.

Inventory for Client and Agency Planning ("ICAP")

Still accepted as an important needs assessment tool, the ICAP is able to record a broad array of descriptive information on the abilities and functional limitations of individuals with developmental disabilities in need of support services. The assessment instrument is deficit-

based, examining an individual's capacity to perform certain identified activities at a given point in time in each of the following four general skills areas:

- **Motor Skills:** This section focuses on physical abilities such as picking up small objects, turning a knob to open a door, climbing a ladder and threading a sewing needle.
- **Social and Communication Skills:** This section includes things such as making sounds or gestures to get attention, saying at least ten words that can be understood by someone who knows him or her, and responding appropriately to common signs, printed words or symbols.
- **Personal Living Skills:** This section includes eating and cooking skills, dressing, toileting and hygiene.
- **Community Living Skills:** Includes shopping, ability to do things in the community alone, budgeting money and working.

The ICAP also identifies problem behaviors, current living situation, current daily programmatic activities, current support services and social and leisure activities. State developmental disabilities agencies use the ICAP for a variety of purposes including: eligibility determination, individual needs assessment, service planning and individualized budgeting. The assessment instrument may be applied statewide, regionally or on a program-specific basis for different purposes. For example, states employ the ICAP in the following ways:[24]

- Statewide to assess individual needs: Alabama, Arkansas, Arizona, Georgia, Illinois, Nebraska, South Dakota, Utah, Washington, and Wyoming.
- Statewide on a program specific basis to assess the needs of persons residing in ICFs/MR and group homes: West Virginia.
- Statewide to determine the eligibility of individuals with certain conditions: Washington.
- Statewide to supplement a state-designed screening tool: Montana, South Carolina, and Texas
- At a regional level for case management purposes: Colorado, Louisiana, Pennsylvania, and Virginia.

Supports Intensity Scale ("SIS")

The SIS is a needs assessment tool specifically designed and developed by the AAMR to measure the need for assistance with the daily performance of typical tasks, instead of functional abilities. According to AAMR, the SIS is, "designed to measure the level of practical supports required by people with intellectual disabilities. to lead normal, independent, and quality lives in society." An article published in the Journal of Mental Retardation presented the results of an evaluation of this assessment approach to support needs. This statistical and

[24] From "Short Survey of Statewide DD Assessment Practices," Brad Hill, Minneapolis, MN, January 20, 2003. www.cpinternet.com/bhill/icap/assessmentsurvey.doc

literature-based evaluation found the tool to be valid and reasonable when used to measure support needs.[25] Since its initial publication in 2003, the SIS has generated a great deal of interest from state officials who have responsibility for determining accurate and equitable methods for allocating service-related resources based on individual need.

The SIS was developed over a period of five years by a team of national experts involving: (a) an extensive literature review to identify indicators of support needs; (b) a "Q-sort" by 50 professionals working in the field of intellectual disabilities to establish the content validity and initial grouping of items; and (c) three field tests where data were collected on over 1,700 persons with intellectual disabilities. The instrument is divided into three main sections:

1. Supports Needs Scale comprising 49 life activities. The Supports Needs Scale is divided into six subscales:
   - Home Living
   - Community Living
   - Life-long Learning
   - Employment
   - Health and Safety
   - Social Activities

2. Supplemental Protection and Advocacy Scale including eight activities related to protection and advocacy that are not components of the Support Intensity Score.

3. Exceptional Medical and Behavioral Support Needs including fifteen medical conditions and thirteen problem behaviors, that help predict support needs.

The following states or municipalities have either considered, or are in the process of adopting the SIS as a needs assessment tool for developmental disability services:

- The City of Colorado Springs officially adopted the SIS as its needs assessment tool.
- Georgia is in the process of adopting the SIS for needs assessment and budgeting purposes.[26]
- Utah is implementing the SIS as a needs assessment tool and is considering adopting it for individual budgeting purposes as well.[27] The state has developed a Utah-specific supplemental form as an addition to the SIS.[28]

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[25] "Integrating Supports in Assessment and Planning," James R. Thompson, Carolyn Hughes, Robert L. Schalock, Wayne Silverman, Marc J. Tasse, Brian Bryant, Ellis M. Craig and Edward M. Campbell, American Journal on Mental Retardation, Vol. 40, No. 5: 390-405, October 2002.

[26] "To Georgia's Disability Community," Governor's note in the Making a Difference quarterly magazine published by the Governor's Council on Developmental Disabilities, Spring 2006.

[27] "Questions from Providers and Answers from DSPD," Division of Services for People with Disabilities, Provider Assessment Workgroup, January, 2006.

- Washington has developed an electronic needs assessment process using the SIS. The target implementation date is June, 2007.
- Colorado is in the process of adopting the SIS for needs assessment statewide.
- Louisiana is implementing the use of the SIS statewide as a needs assessment tool.

Comparing the Tools

The SIS and the ICAP are designed to provide information on individuals' strengths and needs for use in the personal support planning process. The SIS evaluates the nature and amount of support that a given individual would need to receive to complete the activities that one would expect to encounter in daily life at home and in the community. By contrast, the ICAP, and other deficit based assessment instruments such as the DDP, are designed to identify the presence of a wide range of adaptive and maladaptive behaviors. The determination of support needs is not assessed directly, but rather is inferred based on expert judgment and a statistical analysis of historical service usage patterns of individuals with similar functional limitations. In other words, an analysis is performed to identify the services used by individuals with certain functional limitations. An inference regarding the services *needed* is made, based on statistical correlations between identified functional limitations and the nature and amount of services *used*.

As described above, both the ICAP and the SIS provide variables that can be statistically correlated to budget amounts, when calculated using a regression analysis. A September 2005 article in the American Journal on Mental Retardation demonstrates the correlation between the two needs assessment tools.[29] By running correlation analyses on the subscales and individual variables found in each tool, the research team found that although the approaches are different (deficit-based vs. support needs) the results are related. This research demonstrates, and industry experts agree, that selection of one of these tools should be related to their impact on service planning goals, as their impact on resource allocation is comparable. The states currently using either tool for budget planning have created predictive budgeting models based on historical service funding and the service use of individual consumers. Either the SIS or the ICAP can be a component of a predictive model. At this point, historical data are essential elements of individual budgeting models.

Although both instruments offer effective tools for budget development, state officials report that consumers and families appear to express greater comfort with the more transparent needs assessment approach provided by the SIS. This factor has been an important contributor to the decision of many states to consider the use of the SIS as a statewide needs assessment tool.

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[28] "Additional Support Needs/Risk Assessment," Utah Specific form as an addition to the AAMR SIS.
[29] "Support Needs and Adaptive Behaviors," Julia Harries, Roma Guscia, Neil Kirby, Ted Nettelbeck, and John Taplin, American Journal on Mental Retardation, Vol. 110, No. 5: 393-404, September 2005.

Data Collection Consortium—Outcome Metrics

Our research also noted the development of an industry-level system of core indicators of developmental disability system performance. This system and its indicators are not currently linked to resource allocation strategies. However, the drive to tie funding to performance is gaining momentum in healthcare in general and was mentioned by a number of people in Wyoming who were interviewed as part of this evaluation. We have included a brief summary of the current work to demonstrate that the Division is involved in a national project with an overall commitment to the assessment and monitoring of key system performance indicators. Involvement in this project may offer the Division the opportunity to link performance data to its use of the DOORS Model in future years.

Launched in 1997 by NASDDDS, the National Core Indicators project represents a collaboration between NASDDDS member states and the Human Services Research Institute ("HSRI") to gather, track and evaluate information about developmental disabilities programs, services and funding systems. The goal of the project is to develop a useful approach to performance management with defined outcome measures for developmental disability services. The current project measures "approximately 100 consumer, family, systemic, cost, and health and safety outcomes."[30]

Wyoming commenced participation in the National Core Indicators project in 2002. According to its website, "The Wyoming INstitute for Disabilities ("WIND") conducts five major activities in association with Core Indicators: interviews of 400 adults; surveys of parents of adults with developmental disabilities; surveys of parents of children with disabilities; research into supported employment of adults; and research on turnover of direct care personnel."[31] WIND is associated with the University of Wyoming, and currently conducts all ICAP evaluations for HCBS waiver recipients in Wyoming, a key component of the DOORS Model. As part of the National Core Indicators project, WIND collects and submits data. HSRI is responsible for all analysis and tracking of the data. Currently, the Division does not use the data collected by WIND for internal Division evaluations or other purposes.

[30] http://www.hsri.org/nci/

[31] http://wind.uwyo.edu/wycip/about.asp

Qualitative Evaluation

As noted in the Methodology section above, the qualitative evaluation assesses the validity of the DOORS Model; the extent to which the resource allocation process addresses the issues and variables that it was intended to resolve. To achieve this outcome, the qualitative evaluation gathered and analyzed the perspectives of principle stakeholders. These "insider" perspectives of the DOORS Model were analyzed in combination with key informant data gathered through a series of semi-structured open-ended interviews conducted of selected developmental disabilities state agency leaders in four states. The information is used to help identify opportunities for improving the DOORS Model and the Division's capacity to meet the identified policy objectives.

Informant interviews were designed to collect information on a wide variety of issues related to the design and operation of the DOORS Model and the extent to which it was consistent with the Division's public policy objectives, mission and responsibilities. Stakeholders were asked to provide their perspectives and opinions regarding: (a) the mechanics of the state's approach to resource allocation, (b) the results or outcomes of the individual budgeting process, including responses received to exceptional care requests, (c) the accuracy and value of the needs assessment data produced by the model, (d) the usability of the DOORS process, and (e) the influence of the Division's administration of DOORS on stakeholder understanding and acceptance.

Stakeholder Insights

The acceptability of a State's resource allocation strategy rests to a significant degree on the extent to which the stakeholders in the system believe that the approach produces a fair, equitable and accurate result. Stakeholders in the DOORS Model include consumers of services, families and advocates, providers of services, and government officials; those elected and appointed as well as the civil servants who provide the foundation of any state's administrative capacity. Navigant Consulting conducted meetings and interviews with stakeholders in order to develop a comprehensive understanding of how DOORS operates in practice. The information gathered in these meetings has helped Navigant Consulting target issues to be analyzed in the quantitative section of this report, while also providing a good general understanding of current waiver administration and funding.

Findings: Consumer Perspective

Navigant Consulting and Division officials held a 90-minute focused consumer discussion as part of the annual statewide developmental disabilities Mega Conference in October 2006. Navigant Consulting designed this session to evaluate the understanding of consumers, families and advocates of the DOORS Model and the individual budgeting process.

Approximately seventy (70) people attended this meeting. Thirteen (13) direct consumers, and at least fifteen (15) family members and guardians attended the meeting. About two-thirds of each group actively participated in the discussions. The remaining attendees were Independent Service Coordinators ("ISC"), provider agency managers, State staff and elected officials. To provide adequate focus on the perspective of direct consumers, ground-rules for the discussion required that open dialog would not begin until all willing direct consumers, family members and guardians (in that order) had an opportunity to express their concerns and issues.

Consumers' understanding of their individual budgets ranged widely. Three (3) of the eight direct consumers reported that they had an individual budget and discussed using the funding in the budget to "buy" needed services as part of the annual service planning process. These individuals reported that their ISC and team used the assigned dollar amount to develop their plan of care. Not surprisingly, only one direct consumer was aware of the term DOORS and none were familiar with the specifics of model design. Three of the individuals with disabilities felt comfortable that they could change services and one described his personal experience changing providers. Some recipients were unaware of this process, but expressed satisfaction with the supports currently received.

Consumers expressed concern about the following: (a) a lack of understanding about the individual budgeting process; (b) the role of consumers and families in the determination and selection of services; (c) the difficulty locating appropriate services; (d) the difficulty navigating the array of available supports; (e) a lack of understanding, compassion and responsiveness (on the part of some providers) to the special situations faced by people who have developmental disabilities; and, (f) provider interests conflicting with consumer interests.

No direct consumer expressed that he or she did not have sufficient funding to obtain needed services. Only two individuals with disabilities indicated that they had difficulty obtaining needed supports, but it appeared this problem did not relate to budget, but instead to the services available through the waiver.

The number of direct consumers involved in this discussion was relatively small and there was no opportunity to ensure that the group was representative. The participation was purely voluntary, which experience suggests brings those most vocal among self-advocates in any developmental disabilities system. There was an overall high degree of satisfaction expressed with regard to the services afforded by the individual budgeting process. The extent of direct consumer awareness and involvement in the individual budgeting process suggests a degree of transparency and person-centered focus that is admirable, especially given the Division's acknowledgement that its individual budgeting approach does not offer as much control to the consumer as it could.

Findings: Family/Guardian Perspective

Family members and guardians also actively participated in the discussion. Each of the fifteen participants who identified themselves as family members or guardians offered their insights and experiences. Most parents and guardians understand that each individual is assigned a budget. They are comfortable, in general, with the amount of supports that can be purchased with that budget. One parent expressed concern that her daughter's team was not working effectively to find the right supports for her, and instead focused on keeping the daughter in a specific agency's care, but it was not an issue of the amount of money available in her daughter's budget[32].

Family members and guardians expressed a number of concerns; including a concern about the transition from the school system to Adult Waiver supports. The concern focused on the fact that the ICAP needs assessment is conducted every three years for children, and every five years for adults. The assessment is not necessarily re-run at the time of transition. Because the school system provides a different array of supports than is available under the Adult Waiver, advocates and families may be unsure how to approach the new program. Their responses to the ICAP assessment when their child was in school may have a different – and unwanted – impact on the individual budget amount calculated for the Adult Waiver. Even if the Adult Waiver budget includes funding for certain supports, such supports are not always available for purchase in less populated areas. Another life transition concern addressed was the aging of parents of adults with developmental disabilities. It may become more difficult for parents to provide the current level of supports as they age, requiring a budget adjustment that may not be built in to the DOORS Model. Some family members expressed frustration with the system of HCBS services. At times, individuals require limited-duration or targeted services. Because the budget is designed to address ongoing support needs, it can be difficult to find and obtain services for specific events or short-term needs.

Family members and guardians additionally expressed concern over the role of living situation and the size of provider in the establishment of an initial individual budget amount. Living in a more independent setting does not necessarily indicate the need for the lower level of supports reflected in the DOORS Model. One audience member gave an example of a young man who decided to move from his group living situation to a more independent situation in a supported apartment. This change in living situation automatically dropped his IBA amount by more than $20,000. While acknowledging that his costs in the apartment were less, the guardian noted that the young man's need for supports to successfully make his move to a more integrated and more independent setting required more funding than his new IBA allowed. There is currently no mechanism for the DOORS Model to generate an IBA that falls somewhere between those two numbers. This guardian also expressed her perception that consumers working with larger agencies received larger budget amounts, because costs were understood to be higher for these agencies.

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[32] Division managers met with this parent at the end of the meeting and arranged a problem solving session to address the concerns raised in this discussion.

While most family members and guardians expressed satisfaction with the level of funding available through the DOORS Model, there were clearly concerns regarding how the ICAP assessments were conducted (and whether this impacted IBA amounts)[33]; whether the agencies were too much in control of the supports and services that could be accessed; how responsive the DOORS Model would be to changing situations or decisions in a person's life, especially that it might not allow enough levels of funding to meet newly defined support needs; and that there may be disparity in IBA amounts that are based on the provider agency involved rather than the person involved.

While these concerns are significant, it was determined (through discussion in this session and subsequent discussions) that concern over disparity in IBA amounts that were based on provider agency and not the person may have been true in the past but that new protocols and administrative guidance has significantly reduced this as an issue. The DOORS Model and the resultant IBA amounts are not dependent on any provider-specific information. However, it was acknowledged that the rates authorized for any service purchased through a person's IBA were provider-specific. Therefore, while the IBA dollar amount was not dependent on provider-specific information, the scope, duration and frequency of services and supports that could be purchased were impacted by the rates for different providers. This suggests that because the DOORS Model does not create IBAs that are sensitive to variations in provider cost, an indirect effect is that it can result in inequalities of funding. This was mentioned in light of geographic and other differences in the cost of services.

Another issue that came up in discussion with family members and guardians was a disparity of understanding of the objective of the DOORS Model. As mentioned earlier in this report, the DOORS Model was designed and continues to be operated as a method of equitably distributing available funding in ways that reflect individual assessments and service plan decisions. Family members and guardians (and others, as will be seen from other discussions) assume that the DOORS Model is designed to generate individual budget amounts that are based on need and not as dependent on current service plan decisions as it is. This discrepancy in expectations by a prominent stakeholder group (which was not an issue with providers) suggests a level of confusion regarding a fundamental public policy question that should be addressed.

The dialogue with direct consumers and family members and guardians helped illuminate consumer understanding and concerns about the DOORS Model. It also served as a catalyst for discussion and further clarification between the Division and the provider community. Most individuals, both consumers and families, are satisfied with the current system of budgeting. According to consumers and advocates, the current version of DOORS is superior to all models of budgeting previously used in Wyoming. There were several areas identified for possible improvement. These areas include educating consumers about DOORS, addressing limited

[33] This issue will be discussed more fully in the following section on the "provider perspective".

availability of services in rural areas, evaluating the connection between living situation and budget amounts, and ensuring provider interests do not work in conflict with consumer needs.

Findings: Provider Perspective

In mid-October 2006, Navigant Consulting and Wyoming State officials held a focus group session with developmental disability service providers in Casper, Wyoming. A total of sixteen (16) people, representing ten (10) provider and case management agencies and an association of provider agencies participated in this discussion. Unlike the session involving direct consumers, family members and guardians, the participants in this dialogue were representative of the provider community.[34] The goal of the session was to learn how providers perceive and understand the DOORS Model in practice. Both large and small independent providers were invited to the session. The session included the Division of Developmental Disabilities' Director, its Division's Director of Finance and Deputy Director for Programs and the Chair of the Legislative Select Committee on Developmental Disabilities. General concerns raised by the providers focused on the following: inadequate frequency of ICAP administration, limitations on service due to inadequate IBA amounts, functional limitations on consumer choice of providers and perceived funding disparities between providers of different sizes.

In general, providers feel the current DOORS Model is better than previous budgeting methodologies. The Division's administration of the model has continually improved over time. There was a clear point of demarcation related to the improvements completed in response to the CMS HCBS Waiver Review and LSO report. The current administration of the ICAP needs assessment tool was considered more accurate and the budgets and services generated by the DOORS Model are considered better related to the needs of the client. Trained individuals at the WIND currently administer the ICAP. These individuals are not associated with the provider agencies. Providers appear to believe the ICAP is done well now, but because the assessment is administered infrequently, many are still operating with the results of old ICAPs. Prior to University involvement, the State contracted with a private entity to conduct ICAP assessments.

Ideally, the assessment tool should be reliable no matter who conducts the assessment. Some providers expressed concern that the current administration of the ICAP does not involve enough members of a consumer's support network. The administrators of the ICAP interview two people, one of whom may be the consumer. Providers feel that the family does not always know how the consumer functions on a day-to-day basis. ISCs in this discussion and the earlier consumer discussion expressed concern that parents and family members involved in the ICAP assessment process often do not understand how to respond to the questions to most accurately reflect their loved ones capacities. This was thought to reflect both lack of familiarity with the instrument and questions as well as a natural inclination to present a person's abilities and behaviors in the best light possible. This is in contrast to ICAP assessments that include agency

[34] All providers were invited to participate in the session.

staff who understand how the presentation of a person's deficits, behaviors and abilities influence a person's individual budget.

Many providers expressed concerns about the interpretation of the ICAP assessment into support needs. The ICAP may assess an individual's ability level, but it may not accurately reflect actual support needs. The provider currently enters the process after the budget has been established through the administration of an ICAP needs assessment. Several providers expressed concern that they should be more involved in helping the State understand what consumers need before a budget is established.

As mentioned previously, the ICAP is administered every 5 years for the Adult Waiver and every 3 years for the Child Waiver. Some providers suggested that the DOORS Model be re-run for all consumers to reflect the current needs assessment administration methodology. Providers recognize that there will always be some subjective elements to assessment tools. Because the State now has an objective entity administering the ICAP, it is more reliable and less susceptible to inappropriate bias.

Providers understand that the IBA may not reflect all of an individual's needs. The IBA represents the share of the total Wyoming budget for services assigned to the individual based on the DOORS Model. One provider expressed her understanding that the IBA should reflect the total needs of the individual consumer. When asked if inadequate budgets have created health and safety risks for any consumers, the providers who participated in this discussion indicated no such risks. However, the providers indicated that they ensure services even if money is not available by shifting costs, using funds raised (e.g. Easter Seals) or other safety net means. Most providers are able to make the available IBA funding work for their consumers.

When asked if the DOORS Model allows consumer choice, some providers indicated they face functional limitations on choice. When a consumer has a small budget, the reality is that the funding may not be portable. New or independent providers may be reluctant to accept consumers with small IBAs. At least one provider stated that he never turns anyone away due to small IBAs. The ISCs in this focus group indicated that choice was supported through the DOORS-based service planning process, to the extent that services and supports were available and different providers were willing to work within the available budget. This was discussed from the perspective of selecting a new provider for the same service as well as that of selecting a new provider for a materially different service or support.

It is not surprising that a person's choice of a new provider for a new or materially different support or service is constrained by the existing IBA. The DOORS Model, as currently constructed, does not support such elective decisions. As a matter of policy, the Division has chosen not to automatically support such changes, unless it results in a reduction in the total cost of the person's individual service plan. (There is a process that considers such requests, but it is external to the workings of the DOORS Model and its related ECC process.)

However, the constraint of an IBA on a person's choice of a different provider for the same service or support is of some concern. While the Division, again as a matter of policy, did not design the DOORS Model to support a "money-follows-the-person" policy, its current policy interest and industry standards, as reflected in the previous discussion of the elements of a well-constructed individual budgeting process, would expect any such constraint to be minimal. This issue, as discussed with providers and Division management appears directly tied to the provider-specific rates for services. Further discussion indicated that at least part of the variation in provider-specific rates for similar services is tied to geographic differences in related expenses (i.e., wages, housing or property, etc.). In other cases the variation was described as tied to provider-specific decisions about specific components of a specific service that were within both the service definition and allowable within the rate-setting mechanism. To the extent that such variation is tied to geographic variation in cost, the DOORS Model could be recalibrated to address this issue in a way that reduces its constraints on choice.

Budget coverage for services and supports is another important issue to providers. One independent provider claimed 12 to 15 percent of her clients do not receive enough funding to meet their care needs through the IBA generated by the DOORS Model. Most claimed they are able to make the IBA work, and if not, they use the ECC process. The providers attending the focus group session indicated a range of two to seven clients per provider with budgets requiring ECC approval. This issue was also discussed in a meeting with the Project Advisory Committee. At that meeting a provider explained that the DOORS Model was, in his opinion, very effective in setting a basic funding level for all HCBS waiver participants that was understandable, equitable and reasonable for most people. This provider expressed that the DOORS Model was really a two-step process. If the IBA generated by the DOORS Model was insufficient to meet the particular needs of an individual, the ECC process was responsive to appropriate increases in the IBA. After much discussion of this issue, it is apparent that this two-step process to finalize an IBA is at the root of the general satisfaction expressed by providers, consumers and family members and guardians. While this is a viable outcome of an individual budgeting process, one test of the predictive abilities of the DOORS Model is the percentage of ECC adjustments that are required to produce the appropriate IBAs. This issue is discussed at length in the Quantitative Analysis section that follows.

The providers explained that in the past, the State increased payments to larger providers because they cost more to operate. This factor increased the budget, which would have been smaller if the consumer was working with an independent provider. This understanding may be a legacy of prior elements of the system, which have since changed. There appears to be a dynamic tension between different parts of the provider community—primarily between small independent providers and the ten biggest providers in the State.[35]

[35] The tension was between the members of the Regional Service Providers ("RSP") and the "Non-RSP" Providers. The RSP's consist of 10 Agencies; 9 of the 10 are "large," with greater than> $1 million of annual paid claims. A few of the Non-RSP's also have greater than $1 million in annual paid claims.

One complaint expressed by providers was that if an IBA is established prior to an individual turning 21 and leaving school, the IBA is not changed to reflect transitional needs or changes in living situation at age 21 and beyond. Another concern was that maladaptive behavior is a variable in the DOORS Model, but it may not have enough influence in the model to adequately reflect the needs of individuals who have dual diagnosis. An individual has a dual diagnosis when he or she has both developmental disabilities and mental illness. In one provider's experience, it is more difficult to get adequate IBAs assigned to people with severe behavioral issues. According to State officials, the DOORS Model may not be designed to adequately handle the dual diagnosis issue.

Overall, providers were pleased the State is evaluating the DOORS Model. One provider described a "frustration factor" in relation to perceptions about the current funding system. However, provider satisfaction with the model in its current form is generally quite high.

Findings: Payer Perspective

State resource allocation methodologies, such as the DOORS Model are instruments of public policy. This part of the evaluation was designed to elicit information regarding how the major public-policy stakeholders viewed the DOORS Model. Those stakeholders included a number of state policy makers and staff as well as, to a lesser extent, staff at the CMS. Because these stakeholders are responsible for the financing of the services and supports that a person purchases with his or her IBA, we have considered them as the "payers" in this report. The list of people interviewed during this part of the evaluation was developed in collaboration with the Director of the Developmental Disabilities Division.

Developmental Disabilities Division

Navigant Consulting held meetings with a number of key managers and staff of the Division. They included the Director, the Director of Finance, the Deputy Administrator and the Program Integrity Manager. Discussions with these managers and staff generated a considerable amount of information regarding the evolution of the DOORS Model, its current architecture, and how it is administered. The Division also used these discussions to articulate how it expected the DOORS Model to support its mission and policy initiatives in the future.

The Division articulated a number of expectations regarding the impact and administration of the DOORS Model. These issues were critical to our assessing the model's capacity to support the Division's policy direction. Among them are:

- The DOORS Model will continue to equitably redistribute available budget appropriation. Although the Division understands and is empathetic to consumer, family and advocate interest in having individual budgets reflect expressed need without regard for any limitation on total system funding, current state financial realities and community concern over public finances would not allow such an open-ended approach.

- The Division is open to a range of revisions of the DOORS Model and even consideration of replacing the DOORS Model or elements of the model, if the evaluation determines it to be of faulty architecture, inefficient in administration or unable to effectively support the Division's mission and public policy initiatives.
- The architecture and administration of the DOORS Model, including the ECC process, must be transparent to all stakeholders and, to the extent there is interest, the general community.
- The administration of the DOORS Model should reflect an appropriate level of accountability and quality management, ensuring consistent and comparable outcomes.
- The DOORS Model or its administration should be enhanced to increase its capacity to support individual choice, finance quality outcomes for individuals, support a broader array of supports and services (in terms of the quantity and availability of both current and new types of supports and services), stimulate the participation of a broader variety of providers and support a person's choice to move to or remain in the community.
- The ICAP assessment instrument, while vital to the DOORS Model, may not be the best needs assessment tool to use as a major component of the model. Other instruments are being used in many states that may offer an opportunity for improvement to the effectiveness of the DOORS Model.
- Any revisions to the DOORS Model must be responsive to issues raised during the CMS HCBS Waiver Review and the LSO audit and compliant with state finance law and Medicaid rules.
- The geographic variations in costs across the State do justify geographic variations in the IBAs that are generated by the DOORS Model.

In addition, discussions with Division managers and staff identified a number of procedural and administrative activities that influence the outcome of the DOORS Model:

- The Division has separated three procedural processes that in the past were combined in order to make the ECC process more focused, clear and accountable:
  1 ECC decisions are confined to requests that are:
    a. Emergency requests for additional funding over the IBA (Section 14 in Adult, Child, and ABI rules).
    b. Additional funding due to a material change in circumstance, a potential emergency or other conditions.
    c. Approving or rejecting set rates for services that are not commensurate with the rates as defined in the waivers.

d. Approving rate changes due to increased or decreased funding from Legislative Appropriations or under-utilization of approved individualized budgeted amounts in aggregate.[36]

2. Decisions to complete a new ICAP or to re-run the DOORS Model to generate a new IBA that are based on program changes required by significant changes in a person's life situation can be considered "program changes" and are not required to be processed through the ECC.

3. Decisions regarding the payment rate for a service provided by an agency are not handled as part of the ECC process. These are addressed through service rates that are fixed or variable; the variable rates are negotiated through the annual Plan of Care approval process.

While this separation of the above administrative and programmatic activities seems well articulated by Division staff, when probed it appeared that navigation of this three-pronged distribution of authority and responsibility may offer opportunity for discretion and inconsistent decisions regarding which requests or situations required ECC review and which could be addressed administratively by program staff and managers. The Division has created a new policy that seeks to guide access to the ECC decision-making process, ensure appropriate State review of ECC requests and provide consistent outcomes of the ECC process. While the process has been well articulated, including criteria to be used in decision-making, the results of the decisions are not entered into a database that facilitates analysis and/or monitoring.

Wyoming Department of Health, Office of Health Care Financing (Medicaid)

A telephone interview was held with the Medicaid Director of the Wyoming Department of Health. Having come to this position from another state, the Medicaid Director had little knowledge of the development and design of the DOORS Model. His experience in other states led him to conclude that the Division's service system offered great opportunities for people to receive supports and services in the community. Other states, in his experience, were much more restrictive in what they offered through their HCBS waivers. In addition, he indicated that the Division operated to minimize the number of consumers on a waiting list at any given time and worked to "turn over" the people waiting for services every year. This also demonstrates the State's commitment to provide appropriate supports and services to this vulnerable population.

The Medicaid Director indicated that these public policy decisions had direct impact on his budget. For the current biennium (FY 2007/2008) the Division's budget was approximately $190 million. The Division's three waivers, when combined with the State's Nursing Home waiver, comprised the biggest cost item in his Medicaid budget. Costs have grown in the three HCBS waivers managed by the Developmental Disabilities Division. Average per capita costs in those

[36] Extraordinary Care Committee policy implemented October 1, 2006.

waivers have grown as well, but the Medicaid Director did not feel they were out of line, although constraining their growth is necessary.

His experience in other states led him to conclude that the DOORS Model offered a level of methodology and rigor to managing costs that other states did not have. While he still had concern that the Division could exert more control on the cost of outliers, he felt the process was well-constructed and well-managed. The administrative processes and controls designed and implemented since the LSO audit were indications that these outliers were being brought under control. He expressed that the DOORS Model, with its ability to provide adequate funding for community services, was also at least partially responsible for appropriately enrolling consumers in HCBS waivers than automatically placing them in institutions (in the Wyoming State Training Center or nursing homes) which was a significant public policy goal. He also had seen no data that suggested to him that there was a significant variance between IBAs and the final cost of services provided.

The Medicaid Director considered the DOORS Model a strong service planning tool. He based this conclusion on the influence of the service plan in determining the amount of funding in an IBA. The addition of new administrative controls suggested, to him, that it will grow to marry a stronger cost management component to this care planning capability. His office was involved in the development of these controls. He further indicated that his office had submitted a Systems Transformation Grant proposal to CMS designed to strengthen the relationship between care planning and funding, using new available software.

A Medicaid representative is a member of the ECC. The representative was added in response to the LSO audit and the Developmental Disabilities Division's commitment to strengthening quality management of its resource allocation process. The Medicaid Director's involvement amounts to participating in two or three ECC meetings a year. He was satisfied that the requests he reviewed as a member of the ECC were legitimate requests to address the needs of people who have needs that go beyond the capability of the DOORS Model to predict and reflect in the formula-driven IBA. He thought the meetings were well managed, that there was appropriate concern to deny inappropriate or unnecessary supports or services, and to approve necessary ones. His impression was that the number of ECC requests received and approved were limited, and well within his expectation of such a model.

The Medicaid Director did not see a need to significantly alter the DOORS Model. He found one of its strengths to be that it was not directly linked to rate-setting for provider services. He was not familiar with any assessment tool that would enhance the model (and he was familiar with a number of assessment tools).

Legislative Services Office

Navigant Consulting's project team held a 90-minute interview with four members of the staff who conducted the LSO audit in 2003. The purpose of the interview was to gain insight into

their findings and concerns and to determine whether these concerns had been substantially ameliorated or if they remained.

The LSO staff were clear that they had not been monitoring the activities of the Division of late. Their charge was to conduct such audits, issue reports and to review corrective action plans and initial corrective action. Their charge does not include continued monitoring of agency activities. Therefore, they did not have current knowledge of the Division activities related to the DOORS Model or the HCBS waivers in general. They were very encouraged to hear about the improvements that had been made in the Division's management of the DOORS Model and especially the ECC, which replaced the process that had been in place when they conducted the audit. Navigant Consulting shared what they had found that related to the concerns raised in their original audit.

Centers for Medicare and Medicaid Services

As the federal agency that administers the Medicaid program that finances the Home- and Community-Based Services waivers administered by the Wyoming Developmental Disabilities Services Division, the Navigant Consulting project team sought to assess CMS' knowledge of and perspective on the DOORS Model. Members of the Navigant Consulting project team attended national conferences in the early years of this decade, at which the DOORS Model was presented as an industry best practice. CMS staff and managers at those conferences had supported state interest in this particular model and other statistically-based resource allocation models.

The Wyoming Medicaid Director indicated that, in his tenure, he had been involved in no discussion with CMS Region VIII staff regarding the DOORS Model while he had participated in discussions regarding the three HCBS waivers administered by the Division. Similarly, the Director of the Division had not participated in any discussions with CMS Region VIII or other staff on the DOORS Model.

A telephone conversation with a senior staff of the CMS Center for Medicaid and State Operations confirmed that the DOORS Model was well recognized. While CMS staff are clear that they endorse no particular state administrative practice, it was noted that the DOORS Model was acknowledged as a best practice a few years ago. CMS staff confirmed that it was still regarded as a best practice and that its reliance on a statistical predictive approach was something that CMS encourages. CMS staff had no knowledge of any drawbacks related to the DOORS Model.

Interviews with Other States

State strategies for allocating resources to eligible individuals under HCBS Medicaid Waiver programs have continued to evolve in response to the issuance of federal guidelines associated with the new HCBS Medicaid waiver application, the development of promising technologies

for assessing individual need, such as the SIS and growing pressures within states to improve the accuracy, equity and transparency of current funding methodologies. Some states, such as Georgia, Connecticut and Pennsylvania, have launched ambitious initiatives aimed at producing significant changes in the approaches used to evaluate individuals' service needs and determine an appropriate amount of funding to meet those needs. Other states, such as South Dakota, Washington, Utah and Louisiana, are revising current needs assessment and funding methodologies to improve accuracy, fairness and ease of use. Although numerous reports document the changes being made in states across the country (refer to the section on Current Literature above), it is difficult to assess the impact of such changes without a more in-depth review that takes into account the structure and functioning of each state's service delivery system. To gain a better understanding of the nature and implications of the changes, Navigant Consulting designed the qualitative assessment to include interviews with key informants in a group of select states that are currently restructuring their resource allocation methodologies. Charles Moseley designed the state selection criteria (see Appendix C), developed the interview format and provided oversight of the state interview process. The selection criteria included many of the issues discussed in the section on elements of effective budgeting models described above.

The DOORS evaluation team targeted states that have implemented, or are in the process of developing, resource allocation and/or individual budgeting models that address issues and variables that are highly relevant to the DOORS Model. Focus was placed on identifying and describing the approaches each state employed to assess individual need, calculate projected service costs, allocate resources and ensure equity across the system. State agencies were asked to furnish information on the use of standardized needs assessment tools, the approaches used to target scarce resources to individuals with the greatest needs, methods of addressing service priorities and the steps taken to assure the fair and equitable distribution of resources across individuals, groups and regions. Additional questions sought information on the approaches used by states to balance self direction, individual choice and budget limitations.

Navigant Consulting and the Division collaborated in the selection of four states for in-depth interviews: Georgia, Washington, Connecticut and South Dakota. Each of these states has adopted an innovative approach to resource allocation under its Medicaid waiver program for persons with developmental disabilities. In each state, the approach to resource allocation was developed with input from key stakeholders including individuals receiving support, provider agency representatives, citizen advocates and legislative and/or governmental staff.

State officials were interviewed by telephone, using a set of questions developed by Dr. Moseley (see **Appendix** D). The results of each interview are summarized below.

Georgia

Like many states, Georgia considers that it has been operating with an antiquated HCBS waiver funding system for many years. The Division of Mental Health, Developmental Disabilities & Addictive Diseases, in the Department of Human Services ("the Georgia Division"), administers

the waiver programs. Over time, providers have worked within the system to negotiate service rates. According to State officials, the current system includes unnecessary overhead, with a bias toward congregate settings that segregate citizens. This segregation occurs, in part, because of economies of scale. It is often less expensive, per individual, for a provider to serve individuals in one location as opposed to many locations in the community. Federal guidelines require that Medicaid rates be cost-based, which is forcing many states like Georgia to reassess methods and amounts of provider reimbursement.

Georgia is in the process of implementing a new funding and assessment system for its HCBS waivers. Approval for waiver modifications with CMS is pending, but the Georgia Division Director anticipates approval. At all times during the development of the new system, relevant information was available on the Georgia Division's website. The Georgia Division also held a series of community forums and invited consumers, families, advocates and legislators to participate. The state had a year-long period for public comment. The feedback led to some significant changes to the system plan.

Georgia has no local financial intermediaries within the State, so the state administers all waiver funding. This has allowed the State to make fundamental changes to the HCBS waiver programs without regional board approval or administration concerns. Implementation of a new funding and waiver administration system in Georgia is targeted for June 2007. The new system will be implemented incrementally, over a three-year period. The state intends to design individual budgets for everyone based on need and the fair distribution of resources, with family and consumer choice built in.

One of the key developments in the new system is the addition of the SIS needs assessment tool. According to state officials, this tool best serves in the creation of plans of care and the development of associated individual budgets. The state considered other needs assessment tools, but selected the SIS for its perceived superiority over other options as a service planning tool. The State is planning to administer the SIS to all consumers in 2007.

As a pilot project, Georgia administered the SIS to 650 individuals. The results were used, along with historical funding information, to develop a reliable budget generation mechanism or algorithm. This methodology is similar to that used by Wyoming in the creation of the DOORS Model. Both models rely on historical funding information to inform budget predictors.

The SIS has some identified weaknesses. According to Georgia State officials, the SIS is weak in health indicators so Georgia added a supplement to screen for health risks. Because some outliers do not conform to the algorithm model, the state will determine the definition of outliers and it will set aside money to address these outliers. The State's experience in developing the algorithm is that it captures what is needed to establish a budget without the health risk screening tool. The SIS generates appropriate budgets 90 to 95 percent of the time.

When the needs of a consumer are not met by the statistically assigned budget, the Support Coordinator will determine the reasonable amount of extra funding necessary to meet the

individual's needs. That information will be provided to Operations Analysts. Operations Analysts are state employees who cover 13 distinct regions. If the money is available, the Operations Analyst permits the change. This process, when implemented, will take the place of a process that is similar to Wyoming's ECC review.

Some providers have been resistant to the new system because they have long operated by the old, more informal funding rules, which will no longer be allowed. Because of provider resistance, the state is implementing the new system both on a rolling basis using birth dates of consumers and on an incremental basis. Individual consumer budgets will be renewed or re-evaluated as of a consumer's date of birth, not the beginning of a set fiscal year. The first year the new budget generated will account for 20 percent of the individual's budget, the second year 40 percent and the third year 100 percent. This allows providers some adjustment time.

Washington

Washington State's Division of Developmental Disabilities ("DDD") is in the process of renewing its HCBS waivers which will include making modifications to waiver administration. These modifications result from a series of independent performance audits by the State's Joint Legislative Audit and Review Committee ("JLARC"). JLARC made a number of recommendations:

- DDD should develop an assessment process for developmentally disabled clients that is consistently applied to all clients statewide and that clients must be assessed before a determination of service need is made
- The assessment process should utilize, to the extent possible, existing computer-based assessment tools either in use or under development by DDD
- DDD was directed to conduct a study and make recommendation for the development of a standardized rate structure for DDD community residential rates.

At the time of the audits, the service systems for people with developmental disabilities had merged with the service system for people who are aging and the aging system had developed a computer-based system to assess the needs of people for personal care services. The decision was made and funding was provided to expand the existing computer application to include the assessment required for people with developmental disabilities. CMS also informed DDD that the assessment of people with developmental disabilities needed to address the unique needs of this population, which resulted in the decision to adopt the SIS as the primary assessment instrument. The decision was also made to replace the current paper-based annual waiver needs review and Level of Care process with the automated SIS assessment thus requiring a change in how the HCBS waivers were administered. Washington also uses the results of the needs assessment to assign service units, instead of an individual budget like Wyoming. Service units are the hours of service an individual needs in different categories of care including residential habilitation. Budgets are then derived from service plans reflecting these service units.

The State is in the process of transitioning to the SIS for its needs assessments. State-employed case managers will assess all waiver consumers at the time of implementation, now projected to be June, 2007. Assessments will be re-done annually to reflect the current needs of consumers. Case managers will meet with consumers in their residences and, using a laptop computer, complete a needs assessment with the consumer, family and/or advocates as appropriate. The case manager will interview at least two individuals as part of the assessment process.

The SIS is normalized for use with individuals age 16 and over. Assessments of children will continue using the current tools until the SIS for individuals under age 16 is developed and released. The State selected the SIS because it is normalized for individuals with developmental disabilities, which is different than the current needs assessment tool designed for use with the aged. The appeal of the SIS is that it allows the administrator to help consumers think differently about support needs. It asks individuals to predict needs and think conceptually into the future. The tool can help providers and case managers teach skills to consumers. It will be used to help develop service plans, and it will feed into other areas like employment needs. The SIS does not measure receptive communication well, but is better at tapping expressive communication.

The State conducted two pilots of the SIS. The first pilot included the assessment of 270 individuals and the second an assessment of 200 individuals. It takes longer than the current system to administer, approximately 1.25 hours per assessment. It can take longer depending on the individuals involved (e.g. parents can be more talkative). The assessment is always completed in person.

State officials believe the tool has some limitations. The limitations include lack of specificity about maladaptive behaviors and employment needs. State officials have found that the ICAP actually has a better behavioral evaluation component, but using a portion of the ICAP in the computerized evaluation along with the SIS components was not an option. Washington has added some of its own questions to the assessment tool to make up for these perceived shortcomings. The overall assessment sets acuity levels in functional areas for each consumer. The functional areas are as follows:

- Behavioral
- Medical
- Activities of Daily Living ("ADL")
- Interpersonal Support (related to communication)
- Mobility
- Care Giver Requirements
- Protective Supervision

Transition to the SIS has both short- and long-term costs. The use of the SIS requires an ongoing relationship with the American Association of Mental Retardation ("AAMR"). Case managers must be familiar with the current computerized assessment system. In preparation for the

transition, each case manager has undergone 4 ½ days of training. A total of 350 case managers will be trained by State staff in eighteen training sessions.

When Washington first decided to transition to the SIS, one of the authors of the tool came to the State and worked with officials and case managers to set up the pilot. The author came again to conduct training when the initial pilot of 270 individuals was beginning. For the second pilot, the State conducted the training of case managers.

Washington's multi-layered approach to administering waiver services is complex. The State has involved stakeholder groups in the development of the new system at many levels. State officials just completed a round of informational sessions around the state for consumers and providers to explain the algorithm used to determine service levels and funding.

The current system in Washington is designed to predict support needs. Previously, case managers and providers met and negotiated rates and service plans. Although this system seemed effective, its lack of transparency led legislators to ask for modifications. The legislature requires relevant agencies to ensure the new system is cost-neutral. All of the data from the first year of implementation will be tracked and evaluated.

Connecticut

After evaluation and consideration, Connecticut decided to create its own customized needs assessment tool for both service planning and to use as a component of individualized budgeting. Stakeholders helped the State reach the decision to modify the current system. All changes to the program had to be budget neutral. The University of Connecticut Center on Aging worked with state officials to develop, pilot and implement the new needs assessment tool. This project was made possible by a grant with the Independence Plus Initiative within CMS. During the development process, officials interviewed 17 states, conducted a comprehensive literature review, held forums with consumers, families, providers and case managers, and created workgroups to analyze service rates and group living costs. There were three main components to the development of this budgeting system: reliance on the pure individual budgeting model, examination of the level of need and associated desired outcomes, and the development of consistent rates for different residential settings.

The state chose not to use the standardized ICAP or SIS for several reasons. According to State officials, the ICAP was not selected because Connecticut does not have a deficit-based model for its HCBS waiver financed community services, and the thought of using an "old fashioned" clinical, deficit-based assessment tool was not of interest. The state considered the SIS, but after examining the tool the state found it came up short in the behavioral and mental health categories. The state was also not interested in paying for the use of a needs assessment tool on an ongoing basis.

Connecticut has been engaged in a process of individual budgeting over the last several years. A connection between the assessment of need and budgets was initiated in 2000 using an early

needs assessment tools and broad funding ranges. The new tool is administered annually, or as needed due to significant life change, by a case manager. The state has had the tool copyrighted, but Connecticut will share it with other states. The state wished to be cautious about the potential for vendors to use the tool for profit-making purposes.

The State now sets standard rates for providers. Some providers would prefer regional rates based on cost of living differences, but the department chose to use standard rates with no variation. There have been recent policy changes that limit consumers' ability to obtain group home services if the individual's support needs do not support such an intensive model of service. Group homes are expensive compared to other available community options. Due to budget constraints, the State has a waiting list for consumers. People on the waiting list are assigned a priority based on urgency of need and time on the waiting list and receive services as new funding permits or as others leave the service system. When people enter the system, the budget will be based on the new individual budgeting methodology and assessment tools, within the constraints of the overall budget cap.

South Dakota

South Dakota has been involved in the individual budgeting practice longer than Wyoming. In fact, South Dakota was the first State to implement this type of model. Much like Wyoming DOORS, the State's model uses a variety of inputs, including the results of a needs assessment. South Dakota uses the ICAP needs assessment variables as inputs to the statistical model "SBR Version 3.0." The ICAP variable results are monitored by the state to prevent gaming or budget manipulation by providers. Other elements of the multiple regression include economic features of providers, services records, service data, cost reports from providers, regional economic statistics and activity logging. The selection of these variables was informed by discussions with both providers and consumers.

In developing and modifying the model, the State found that costs associated with the group homes were high. If an individual has a change to a lower service or residential level, the budget does go down. Concern about a dramatic reduction in budget due to a change in living situation is mitigated by the existence of 3 levels of intensity of supervision. The broad band of supervision and the associated funding tiers allows adequate coverage for such individuals.

There is a high level of satisfaction with the budgeting model among consumers and providers, but consumer choice is limited. The SBR 3.0 Model is financed through a per diem calculation. The costs of each service feeds into a model that creates a per diem calculation unique to each provider. The state uses a comprehensive cost reporting system for providers. The cost information collected is used in the cost-based rate system that adjusts per diem rates based on provider location. Using cost-based rates in the model is possible because there are only 19 providers statewide and those providers have comprehensive cost reporting requirements.

The SBR 3.0 Model was updated in 2004, but the changes in individual budgets were small, and clients and providers were not significantly impacted. State officials admit that there are never

enough resources, but the SBR model is a way to allocate those resources as fairly as possible. The small number of children in the Child Waiver prevented the use of a regression model for budgeting due to small sample size. Instead, officials chose to add $10,000 to the annual budget generated using the adult SBR model. Extraordinary needs funding is paid through state general funds instead of increasing the model per diem rate. The long-term solution for individuals requiring a significant change in funding is a formal rate adjustment.

When its waivers are renewed in 2008, South Dakota hopes to build more self-direction into the model. Another effort toward self-direction is a planned Request For Qualifications ("RFQ") for a two-year pilot program of independent case management. Provider employees handle current case management. South Dakota is looking to this program modification because of the requirements of CMS to ensure choices for consumers. The consumers themselves are quite happy with the current case management system. A recent informal survey indicated that only 10 percent of consumers were interested in moving to independent case managers.

Cross-Cutting Themes

There are several common themes that emerged during the four-state interview process. All four states are engaged in a process of revision of their current HCBS budgeting methodologies. These states have all tried to determine, through research and analysis, which needs assessment tool would best capture information about individuals enrolled in their waivers in order to allocate resources. Approaches to resource allocation were developed with input from key stakeholders. Stakeholders include individuals receiving support, provider agency representatives, citizen advocates and legislative and/or governmental staff. New budgeting methodologies, and in some cases provider rates, require some providers to "win" and some to "lose." The goal of each of the officials we interviewed was equity and access to services, allowing for meaningful consumer choice. Each of these states has collaborated with the provider community to come to agreement, sometimes reluctantly, on new payment methodologies.

As explained above, two of these states are moving to the SIS needs assessment. Both Georgia and Washington were familiar with the ICAP, but felt that the SIS provides a better assessment of the supports and services required by consumers. All of the states are working to be responsive to new CMS guidelines that focus on consumer choice, mobility of funding and transparency. Preparation for implementation of the new budgeting methodologies required extensive training, both internal to the developmental disabilities division, and external to state or private case managers. There is a sense that all of the currently available needs assessment tools inadequately capture behavioral and medical condition data. States have responded by adding a supplement to a standardized needs assessment tool or developing their own needs assessment tool (Connecticut). As the number of states and length of time using the SIS increases, AAMR may refine the tool to include more behavioral or medical indicators. Improvements to the tool may make it more attractive as a replacement for the ICAP in the DOORS Model.

Quantitative Evaluation

Introduction

The Adult, Children and Acquired Brain Injury (ABI) waivers made over $84 million in payments on behalf of 2,188 consumers in FY 2006. These payments to 867 providers were made within the parameters of the established IBAs[37], which totaled $102 million. Consumers may spend up to but not exceed the amount of their IBA for services that they select in their Plan of Care[38]. Table 1 shows this data for each waiver.

Table 1: Size of Division HCBS Waivers for Fiscal Year 2006

Waiver	Payments $	IBAs $	Utilization Rate %	Unique Consumers #	Unique Providers #
Adults Sub-Total	$68,095,706	$75,335,402	90.4%	1,219	355
Child Sub-Total	$12,068,543	$20,756,203	58.1%	826	687
ABI Sub-Total	$4,376,700	$6,022,402	72.7%	143	133
3 Waivers Total	$84,540,949	$102,114,007	82.8%	2,188	867
Avg. Annual Growth for 3 Waivers from FY 2000	12.0%	15.5%	n/a	10.2%	8.0%

At the bottom of the table, the annual rates of growth from FY 2000 to FY 2006 for the total payments, number of consumers and number of providers indicate that these waivers experienced significant expansion over the past six fiscal years. The three waivers differ in their relative sizes. They also differ in their other metrics, e.g., the rate of IBA utilization for payments.

The following section analyzes the trends and patterns of the payments from the claims data for the Adult, Child and ABI Waivers. The following section analyzes the formulas and policies of the DOORS Model that determines the IBAs for consumers in the three waivers.

[37] Consumers may change their IBA more than once in a fiscal year to reflect changing personal situations.

[38] The difference between approved IBA amounts and payments is discussed later as an issue of utilization.

Discussion

In the years 2003 and 2004, reviews by CMS and the LSO identified several concerns with the DOORS Model formula including the subjective selection and valuation of service variables entered into the model, adjustment of model results for individual consumers, incentives to use more costly services such as residential and day habilitation and limited choice of providers.[39] Service variables are indicators of consumers' historical use of services, e.g., residential habilitation and respite, which were found during calibration of the formula to be strongly associated with consumers' annual payments. While the Division has addressed many of these issues in whole or in part, we found that other issues have arisen.

The DOORS model has two components: 1) the formula that calculates IBAs, which was calibrated from variables in a regression analysis, and 2) the ECC's decisions that approve modifications to a consumer's values for the service variables in the formula and/or that approve modifications to the IBA after the formula calculation.

Our review of the DOORS Model included the examination of claims data, a review of data about IBAs stored with the consumers' plans of care, and a limited evaluation of recorded information about ECC approvals of changes and modifications. We found the following results from this review:

- The DOORS Model formula's parameter estimates are currently being used correctly to calculate formula-based IBAs and the underlying statistical relationships have not noticeably changed since the last recalibration.
- The youngest consumers enrolled in the Child Waiver are likely to have formula-based IBAs that overestimate needs.
- The legislature's appropriation of additional resources for the Adult Waiver through Cost of Living Adjustments – a 28 percent increase in FY 2002, a 3 percent increase in 2003 and a 3 percent increase in 2004 – have contributed to the growth in total payments. The total payments have also grown because of new consumers in the waiver.
- The Adult Waiver's formula-based IBAs have been modified since FY 2003 for a sizable number of consumers through the ECC process and these modified IBAs represented a large portion of total IBAs in FY 2006.
    - The size in dollars of the ECC's approved modifications to consumers' total IBAs has been approximately equal to all of the waiver's growth in total expenditures since FY 2003, and
    - Total IBA dollars assigned through the ECC process, as a proportion of all IBA dollars, has increased by approximately 8 percentage points since FY 2003.

[39] The calibration, implementation and re-calibrations were organized according to calendar years. For consistency with more recent reports, this section later presents statistics according to fiscal years.

Trends and Patterns of Payments

As seen in the introduction table, the Adult Waiver was the largest of the waiver programs by total payments and number of consumers in FY 2006. However, it was not the largest in terms of the number of providers. The Child Waiver has a larger number of providers, who primarily provide respite care. The ABI Waiver is the smallest of the three, but annual trends show that it has had significant and continuous growth in number of consumers and payments since it began four years ago. Table 2, on the following page, shows the annual trends for total growth, IBA utilization and average growth for each waiver.

Table 2: Annual Trends for HCBS Waivers from FY 2000 to FY 2006

	2000	2001	2002	2003	2004	2005	2006
Adult							
# Consumers	797	851	987	1,001	1,040	1,136	1,219
# Providers	239	265	302	332	346	340	355
Total Payments	$37,655,888	$38,973,268	$45,378,181	$58,540,305	$60,721,620	$63,865,972	$68,095,706
Total IBAs	$38,011,096	$40,277,213	$51,539,653	$59,092,009	$68,014,819	$71,403,403	$75,335,402
Avg Utilization	99.1%	96.8%	88.0%	99.1%	89.3%	89.4%	90.4%
Avg Consumer Payments	$47,247	$45,797	$45,976	$58,482	$58,386	$56,220	$55,862
Avg Provider Payments	$157,556	$147,069	$150,259	$176,326	$175,496	$187,841	$191,818
Child							
# Consumers	421	516	519	550	619	710	826
# Providers	502	560	627	661	638	658	686
Total Payments	$5,147,537	$7,628,914	$8,443,390	$8,946,973	$10,694,652	$11,613,699	$12,068,543
Total IBAs	n/a	$9,449,111	$10,861,668	$11,520,744	$13,466,735	$16,406,723	$20,756,203
Avg Utilization	n/a	80.7%	77.7%	77.7%	79.4%	70.8%	58.1%
Avg Consumer Payments	$12,227	$14,785	$16,269	$16,267	$17,277	$16,357	$14,611
Avg Provider Payments	$10,254	$13,623	$13,466	$13,536	$16,763	$17,650	$17,592
ABI							
# Consumers	n/a	n/a	27	71	85	102	143
# Providers	n/a	n/a	17	71	94	109	133
Total Payments	n/a	n/a	$658,917	$2,236,493	$3,132,242	$3,180,790	$4,376,700
Total IBAs	n/a	n/a	$733,390	$2,833,580	$4,103,899	$4,635,351	$6,022,402
Avg Utilization	n/a	n/a	89.8%	78.9%	76.3%	68.6%	72.7%
Avg Consumer Payments	n/a	n/a	$24,404	$31,500	$36,849	$31,184	$30,606
Avg Provider Payments	n/a	n/a	$38,760	$31,500	$33,322	$29,182	$32,908

From a statistical perspective, the common trait of the waivers is their absolute growth. However, the components of this growth are different for each waiver.

Notable growth in total Adult Waiver payments occurred in FY 2003, concurrent with a legislative appropriation Cost of Living Adjustment increase of 28% in service rates. This appropriation coincided with a re-calibration of the DOORS Model, which resulted in high utilization of IBAs in that year.[40] While the number of consumers enrolled in the Adult Waiver is the highest among the three waivers, the number of providers is not. The average provider in the Adult Waiver tends to receive payments for serving over three consumers.

Growth in the Child and ABI Waivers has been steadier since FY 2000 and FY 2002, respectively. The utilization for both waivers tends to be lower than for the Adult waiver. The Division has associated the difference in utilization with the more intermittent types of services that Child and ABI Waiver consumers choose as part of their service plans. For these waivers, there is approximately one provider for each consumer, but the average payment per provider is different than the Adult Waiver. The average payments are lowest for the Child Waiver; the ABI Waiver has average consumer payments that are between the average consumer payments for the Adult Waiver and the Child Waiver. This pattern in average payments is affected by differences in the most common services for the waivers.

We also summarized the annual trends for selected services from claims in each of the waivers. Table 3 shows total payments and number of consumer for FY 2000, FY 2003 and FY 2006:

Table 3: Annual Service Payments for the Adult, Child and ABI Waivers

	Total Payments			Unique Consumers		
	2000 $	2003 $	2006 $	2000 #	2003 #	2006 #
Adult						
Residential Habilitation	20,263,469	32,590,746	40,035,458	669	784	908
Day Habilitation	9,127,044	14,825,555	15,221,984	661	741	811
Pre Voc / Supp Employment	1,140,967	1,266,689	2,122,821	176	169	258
Skilled Nursing	1,705,650	2,085,677	2,040,713	403	475	593
Case Management	1,315,500	1,693,630	2,432,031	795	999	1,218
Other	4,103,257	6,078,008	6,242,699	691	781	775
Adult Sub-Total	37,655,888	58,540,305	68,095,706	797	1,001	1,219

[40] The DOORS Model (Adult Waiver) was also recalibrated in FY 2000.

	Total Payments			Unique Consumers		
	2000 $	2003 $	2006 $	2000 #	2003 #	2006 #
Child						
Respite	2,323,345	3,823,830	5,076,274	355	441	628
Sp Family W/Tran	783,052	1,296,943	1,991,058	45	61	70
Residential Habilitation	205,650	512,224	1,052,701	10	21	39
Adaptive Equipment	393,102	970,100	757,461	130	252	248
Case Management	700,150	1,118,912	1,613,275	420	548	821
Other	742,239	1,224,965	1,577,774	319	425	536
Child Sub-Total	5,147,537	8,946,973	12,068,543	421	550	826
ABI						
Residential Habilitation	n/a	997,853	1,925,111	n/a	44	62
Day Habilitation	n/a	500,779	691,470	n/a	48	56
Skilled Nursing	n/a	133,820	175,045	n/a	20	45
Case Management	n/a	161,700	416,000	n/a	69	143
Other	n/a	442,341	1,169,075	n/a	62	125
ABI Sub-Total	n/a	2,236,493	4,376,700	n/a	71	143
Total	42,803,425	69,723,771	84,540,949	1,218	1,622	2,188

The three waivers are more markedly different with respect to the services that they provide. The largest share of Adult Waiver payments were for Residential Habilitation; about two thirds of the consumers received this service. The majority of Child Waiver payments were for Respite Care. The largest proportion of ABI Waiver payments were for Residential Habilitation, but included only about one half of its consumers. The ABI Waiver also had a large share of payments dedicated to diverse, "Other" services.

Regional Service Providers and Independent Providers

The Division has a policy goal to ensure consumers have a choice of provider. An important mechanism for this policy goal is that consumers can choose the providers of their services. We tabulated Adult, Child and ABI Waiver payments for services to providers by the categories of Regional Service Providers ("RSPs") and Independent Providers. As mentioned earlier in the report, RSPs are large associated providers, usually with at least $1 million in revenue per year. We use the term Independent Providers for those providers that do not belong to the RSP association. Independent Providers range in size and include solo providers.

Consumers may choose to receive services from a single provider or more than one provider in their plan of care. We found that many consumers choose to receive services from both RSPs and Independent Providers. 317 (26%) consumers in the Adult Waiver, 191 (23%) consumers in the Child Waiver and 48 (34%) Consumers in the ABI Waiver received services from both types of provider in FY 2006.

The preceding tables showed the annual trends for different services paid through the waivers. Tables 4a and 4b show payments for services by provider type in FY 2006:

Table 4a: Size and Share of Payments for Providers In Fiscal Year 2006

	Service Payments		% of Service Payments	
	RSPs	Independents	RSPs	Independents
	$	$	%	%
Adult				
Residential Habilitation	31,134,692	8,900,766	77.8%	22.2%
Day Habilitation	12,014,146	3,207,838	78.9%	21 1%
Pre Voc / Supp Employment	1,888,516	234,305	89.0%	11.0%
Skilled Nursing	1,701,648	339,065	83.4%	16.6%
Case Management	1,742,450	689,581	71.6%	28.4%
Other	2,321,366	3,921,333	37.2%	62.8%
Adult Sub-Total	50,802,817	17,292,889	74.6%	25.4%
Child				
Respite	71,577	5,004,697	1.4%	98.6%
Sp Family W/Tran	0	1,991,058	0%	100.0%
Residential Habilitation	644,203	408,498	61.2%	38.8%
Adaptive Equipment	53,034	704,427	7.0%	93.0%
Case Management	435,200	1,178,075	27.0%	73.0%
Other	154,909	1,422,864	9.8%	90.2%
Child Sub-Total	1,358,923	10,709,620	11.3%	88.7%
ABI				
Residential Habilitation	1,478,830	446,281	76.8%	23.2%
Day Habilitation	462,142	229,328	66.8%	33.2%
Skilled Nursing	145,125	29,920	82.9%	17.1%
Case Management	239,700	176,300	57.6%	42.4%
Other	317,530	851,545	27.2%	72.8%
ABI Sub-Total	2,643,327	1,733,373	60.4%	39.6%

Table 4b: Number and Average Payments for Providers In Fiscal Year 2006

	# of Providers		Average Payments per Claim	
	Unique RSPs #	Unique Independents #	RSPs $	Independents $
Adult				
Residential Habilitation	10	69	2,450	2,401
Day Habilitation	10	23	1,269	1,104
Pre Voc / Supp Employment	8	10	685	687
Skilled Nursing	9	23	327	348
Case Management	10	50	169	177
Other	10	276	610	457
Adult Sub-Total	10	345	1,149	848
Child				
Respite	5	513	224	495
Sp Family W/Tran		63		2,085
Residential Habilitation	8	11	1,906	2,491
Adaptive Equipment	6	37	1,560	2,115
Case Management	10	67	199	199
Other	10	283	274	294
Child Sub-Total	10	676	394	479
ABI				
Residential Habilitation	7	12	2,289	1,566
Day Habilitation	6	10	1,050	796
Skilled Nursing	6	11	511	168
Case Management	9	24	287	288
Other	9	111	625	274
ABI Sub-Total	9	124	974	388

The metrics in this extended table show how the RSPs and Independent Providers have a different role in each of the waivers. The RSPs have a majority share of payments in the Adult Waiver for almost all of the services (except "Other" services). Independent Providers tend to have a majority share of service payments in the Child Waiver, with the notable exception of Residential Habilitation. Finally, the ABI waiver again tends to be similar to the Adult waiver, but with the RSPs and Independent Providers having a more even share of the payments for most services.

Table 4b indicates that Independent Providers are active in all services for the three waivers. This activity is most notable for Case Management services. **Table 4b** also indicates that average RSP and average Independent Provider payments for the specific services in a waiver

tend to be close to equal, per submitted claim. Due to the different types of services provided, the average RSP and average Independent provider payments may be different when considering the average for their combined claims for a waiver.

For a regional perspective on the opportunities for consumers to choose their providers, **Exhibits 1a and 1b** (at end of this section) show the growth in the number of consumers and providers by county in the State from FY 2003 to FY 2006 for the three waivers. The majority of counties have seen the number of providers increase during the past three fiscal years. As of FY 2006, there remained a range in the number of Independent Providers per consumer among the counties in the State.

Updates of Data from Legislative Service Office Reports (03-04)

We also examined data presented in the LSO committee report of 2004. We summarized payments for claims to provide a comparison to the LSO findings. **Table 5** presents adult residential habilitation, adult day habilitation and other adult services as a proportion of the total Adult Waiver service budget. The 2004 LSO report with 2003 data are highlighted:[41]

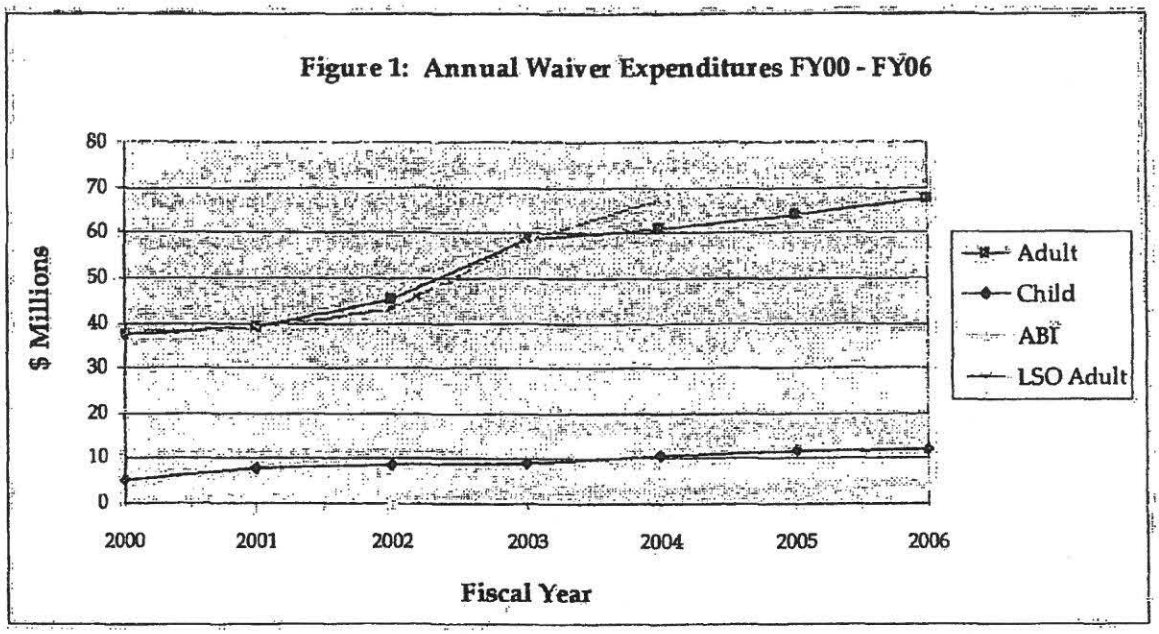
Table 5: Adult Waiver Services by Percent of Total Services Budgeted

	Fiscal Year				
	LSO 2003	2003	2004	2005	2006
Waiver Service	%	%	%	%	%
Residential Habilitation	54	58	59	62	62
Day Habilitation	25	26	25	23	23
Other Services	21	16	17	15	15

Residential habilitation is the largest Adult Waiver service in percentage of payments and this percentage has grown from FY 2003 to FY 2006. Day habilitation and other services indicate a marginal reduction in the portion of dollars budgeted within the same time period.

Figure 1 on the next page shows annual Adult Waiver expenditures from FY 2000 to FY 2006. The 2004 LSO report data is also presented in this graph. The LSO value for FY 2004 was an anticipated expenditure based on total biennial appropriations.

[41] The LSO statistics were collected and analyzed at an earlier date and from different data than was provided to us. We present them here for comparison purposes but without an expectation that they should exactly match the statistics in this report.



Between FY 2002 and FY 2003 the data indicate a sharp increase in expenditures for the Adult Waiver, followed by subsequent steady growth. This increase in total expenditures was due to at least two factors: 1) a legislatively mandated Cost of Living Adjustment increase in service rates implemented in FY 2003 and smaller COLA increases in two later years and 2) annual increases in the number of consumers. The relative size of the ABI Waiver is apparent in this chart. The size of the ABI Waiver nearly doubled between FY 2003 (its second year) and FY 2006.

Analysis of Formula and Policies to Determine Individual Budget Amounts

The DOORS model has two components: 1) the formula that calculates IBAs, which was calibrated from variables in a regression analysis, and 2) the ECC's decisions to approve modifications to a consumer's service variable values in the formula and/or approval of modifications to the IBA after the formula calculation. Both components were part of the design of the DOORS Model. A formula-based IBA calibrated by means of a regression essentially yields an average IBA for persons with similar characteristics. Modifications to the formula-based IBAs yield outlier IBAs for consumers whose needs are not close to the average for someone with their characteristics.

Formula-Based IBAs

The Division has been using the DOORS Model to determine IBAs for consumers since approximately FY 2000. The DOORS model relies on a formula calibrated from time to time by means of regression analysis. This regression analysis comprises the two main components of the DOORS Model formula: 1) the selection of the consumer characteristics, e.g., variables, which best predict total payments and 2) the setting of relative weights, e.g., parameter

estimates, which are used to calculate an IBA prediction from the selected variables. Calibration by means of the regression analysis relies on values for the variables from two sources: 1) the ICAP survey instrument for the ICAP variables and 2) the claims history of past service use for the service variables. Another method of establishing service variable values is to predict the anticipated service needs of consumers; however that methodology is not relied upon for the calibration.

Separate regression analyses were conducted for the Adult Waiver, Child Waiver and the ABI Waiver. Each waiver has its own formula from the separate regression analyses. The current model formulas are based on the results of regression analyses that were conducted in FY 2003 with data from FY 2002 for the Adult and Child Waiver and in FY 2004 with data from FY 2003 for the ABI Waiver. We refer to the IBA calculated from the variables and parameter estimates of the regression analyses as the consumer's "formula-based IBA."

A principle of regression analysis is that a sample of data estimates the relationships among selected variables and accurately measures their parameters. We saw no indication during the course of our review that the latest calibrations had become outdated or that a new regression analysis with a sample of data from a later year would yield different results.[42] The methodology of the regression analysis of the DOORS Model has been described in several publications and articles. We refer readers interested in this methodology to the article, "Individual Budgets According to Individual Needs: The Wyoming DOORS Model," Jon R. Fortune, Gary A. Smith, *et al* in Costs and Outcomes (Paul H. Brookes Publishing: 2005).

The formula-based IBA has two types of variables. These are:

- The ICAP variables taken from the consumers' ICAP needs assessment
- The service variables taken from the history of the consumers' claims for services and/or from anticipated needs for services.

These two types of variables are similar to the extent that they are both used to calculate a consumer's IBA based on his or her variable's values. **Exhibits 2a, 2b, and 2c** (at the end of this section) show the ICAP variables and service variables used in the calculation of a consumer's formula-based IBA for each waiver.

Verification of Current DOORS Model Formula Usage

We verified that the Division correctly uses the results of the regression analysis from FY 2003 for the Adult Waiver model and Child Waiver model, and from FY 2004 for the ABI model, to calculate consumers' formula-based IBAs. The results of the regression analysis are parameter estimates for each variable in the model. These parameter estimates serve as elements in the

[42] The decision not to re-calibrate had another consequence on the implementation of the work plan. We did not create or calibrate alternative models such as "two-stage choice" models that consider service selection as the first step in determining a consumer's total service utilization.

DOORS Model to calculate a consumer's IBA based on his or her variable values. For each variable, the parameter estimate is multiplied by the variable value. A consumer's IBA is output from the DOORS Model formula as an exponentiated sum of all the parameter estimates multiplied by the variable values.

The Division uses a Microsoft Access form to conduct the process of multiplication and summation for the calculation of the formula-based IBA. The assigned values for a consumer's variables are entered into fields in the Access form, and a calculated field returns the consumer's IBA. To verify the accuracy of the calculation, we entered a selected consumer's variable values into the Access form and noted the IBA that was calculated. We then calculated this IBA manually using the parameter estimates. We also found the consumer's recorded Plan of Care in the Division's database. The Plan of Care is the detailed set of services that sums up to but does not exceed the IBA for a consumer. We found that the IBA calculated by the Access form, the IBA manually calculated from the parameter estimates, and the sum of the Plan of Care services recorded in the Division's database were equal for the selected consumer. This indicates that the model formula usage is consistent with the regression analysis that established the parameter estimates for the model formula. However, there is a potential for transcription error when the values for the ICAP variables and service variables are entered manually into the Microsoft Access form for other consumers.

We also verified that the DOORS Model variables correlations with consumers' payments have not notably changed since the regression analysis was last updated in FY 2003 using FY 2002 data. A correlation statistic measures the direction and strength of a relationship between two variables. If a correlation statistic has a positive value, then an increase in the first variable tends to be associated with an increase in the second variable for a consumer. If a correlation statistic has a negative value, then an increase in the first variable tends to be associated with a decrease in the second variable. For example, the ICAP Broad Independence Index has a negative correlation with the payments for a consumer. A high ICAP Broad Independence index is associated with low payments across the spectrum of scores and payments for consumers. For example, in **Exhibit 3** (at the end of this section), the correlation between the ICAP Broad Independence index and payments was -0.49 in the data from FY 2002 and was again -0.49 in data from FY 2006. This negative relationship is also present in a negative parameter estimate in a regression analysis with multiple variables.

A correlation statistic can only range in value from -1.0 to 1.0. The closer a positive correlation statistic is to 1.0 and the closer a negative correlation statistic is to -1.0, the stronger the relationship is between the two variables. The ICAP Broad Independence Index and the ICAP General Maladaptive Index have the strongest relationships with payments out of all the variables reviewed. This was the case using data from FY 2002 and again using data from FY 2006.

Exhibit 3 also shows correlations for many variables with payments, including those variables that were selected by the regression analysis and ultimately used in the DOORS Model. The rows with variables selected for the DOORS Model are in grey. The last columns in this table

show the degree of change in these correlations between the years in correlation units and in percentages. No variables appear to have notably changed in direction or strength of correlation with payments.

Although presented in our original methodology for this evaluation, we were not able to verify that a regression's parameter estimates have been stable since the regression was last recalibrated in FY 2003 using FY 2002 data. We did not have values for the service variables available in data from FY 2006 that would be necessary to combine all variables used in the regression analysis conducted in FY 2003 with data from FY 2002. The verification of stable relationships in the correlation analysis above indicates to us that the regression parameter estimates would also have been stable during this time period. A multi-variate evaluation of the regression that underlies the DOORS Model formula or an audit of the complete population of IBAs resulting from the DOORS Model formula is not possible because the service variables have not been maintained in an electronic file or in a consistent manner in the consumers' hard-copy files.

ICAP Variables in the Formula-Based IBA

The ICAP variables in the DOORS Model formula come from a few areas of the ICAP needs assessment that measure a consumer's broad disabilities, specific diagnoses, residential settings and daytime settings. An independent team of evaluators currently administers the ICAP needs assessment, a change from previous years.[43] After the administration of the ICAP, the consumer's values for the variables are stored in a dataset by the Division. All consumer ICAP records, including the variables used to calculate the formula-based IBAs, are easy to retrieve and to analyze.

We found in interviews with Division staff that the values for the ICAP variables are easy to find in the consumer's ICAP records. These variables are easy to use in the formula when calculating a consumer's formula-based IBA. However, we did not find in the department's guidelines provided to us or in our literature review a step-by-step description of how the ICAP variables and their parameter estimates either increase or decrease the calculation of formula-based IBAs for consumers. The following is a description by the subscale areas in the ICAP survey instrument for the Adult Waiver:

- The ICAP composite variables are the consumer's age, Broad Independence Index and General Maladaptive Index. Each of these variables is continuous, meaning they can have a range of values. The parameter estimates for these variables are negative; as a consumer becomes older, has a higher Broad Independence Index, or has a less negative General Maladaptive Index[44], his or her formula-based IBA will decrease.

[43] Previously the providers were responsible for ICAP administration. Current administration of the ICAP is described earlier in this report.

[44] The general maladaptive index is a negative number. A higher number means that it has become closer to zero.

- The ICAP diagnosis variables are for autism, brain/neurological damage, chemical dependency, deafness, level of mental retardation and psychotropic medications. All but the level of mental retardation are binary, meaning they have a value of 1 when the diagnosis is present and a value of 0 otherwise. The parameter estimates for these variables are positive--when a consumer has these diagnoses, their formula-based IBA will increase. The level of mental retardation is similar except it has five categories ranging from 1 (not mentally retarded) to 5 (profound mental retardation) and its parameter estimate has the same positive effect.[45]

- The ICAP residential placement variables are "Lives with family," "Lives independently" and "Lives independently with monitoring". Each of these variables indicates a residential status for a consumer. Just like the diagnosis variables, these variables are also binary, and their parameter estimates are also negative. However, these variables are different in that they are relative to each other and to the other variables in the Residential section of the ICAP, variables not included in the formula.

  It is notable that these variables are mutually exclusive--a consumer who lives with a family can not live independently or live with monitoring, and so on. More importantly, the parameter estimates for all three variables are negative because they are relative to other variables in the Residential section. These three residential statuses are relatively less expensive than the omitted statuses of living in a group residence, semi-independently or in a personal care facility. When a consumer has one of these three statuses, his or her formula-based IBA will decrease.

- The ICAP daytime program variables are "sheltered workshop," "supported employment" and "competitive employment". Each of these variables indicates a daytime program status for a consumer. These variables are also binary, and their parameter estimates are also negative.

  Similar to the residential placement variables, these variables are mutually exclusive and relative to the omitted variables in the daytime program sections. These three daytime program statuses are relatively less expensive than the omitted statuses of a daytime activity center or a work activity center. When a consumer has one of these three statuses, his or her formula-based IBA will decrease.

ICAP Variables for Youngest Consumers in the Child Waiver

Some of the ICAP variables have particular importance for the youngest consumers, e.g., toddlers and pre-schoolers, enrolled in the Child Waiver. Administrators of the Child Waiver expressed an opinion that the formula-based IBA tends to be greater than needs for many of the

[45] This variable also has a category 6 (Unknown), which was re-coded as 1 (No Mental Retardation) for the latest recalibration of the Adult waiver.

youngest consumers simply because the values for certain variables are not accurate for this age group. The waiver services available do not always appropriately address the needs of these young consumers. Rather, the youngest consumers tend to have a lower level of need, while the needs of young (but not very young) consumers may be higher than the needs of much older consumers.

Over-estimation of the needs of the youngest Child Waiver consumers may occur because of three variables in the DOORS Model formula. These variables are the ICAP service score, level of mental retardation, and Assistive Devices (which measures personal mobility). The ICAP service score is not adjusted for a consumer's age. A very young child will naturally score very low on the degree of non-age specific mental retardation as measured by the ICAP survey instrument.[46] And, a very young consumer will naturally have very low mobility. Because all children at that age have low mobility, the value for the variable associated with mobility might not reflect needs supported by the waiver.

The values for the variables service score, mental retardation and mobility may result in formula-based IBAs larger than necessary to meet the needs of the youngest consumers because a very young consumer's IBA will almost always be increased by all three. The following table shows a summary of the Child Waiver by age category of the consumers:

Table 6: Utilization by Age Cohorts in the Child Waiver In Fiscal Year 2006

Age in Years	# of Children	Average IBA	Average Payments	Average Utilization
	#	$	$	%
0 – 5	164	25,820	13,442	52.1
6 – 10	205	24,104	14,394	59.7
11 – 21	431	25,455	15,485	60.8
n/a	26	n/a	n/a	n/a
Total	826	$25,063	$14,611	58.3%

The youngest children have the highest IBAs, the lowest payments, and consequently the lowest utilization rates. While the increase in IBAs is not large for younger age category relative to the older age categories in the table, these descriptive statistics are consistent with the opinion expressed by the Waiver administrators about the youngest consumers. Other stakeholders have suggested that low utilization is, in part, due to the lack of readily available staff to provide needed services. Observations found in other states suggest that families are more likely to provide appropriate direct care themselves for these very young children and rely more on paid staff as the children age. This observation is consistent with the increased utilization rate for the older age categories in the above table. Available data did not allow

[46] The potential inaccuracy of this model is compounded by the numeric value corresponding to the category of "Not Measured." This numeric value is 6. If it is not recoded as 1 for use in the formula, then the consumer will receive a large increase to their IBA.

further examination. We propose recommendations to address this issue for the youngest group of Child Waiver consumers in our conclusion.

Service Variables in the Formula-Based IBA

Unlike the ICAP variables, the Division does not maintain records of the service variables in electronic files. Hard-copy records in the files reflect current status and therefore are not necessarily consistent with the variables used at the time of the calculation of the formula-based IBA. This makes the service variables difficult to retrieve and to analyze. A replication based on all consumers' service variables and ICAP variables to verify the formula-based IBAs in the waivers would be very time-consuming.

Through dialogue with Division staff we found considerable uncertainty about the interpretation and use of the service variables when calculating a consumer's IBA in the DOORS Model formula. Uncertainty occurs in part because values for the service variables come from two sources, rather than just one as with the ICAP variables. The values for the service variables can be determined from claims for consumers with a history of waiver participation. The values can also be changed to reflect anticipated service needs based on other information available to Division staff and/or the ECC. For consumers new to the Waiver, values for the service variables are determined only by information concerning anticipated service needs. In **Exhibits 2a, 2b, and 2c** (at the end of this section), the service variables are listed below the ICAP variables for the Adult Waiver. For the Adult version of the DOORS Model, the service variables are the following:

- Residential Services
- Day Habilitation
- Nursing
- Personal Care
- Psychological Services
- Second Assessment
- In-home Services

These variables are binary, like several of the ICAP variables, again meaning that they can have a value of 1 or 0. Unlike the residential and daytime variables in the ICAP, these variables are not mutually exclusive. Each of these variables was separately assigned a value of 1 when a history of service use was found in the history of claims for a consumer during the year prior to the calibration of formula. If there was no history of service use information, then the variable was assigned a value of 0. All of the parameter estimates for these variables are positive. When a consumer has a value of 1 for one or more of these variables, then his/her formula-based IBA will increase.

As mentioned, past service use is the primary source for a consumer when this data is available (e.g., when the consumer is not new to the waiver), but anticipated service needs is a secondary

source that can occasionally override the primary source. We found during interviews with the Division's Waiver Specialists and Program Administrators that there has previously been a lack of clear guidance about who should determine which source should be used for a consumer.

An example from one variable highlights the effects of this uncertainty. The "Second Assessment" variable was specifically mentioned by several of the interviewees. The "Assess" variable has a description of "Second Assessment" in the regression analysis documentation. We found a service code variable with a description "Subs Assess" in the claims data. Assuming that "Subs Assess" stands for "Subsequent Assessment," this variable could be used as an indicator of the Service/Support variable in the DOORS Model formula. We found that the past service source for the "Assess" variable was not known. Instead, we understand that a regular practice is to assign this variable a positive value for every consumer when determining the Formula IBA so that no consumer's IBA is unfairly reduced by setting this variable to 0. This practice may hinder the efficacy of the DOORS Model in determining different formula-based IBAs consistent with different consumer needs.

Modifications by the ECC of the formula-based IBAs

In addition to the formula-based part of the DOORS Model, the modifications by the ECC comprise the second part of the model. The ECC is the process used to add funding to a formula-based IBA when a determination is made that a consumer has needs for resources that are not reflected in that IBA.[47] Modified IBAs are critical to the equitable determination of the level of resources needed to meet some individuals' needs. There are occasions when an individual consumer's needs will not be met by a formula-based IBA based on parameter estimates for an average consumer. Examples discussed in the literature and during interviews of these occasions include consumers who commit unlawful sexual behavior, consumers who have obsessive compulsive disorders, consumers who have a dual diagnosis and consumers with high functioning capability but who still need to be monitored on a twenty-four hour basis for a specific diagnosis.

As discussed in the section on current thought leadership, good individual budgeting methodologies include a process for modifying insufficient IBAs. There are actually two processes designed to address insufficient IBAs in the DOORS Model. When a consumer's needs are above a formula-based IBA, but those increased needs are anticipated to be resolved over time, the ECC can temporarily modify his or her IBA. When a consumer's needs require more money than a formula-based IBA allows, with no anticipated resolution, the ECC can permanently modify his or her IBA. Based on interviews, the four categories of circumstances that the ECC uses to approve a modification are 1) medical necessity, 2) threat to self or others, 3) homelessness, and 4) other.[48] To gain a better understanding of these categories, we reviewed a selective sample of case files for consumers who had made requests for modifications to

[47] The Extraordinary Care Committee is the successor to the State Level of Care Committee.

[48] The ECC does not approve all requests for a modification. We reviewed hard-copy logs of these requests and found that the approval rate was in the range of 45% to 65%. We did not observe any trends in these approval rates.

formula-based IBAs (summarized in **Table 7**, below). For a comparative understanding of the categories, we also reviewed a selective sample of consumers who had not made modification requests and consumers who were new to participation in the Adult Waiver.

Table 7: Selective Review of Consumer Case Files

Client	Change in IBA	Brief Description	Review Comments
Client A	Increase	ECC approved for permanent raise in IBA due to significant change in ICAP variables. - Temporary ECC was $108,773 before IBA adjustment. - IBA was permanently readjusted from $42,982 to $83,744.	Change in mental condition led to change in ICAP score (67). ECC approved a higher DOORS Model amount. Changes were in her psychological evaluation that resulted in a full scale IQ of 62 with the following diagnoses: Bipolar I Disorder, Borderline Intellectual Functioning, Complex Partial Seizure Disorder, etc.
Client B	Increase	ECC approved a revised IBA. - Received temporary ECC funding of $144,356 and then ECC determined that individual's characteristics did not fit DOORS Model. - Request for a permanent IBA of $94,058 based on current and past ECC information. Previous IBA before temporary ECC approval was $52,502.	Change in mental condition not captured by ICAP score. ECC determined DOORS Model amount could not fit the person's characteristics. - Additional funding was requested for 3 months of 2:1 male staffing 24 hours a day. - Variables reviewed were psychological information, history, incident reports, etc. Reasons for changed in mental condition include violent outbursts and suicidal attempts and threats.
Client C	Decrease	Moved to independent living with monitoring. - IBA was readjusted from $90,728 to $34,878. - Res Hab, Day Hab and Skilled Nursing decreased significantly in number of units.	Change in home situation was captured by change in ICAP variables. Variable change was from "group residence with staff, supervision and training" to "independent in own home/apartment." Primary diagnosis is mental retardation with a secondary diagnosis of mental illness.

Client	Change In IBA	Brief Description	Review Comments
Client D	No Change	Had no change in ICAP scores.	No change in condition over many years. Individual is 44 years of age with a primary diagnosis of severe mental retardation. Since age has a negative coefficient in the DOORS Model, her IBA will gradually decrease despite no other change in her condition.
Client E	No Change	ECC denied increase of $38,662 to cover Residential Habilitation services due to limited ability to fund out of home placements. Client IBA remains set at $16,162.	Change in home situation could have been captured by change in non-ICAP variables. ECC determined that non-ICAP variables should not be changed. Potential change was to be placed in group home due to anticipated loss of primary caregiver (elderly grandmother). ECC recommended to prioritize or re-assess the need for Speech and OT services and consider Psychological Services.
Client F	New	High IBA of $157,384. Child transitioning from Child to Adult Waiver.	Primary diagnosis is mental retardation with secondary diagnoses of blindness, epilepsy/seizures and situational mental health problems. Services now used are case management, specialized mental health services, respite care, specialized transportation services and other. Broad independence score is 419.
Client G	New	Low IBA of $26,865. Child transitioning from Child to Adult Waiver.	Primary diagnosis is autism with no additional diagnoses. Broad independence score is 477.

Trends in Modifications by the ECC

Almost all consumers in the Adult Waiver had a formula-based IBA upon the last calibration of the DOORS Model in FY 2003. We analyzed trends in the number of consumers and the dollar amount of IBAs modified by the ECC since then. We used data provided to us by the Division that indicates when a consumer transitioned from a formula-based IBA to a modified IBA or began as a new consumer with a modified IBA. These modifications may be either permanent or temporary. In the case of temporary modifications, the data also indicated when the modification ended for the consumer.

Table 8 shows annual counts of consumers and dollar amounts by type of IBA from FY 2003 to FY 2006. In FY 2003, the formula-based IBAs were re-calibrated and almost all consumers were assigned a formula-based IBA. ECC modifications were later applied to the re-calibrated, formula-based IBAs for some consumers.

In the table, the New or Transitioning Consumers rows summarize the net effect of consumers who are new to the waiver and the year-to-year transition of consumers between having formula-based IBAs and modified IBAs. In FY 2004, the net effect of new consumers to the waiver (or those who left the waiver) and consumers who transitioned to a modified IBA was 12 fewer consumers with formula-based IBAs and 51 more consumers with permanent ECC-modified IBAs. In later years, the net effect has been to have an increase in both the number of consumers with formula-based IBAs and the number of consumers with either permanent or temporary modifications.

Table 8: Adult Waiver Claim Statistics by ECC Plan

	2003	2004	2005	2006
New or Transitioning Consumers				
Consumers w/ Formula-Based IBAs	n/a	-12	61	69
Consumers w/ Permanent ECC Modifications	n/a	51	8	4
Consumers w/ Temporary ECC Modifications	n/a	n/a	23	10
Total Consumers				
Consumers w/ Formula-Based IBAs	989	977	1,038	1,107
Consumers w/ Permanent ECC Modifications	12	63	75	79
Consumers w/ Temporary ECC Modifications	n/a	n/a	23	33

	2003	2004	2005	2006
Total Payments for Consumers				
Consumers w/ Formula-Based IBAs	$57,693,779	$55,840,636	$56,462,927	$59,575,504
Consumers w/ Permanent ECC Modifications	$846,526	$4,880,984	$6,189,236	$6,545,108
Consumers w/ Temporary ECC Modifications	n/a	n/a	$1,213,809	$1,975,094
Average Payments for Consumers				
Consumers w/ Formula-Based IBAs	$58,335	$57,155	$54,396	$53,817
Consumers w/ Permanent ECC Modifications	$70,544	$77,476	$82,523	$82,849
Consumers w/ Temporary ECC Modifications	n/a	n/a	$52,774	$59,851
Consumers w/ Payments > $150,000				
Consumers w/ Formula-Based IBAs	42	37	41	39
Consumers w/ Permanent ECC Modifications	1	7	9	9
Consumers w/ Temporary ECC Modifications	n/a	n/a	1	1

The rate of new or transitioning consumers to modified IBAs has slowed since Fiscal Year 2004. Fourteen consumers were new or transitioned to a modified IBA in Fiscal Year 2006 and a cumulative 112 consumers had either a permanent or temporary IBA modifications. These consumers represented about 9% of all consumers in the Adult Waiver program.

Following a low number of consumers with a modified ECC at the time of the last re-calibration, the payments for consumers with modified IBAs grew from less than $1 million in FY 2003 to more than $8 million in FY 2006. This growth in payments for consumers with modified IBAs is roughly equal to the growth in total payments for the waiver.[49] The payments for consumers with formula-based IBAs, which has added consumers new to the waiver and lost consumers who transferred to having modifications, have been relatively constant at about $58 million since FY 2003.

Since FY 2003, the growth in the number of consumers with very high payments (above $150,000) is largely attributed to consumers with modified IBAs. The group of consumers with very high IBA amounts has proportionally more ECC-modified IBAs. They represent 20% of

[49] We did not distinguish the average change per consumer for those who transferred from a formula-based IBA versus those who began waiver participation with a modified IBA. This would be possible if the data were further organized as a "panel" data set.

the consumers with payments greater than $150,000.[50] The cumulative number and average size of the modified IBAs is consistent with the policy goals for the second component of the DOORS Model.

Of particular note, the modification of IBAs by the ECC is gradually separating the consumers into two groups with different average payments. In FY 2006, consumers with a permanent modification had an average IBA of approximately $82,800. This was $29,000, or 54%, more than the average formula-based IBA.

Share of IBAs Attributed to the Formula's ICAP Variables, the Formula's Service Variables and the ECC Modifications

During our evaluation, at stakeholder meetings and on other occasions, we were asked how much of the total amount of the IBAs was due to the formula's ICAP variables, how much was due to the formula's service variables and how much was due to the ECC's modifications. We also became aware that the ECC approves adjustments to the service variables, which impact the dollar amount calculated by the formula and the ECC approves modifications to the formula-based IBAs generated, or both for a consumer.[51]

In terms of trends, we were interested in how values for service variables and ECC modifications may have increased or decreased portions of IBAs over time. The values for the service variables are not stored in a data set since FY 2003 and the hard-copy files do not have a consistent method of retaining this information. It is not possible to discern when an ECC modification either increased an IBA to be above a formula-based IBA with unchanged values for the service variables or increased an IBA to be a new formula-based IBA with changed values for the service variables. Therefore, our analysis of the service variables in the formula-based IBA and the ECC modifications were addressed by means of a single analysis.

In this single analysis, we calculated the percentage of a consumer's total IBA attributed to the values of variables from his/her ICAP needs assessment. The remaining percentage in the comparative measurement was attributed to changes in the values of service variables, modifications to formula-based IBAs, or both. Although more of an accounting approach than a statistical approach, we believe this is a pragmatic analytic method that provides a comparative measurement of the portion of the IBAs attributable to the service variables plus the ECC modifications.[52] This comparative measurement is especially useful to follow the

[50] This representation for high payments is analyzed in percentage terms that are relative to the 9% of modified IBAs for all consumers. There remain a substantial number of consumers with formula-based IBAs with high payments, and the majority of consumers with modified IBAs do not have high payments.

[51] It is worth noting that modifications are only requested to increase a consumer's IBA. ECC approval for a reduction to a formula-based IBA is not strictly necessary. The only indication of an over-calculation of a formula-based IBA may be a low utilization rate of claims relative to the IBA.

[52] This method is not similar to decomposing the "R-Squared" statistic that measures the degree of variation in consumer's IBAs explained by the predictor variables of a regression. The degree of variation explained by the service variables is conceptually and practically different than the portion of the total IBA that can be attributed to the service variables.

cumulative impact of the ECC's changes and modifications over time. **Table 9** shows our results.

Table 9: Portion of IBAs for ICAP Variables versus Service Variables and ECC Modifications in the Adult Waiver

	FY 2003	FY 2006
ICAP Variables	76%	68%
Service Variables and ECC Modifications	24%	32%
Total	**100%**	**100%**

We found that the portion of IBAs attributable to the ICAP variables has declined by 8 percentage points since FY 2003. **Exhibit 4** (at the end of this section) shows more detailed statistics for the calculation of these portions of IBAs. The first rows in the exhibit show values that are the sum of consumer IBAs. This sum is expressed as a logarithmic value, which is the initial output from the DOORS Model formula before being translated into dollars. The second row shows the sum of the parameter values multiplied by the ICAP variables in the DOORS Model formula.[53] This sum is also expressed as a logarithmic value. The final row in the first set shows the difference between the two sums. We define this difference as the portion of consumer IBAs that are due to the service variables and to the ECC modifications. These more detailed statistics also show, as could be expected, that the portion of the total IBAs that can be attributed to the ICAP variables is lower for those consumers with permanent or temporarily modified IBAs.

This quantitative evaluation focused on how the Division's use of the DOORS model affected the trends in payments and other metrics for the three waivers since fiscal year 2000. Of particular note, the ECC has a dual role of approving changes to values of the service variables based on anticipated service needs and approving modifications that increase the IBA above the formula-based amount. We have conducted a two-portion analysis in which the effects of ECC decisions are not separated. Given the available data, it is not possible to determine when the ECC approves a modification because certain service variables have not been appropriately assigned values of 1 in the formula to reflect a consumer's anticipated needs. There is a need for increased data retention about approved changes to the service variable over time in order to conduct a three-portion analysis of IBAs attributable to the ICAP variables, the service variables and the ECC modifications. We propose recommendations to address this issue for Adult Waiver consumers with anticipated service needs versus above-average needs given similar characteristics in our conclusion.

[53] This sum of the ICAP variables also includes the value of intercept, which is a constant value for all consumers. The numerator term in the later division is a "but-for" calculation of a consumer's IBA that is absent of any service variables or their parameter estimates from the calibrated regression analysis. This is not the IBA that a consumer would have if the IBA were based on a newly calibrated regression analysis that omitted the service variables. The parameter estimates for the ICAP variables and the intercept would be different if the regression analysis were conducted without the service variables.

Exhibit 1a: Consumer Growth by County and Waiver

	Adult			Child			ABI		
County	2003	2006	Change	2003	2006	Change	2003	2006	Change
Albany	86	102	16	32	39	7	4	6	2
Bighorn	5	11	6	14	18	4	1	4	3
Campbell	56	70	14	32	52	20	5	10	5
Carbon	6	8	2	12	11	-1		3	
Converse	7	10	3	17	25	8		2	
Crook	1	3	2	7	8	1			
Fremont	99	113	14	53	80	27	9	13	0
Goshen	45	53	8	8	14	6		4	2
Hot Springs	47	52	5	3	6	3	1	3	-1
Johnson	2	2	0	6	7	1	2	1	13
Laramie	174	203	29	54	118	64	22	35	
Lincoln	25	30	5	30	46	16		1	15
Natrona	144	176	32	88	136	48	9	24	
Niobrara	1	2	1	1	2	1		1	6
Park	25	44	19	34	49	15	2	8	
Platte	2	4	2	6	14	8		1	6
Sheridan	79	103	24	21	36	15	7	13	
Sublette	2	3	1	5	7	2			3
Sweetwater	69	83	14	59	58	-1	4	7	0
Teton	21	23	2	14	29	15	1	1	2
Uinta	77	85	8	35	44	9	2	4	
Washakie	13	18	5	8	6	-2		1	-1
Weston	11	17	6	7	10	3	2	1	
Not Available	4	4	0	4	11	7			
Total	**1,001**	**1,219**	**218**	**550**	**826**	**276**	**71**	**143**	**55**

Exhibit 1b: Provider Growth by County and Waiver

County	Adult 2003	Adult 2006	Adult Change	Child 2003	Child 2006	Child Change	ABI 2003	ABI 2006	ABI Change
RSP Providers	10	10	0	10	10	0	6	9	3
Independents									
Albany	11	17	6	38	37	-1	3	10	7
Big Horn	5	10	5	18	27	9	0	2	0
Campbell	25	19	-6	29	26	-3	3	7	4
Carbon	9	8	-1	5	6	1	0	1	0
Converse	14	12	-2	16	17	1	0	1	0
Crook	1	3	2	7	4	-3	0	0	0
Fremont	13	12	-1	56	72	16	4	3	-1
Goshen	13	11	-2	13	21	8	2	3	1
Hot Springs	3	5	2	9	5	-4	0	1	0
Johnson	2	3	1	10	9	-1	0	0	0
Laramie	35	43	8	66	73	7	25	37	12
Lincoln	21	29	8	45	53	8	0	1	0
Natrona	68	56	-12	103	113	10	13	20	7
Niobrara	0	0	0	2	1	-1	0	0	0
Park	29	29	0	52	46	-6	2	16	14
Platte	1	3	2	4	4	0	0	0	0
Sheridan	8	11	3	28	24	-4	6	5	-1
Sublette	1	0	-1	3	7	4	0	0	0
Sweetwater	26	35	9	55	51	-4	1	8	7
Teton	6	10	4	27	13	-14	0	2	0
Uinta	17	17	0	39	39	0	4	6	2
Washakie	7	6	-1	5	3	-2	0	0	0
Weston	0	3	3	3	4	1	0	0	0
Not Available	0	1	1	3	3	0	1	1	0
Out of State	7	2	-5	15	18	3	1	0	0
Total	333	356	23	662	687	25	71	133	55

Exhibit 2a: Formula-Based IBA
Adult Waiver

Variable	Label
Intercept	
Composite	
Age	Age
Broadw	ICAP Broad Independence
MalGen	ICAP General Maladaptive
B,C: Diagnostic/Functional	
Autism	Autism
Brain	Brain/Neurological Damage
Chem	Chemical Dependency
Deaf	Deafness
Level	Level of Mental Retardation
Psych	Psychotropic Medications
F: Residential Placement	
Parent	Lives w. Family
Indep	Lives Independently
MonApt	Independent w. Monitoring
G: Daytime Program	
Shop	Sheltered Workshop
Supt	Supported Employment
Comp	Competitive Employment
Services	
Reside	Residential Services
DayHab	Day Habilitation
Nursing	Nursing
PersCare	Personal Care
Psych	Psychological Services
Assess	Second Assessment
Inhome	In-home Services

Exhibit 2b: Formula-Based IBA
Child Waiver

Variable	Label
Intercept	
ICAP Measures	
SerScore	ICAP Service Score
Autism	Dx: Autism?
C1	Level of Mental Retardation
C4	Seizure Frequency
C10_2	Assistive Devices?
Parent	Lives w. Family? (F1=1)
Services	
W2105	Respite?
W2107	Residential Habilitation?
W2111	Special Family Habilitation Home?
W2119	Skilled Nursing
W2127	Psychological Services?
W2129	Dietician Services

Exhibit 2c: Formula-Based IBA
ABI Waiver

Variable	Label
Intercept	
NeuroPsych Measures	
V1	ICAP
V2	Chart Cognitive
V3	Supervision Rating
Services	
W3311	Residential Habilitation
W3157	Psychological Services
W3159	Skilled Nursing

Exhibit 3: Correlations of ICAP Variables and Service Variables with Claims
Adult Waiver

Variable	Label	Correlation with Payments <1, 2> Recalibration 2002	Evaluation 2006	Unit Change
Composite				
Age	Age (in Months)	0.08	0.14	0.05
A7_expression	Means of Expression	0.01	-0.04	-0.05
Broadw	ICAP Broad Independence Index	0.49	0.49	0.00
Broadmo	ICAP Broad Independence Months	-0.50	-0.49	0.00
Malgen	ICAP General Maladaptive Index	0.32	0.32	0.01
B,C: Diagnostic/Functional				
Autism	Dx: Autism?	0.14	0.07	-0.07
Blind	Dx: Blindness?	0.13	0.09	-0.04
Brain	Dx: Brain/Neurological Damage?	0.13	0.07	-0.06
Cp	Dx: Cerebral Palsy?	0.04	0.09	0.05
chem	Dx: Chemical Dependency?	0.00	0.03	0.03
Deaf	Dx: Deafness?	0.04	0.07	0.02
Epilepsy	Dx: Epilepsy or Seizures?	0.15	0.19	0.05
hysical	Dx: Physical Health Problem?	0.13	0.12	-0.02
Psycho	Dx: Mental Illness (Psychosis)?	0.12	0.12	0.00
neuron	Dx: Situational Mental Health?	0.09	0.04	-0.06
c2_vision	Vision Limitations	0.16	0.13	-0.03
c3_hearing	Hearing Limitations	0.04	0.06	0.02
c4_seizure	Seizure Frequency	0.14	0.11	-0.04
c5_hlimits	Health Limitations	0.24	0.20	-0.04
c6_md_rn	Need for MD/RN Care	0.27	0.24	-0.03
c7_1_no_meds	No Current Medication?	-0.33	-0.36	-0.03
c7_2_health_meds	Meds for Health	0.13	0.14	0.02
c7_3_psych_meds	Psychotropic Medications?	0.30	0.30	0.00
c7_4_seizure_meds	Seizure Meds	0.14	0.17	0.03
c7_5_other_meds	Other Meds	0.27	0.29	0.02
c8_arm_hand	Arm/Hand	0.22	0.23	0.01
c9_mobility	Mobility	0.18	0.22	0.04
c10_1_no_assist	No Mobility Assist Needed?	-0.30	-0.32	-0.03
c10_2_assistive	Assistive Mobility Devices?	0.26	0.25	-0.01
c10_3_occl_assist	Occasional Mobility Assist	0.15	0.12	-0.03
c10_4_alwys_assist	Always Needs Mobility Help?	0.29	0.29	0.00

Conclusions

The DOORS Model: Design and Function

The Wyoming DOORS Model offers an equitable, effective and reasonable methodology for allocating HCBS Medicaid waiver funds to eligible individuals enrolled in the Adult, Child and ABI Waivers. Using the DOORS Model approach, the state has achieved a high level of stakeholder acceptance and involvement in the individual budgeting process. Consumers and providers appear to be reasonably satisfied with the DOORS Model. The Individual Budget Amounts are perceived as reassuring to consumers and assist the providers in their budgeting process.

The DOORS Model is a statistical resource allocation model that uses multiple regression techniques to set a service budget reflecting the individual's needs and the types of services necessary to meet those needs, based on the state's experience funding persons with similar functional abilities, as measured by the ICAP, during prior years. The analysis performed by Navigant Consulting revealed that the DOORS Model continues to perform as it was originally intended: distributing waiver funds equitably across the population of individuals enrolled in the HCBS waivers while matching consumer needs with available supports.

Although functional and effective, some aspects of the DOORS Model may detract from its utility and acceptance over time. Six such issues were identified during the course of the evaluation.

Resistance to change: Because of the model's reliance on historical service use data and the resulting de-emphasis on information related to current support needs, individual budgets are relatively static from year to year and may be seen by consumers and families as unresponsive to the changes in consumer's lives.

Policy regarding new or increased services: Consumers, families, advocates and others in Wyoming expressed dissatisfaction that the model is not used to reflect need, but to equitably fund known service choices. The model's architecture is capable of doing both, but Division policy, which is constrained by State budgetary obligations, has created a high threshold for increasing services. This creates a dynamic tension that appears misdirected toward the effectiveness of the DOORS Model.

Impact of the residential setting: The DOORS Model regression formula utilizes the ICAP residential setting element as a key individual budget predictor. It also includes the type of residential service setting as a service variable. Because of the impact of the residential setting type on the budget amount enrolled individuals may legitimately be concerned

about losing service funding if they move into a less restrictive setting, even when the current residence no longer meets the individual's needs. This results in new IBAs that do not reflect the level of funding needed to assure success in the new living situation and drives requests for ECC adjustments.

Indirect assessment of service need: Several states are discontinuing their use of the ICAP in favor of the SIS because of the ability of the latter instrument to provide a direct assessment of service need. As described previously in the section entitled *Comparing the Tools* (see page 17), the ICAP does not assess support needs directly but is instead a deficit-based assessment tool. This characteristic has been particularly important to some families and stakeholders who believe the SIS is a more transparent assessment tool.

Access to services and choice: While the DOORS Model is believed to provide adequate funding, concerns remain that the system of services and the service planning and decision-making process could be improved to provide increased levels of choice and broader access to services. These issues appear to be influenced more by Division policy, appropriation and practice and provider community behavior more than a direct impact of the individual budgets generated by the DOORS Model. While the involved Division policies are long-standing and reflect accepted public policy, the Division might make it clearer to stakeholders that these issues are not directly attributable to the DOORS Model.

Increases in expenditures: Service claim expenditures under the DOORS Model, as represented in per capita figures, have steadily been increasing. The reason for this relates primarily to the Extraordinary Care Committee process that increases IBA amounts when it is demonstrated that the formula-driven IBA is not sufficient to meet a person's needs. As noted previously, formula-based IBAs have been relatively static over the last three years, since the last recalibration of the model in 2003. Because the DOORS Model keeps funding increases in check over time, there appears to be a greater tendency for consumers, families and providers to seek the budget increases they believe to be necessary through the ECC process. In fact, current data suggest that the spending increases are primarily due to the ECC decisions. New rules for the ECC process were promulgated in October of 2006. The Division may wish to examine the affect of these new rules next year.

Findings and Recommendations

Although "best practice" in resource allocation and individual budgeting is evolving rapidly as states reassess, refine and improve their current budgeting practices, the DOORS Model continues to provide one of the most effective individualized budgeting strategies in the country. The fundamental components of the DOORS Model are solid and, with a few targeted modifications, the system should continue to meet the state's needs well into the future. The following are some general findings and related potential solutions.

Strengthening ICAP Administration. Currently, the ICAP is administered every five years for the Adult Waiver and every three years for the Child Waiver. WIND, the University of Wyoming entity responsible for the administration of the ICAP needs assessment, has been responsible for this component of the DOORS Model since 2003. Some individuals enrolled in the Adult Waiver still have service plans funded with IBAs generated from ICAP assessments completed prior to WIND's involvement. Many providers and consumers feel the method of ICAP administration in place now is more equitable and reliable than it was in the past. To address this issue, **we recommend that the Division consider re-administering the ICAP to all individuals assessed prior to the transition to WIND.**

Modifying the Individual Budget Appeal (ECC) Process. As noted above, an important factor associated with increases in service cost expenditures appears to be the number of individuals receiving budget increases through the ECC; the appeal process for a formula-driven IBA. The ECC process is an essential component of a good individual budgeting model. Formula-driven IBAs cover the needs of consumers a majority of the time. But for the small number of cases for which the generated budget is inadequate, an understandable appeals process is required. The Division has promulgated new rules for the ECC requiring more complete documentation of the results of decisions that are made and the decision making process. This is demonstrable progress reflecting a strong commitment by the Division to make this process clear and more accountable.

The current evaluation suggests, however, that the policies and practices concerning the use, modification and definition of service variables are unclear. This impacts IBAs that do not result in appeals submitted to the ECC as well as some that are impacted by ECC requests. **We recommend that the Division initiate electronic documentation of the ECC deliberations and decisions.** This will enhance ongoing management of the new ECC rules as well as analysis of trends in ECC requests and decisions. This will be of significant importance as the Division seeks to analyze the impact of ECC decisions on overall funding and the migration of average per capita funding levels. It should also identify those ECC adjustments that may lead to further modification of elements of the DOORS Model.

Addressing Regional Wage Concerns. Provider regional wage differences may be an expense factor that is not being adequately addressed through the DOORS Model. The recent State of Wyoming 2006 Wage Survey report completed by Navigant Consulting (under separate contract) examined regional wage differences for non-professional, direct care staff working in entry level positions in day activity, residential and work settings. The report found that average hourly wage rates for these employees varied by county, ranging from $8.28 per hour in Goshen County to $10.90 per hour in Albany County. Several states employ rate setting strategies that take such differences into consideration. South Dakota's SBR model, for example, includes a provision to account for variances in per capita income by county, which serves as a proxy for differences in provider wage costs across regions. Such rate differences may not be adequately addressed in the DOORS Model funding formula. Since provider costs

are predominately a function of personnel related expenditures, **we recommend that the State consider adding an adjustment factor into the DOORS Model to address legitimate regional differences.**

Improving Data Storage. As discussed previously, the Division does not adequately store the historical or anticipated service variables collected as a statistical component of the DOORS Model. Maintaining a complete set of statistical data is important when running a data-based individual budgeting model. **We recommend that the Division take steps to improve its data storage capacity and practices as soon as possible.**

Improving Needs Assessment: The Supports Intensity Scale. As discussed in our report, the SIS is considered by many a superior needs assessment tool for service planning. It offers a better prospective look at service and resource needs than the ICAP which focuses on consumer deficits and historical services and resources. Like the ICAP, the SIS is proprietary. Our study does not suggest that a wholesale migration to a new needs assessment tool is necessary in the short or even intermediate term solely as an improvement to the DOORS Model. However, exploration of the impact of the SIS as a more effective service planning tool may have longer-term positive impact on the system and the DOORS Model. Instead, the State may consider a regional pilot, which would involve intensive training of needs assessment administrators, ISCs, and consumers. Consumers and providers could evaluate the tool's effectiveness and usefulness in service planning. Additionally, should such an evaluation confirm significant benefits of using the SIS, the Division could run the data collected through a regression to determine if it could replace the ICAP data variables in the DOORS Model. **We recommend that the state consider using the SIS on a trial or pilot basis to assess its potential as a replacement to the ICAP.** In the longer term, the state of Wyoming may want to consider the migration of its needs assessment tool from the ICAP to the SIS. This could lead to an eventual reduction in the reliance on service variables that come from consumer claims history. This reduction could progress the DOORS Model toward prediction of services best suited to a consumer, rather than a predictive model based on the services a consumer has received in the past.

Reviewing DOORS Service Variables. In the current DOORS Model, the historical or anticipated service variables are binary, entered as either a zero or a one. This means that there is no way to demonstrate gradations of need in this component of DOORS. The Division may want to consider allowing partial coding of these variables to fine tune the model by providing a range of service levels. A five point Likert scale, for example, could replace the current two point scale. This change may be especially helpful for consumers who wish to transition from group homes to other housing but still anticipate a need for some supports and services not currently supported by the new IBAs. **We recommend that the Division review the service variables included in the DOORS Model to ensure they provide the level of specificity required to accurately predict service costs.**

We also found apparent age bias in the DOORS Model. As described in our quantitative evaluation, the current DOORS methodology applied to the Division's youngest waiver consumers tends to generate budgets higher than necessary. This is due to the influence of certain variables designed to capture data about adults. **We recommend that the Division examine the methodology as applied to young children and develop policies regarding post-budget modifications or variable input modifications to improve accuracy.**

Developing Accurate Budgets for Individuals with Complex Conditions. During our study, many stakeholders expressed concern about the ability of the DOORS Model to accurately predict and set service costs for waiver participants with co-existing developmental disabilities and mental illnesses. According to our qualitative research, individuals with a dual diagnosis may require more funding than a standard DOORS Model generated budget would indicate. **The Division should consider adding an element or factor for additional funding to the DOORS Model to better reflect the needs of these individuals.**

Improving Transparency and User Friendliness. As discussed previously, another essential element of a good budgeting model is transparency. In other words, the individual budget development process should occur in such a way that it is easily understood by individuals receiving support and their families, providers and other stakeholders. Individual budgeting guidelines recently released by CMS in the new Medicaid waiver application template require that state individual resource allocation models be transparent and that states furnish appropriate training and assistance to help program participants understand the basis upon which funding is determined. It is apparent that many consumers do not understand the concept of individualized budgeting, nor do they comprehend the methodology used by the DOORS Model to determine their assigned budget amounts. **We recommend that the state implement a targeted consumer education initiative to provide information to individuals receiving support, families, providers and state officials on the structure and functioning of the DOORS Model and its use in individual budget development.**

Appendices

Appendix A

Key Individual Budgeting Features		Wyoming DOORS
Feature	**Description**	
1. Eligibility	Process for identifying those persons who are eligible for an individual budget and those who are not, including the establishment of service priorities and targeting criteria (e.g., people in crisis, people who have been abused or neglected, people who are at risk, etc).	▪ Individuals referred to the Division through provider agencies, healthcare facilities, or community referral. ▪ A waiting list began July 1 for the Adult, Child and ABI Waivers.
2. Needs Assessment	The policies, procedures and assessments used to: (a) identify personal strengths and needs for support, treatment and supervision, (b) identify non-funded "natural" supports to be included in the individual's plan and, (c) separate support needs that must be funded from personal wants that are not necessarily required by the plan of care.	▪ Inventory for Client and Agency Planning (ICAP) needs assessment tool. ▪ Independently Selected Service Coordinator (ISC), with consumer, family, and team help develop the service plan by identifying how funding will be spent on supports.
3. Consumer Profile Data	Existing data providing aggregate and individual related information on needs and functioning levels of current recipients. Desired data would describe the nature and level of needs related to: (a) physical disabilities; (b) medical, health related and behavioral conditions; (c) direct and indirect/intermittent supervision; and (d) personal and vocational rehabilitation and training. The available data that would describe, in the aggregate or for individual recipients, the level of physical disabilities, medical needs, behavioral needs, and functioning levels of current recipients.	▪ ICAP Assessments capture abilities and some health status information. In addition to general descriptive and functional limitation information, the ICAP collects information on four general skills areas: Motor Skills, Social and Communication Skills, Personal Living Skills, and Community Living Skills. ▪ Service variables collect information on historical budgets, history of service needs or anticipated service needs, and psychological and medical needs.

Appendix A

Key Individual Budgeting Features		Wyoming DOORS
Feature	**Description**	
4. Service Selection	The process used to select the services and supports that best address the individual's needs and preferences.	▪ The Service Plan is determined by an individual's team, which includes the ISC and the consumer. The team may also include parents, family, guardian, and advocates. This process happens after the budget is determined. ▪ Individually Selected Service Coordinator (ISC) submits proposed plan of care to State. ▪ Waiver specialists determine waiver eligibility of client.
5. Covered Services and Costs	The specific services or expenditures that may be authorized for purchase under the individual budget and those that are excluded. For example, case management may be furnished as a targeted state plan service and not included in the budgeting methodology; fiscal management services may be covered as either a waiver service or an administrative cost; in some states, specific services, activities or items may be excluded from consideration in the individual budget. This includes an examination of coverage for case management, fiscal intermediary services and individual service planning.	▪ Approved HCBS waiver services are defined by the Division and include day habilitation, residential habilitation, therapy, and other services.
6. Budget Development	The statistical process used by the State to determine the amount of the individual budget including the analysis of approved and expended amounts, characteristics and variables that influence or drive costs, statistical models, costing formula, etc.	▪ Individual budget amounts are determined by the IBA model and are refined by waiver specialists. ▪ Extraordinary Care Committee outlier funding amounts are determined on a case-by-case basis. ▪ No current system to analyze expenditures, cost drivers or formulas.

Appendix A

Key Individual Budgeting Features		Wyoming DOORS
Feature	**Description**	
7. Budget Timing	The process for setting the individual funding amount can identify a budget amount: (a) at the beginning of the program planning process so individuals receiving support know the amount of funding they have to work with (prospective), (b) during or following the planning process based on the services that have been identified (retrospective), or (c) at the beginning of the process through a target or "planning" budget that is subject to verification following the development of the individual plan of care.	▪ The DOORS Model is designed to create a prospective (a) budget, based on historic data, ICAP scores, and additional variables. If, during the planning process, the budget is deemed inadequate by and individual's team, the ISC can submit a request for additional funding through the Extraordinary Care Committee.
8. Cost or Rate Setting	The basis upon which provider costs are reimbursed, such as audited provider costs, state-set rates, cost limits or funding bands or budgeting formula based on weighted variables.	▪ Individual budget set through model, providers then reimbursed, at the direction of the consumer and the consumer's team. ▪ Some service rates are fixed and some are variable. For example, Residential Habilitation and Day Habilitation rates are variable; therapy rates are fixed.
9. Dealing with Risk	An individual budgeting methodology needs to allow for cost increases due to unanticipated needs of existing individuals and the need to serve new individuals entering the system for the first time. The budgeting format additionally needs to include provisions for covering time limited cost increases due to temporary conditions or situations requiring increased supervision or services.	▪ Extraordinary Care Committee (ECC) review process available to handle unanticipated needs. ▪ Temporary budget adjustments through ECC also available.

Appendix A

Key Individual Budgeting Features		Wyoming DOORS
Feature	**Description**	
10. Crisis Services	The ability of the budgeting format and methodology to respond to individuals in crisis with emergent needs for behavioral support, medical or psychiatric care, intensive supervision and out of home placement.	▪ ECC process available for crises. ▪ Change in living situation or other emergent needs can trigger a new ICAP assessment and a new budget to meet the funding needs of the new living situation. ▪ Division officials are accessible to providers in crisis situations. ▪ In general, when a request for an exception is presented to the Division, the Division will decide when the request is appropriate.
11. Equity	The extent to which the budgeting methodology is being applied in an equitable, fair and consistent fashion across all individuals.	▪ The DOORS Model relies on historical data, ICAP assessment scores, and Non-ICAP assessment scores to distribute resources. ▪ The DOORS Model does not allow for partial scoring (e.g. supported employment vs. day habilitation). ▪ The process of determining plan of care amounts from the waiver specialists is not standardized.
12. System Funding	The mechanisms by which the provider agencies and systems are supported through the current budgeting approaches and methodologies, specifically as related to aggregate management approaches.	▪ The Division provides waiver oversight, a component of which is ensuring availability of funds for waiver recipients.

Appendix A

Key Individual Budgeting Features		Wyoming DOORS
Feature	**Description**	
13. System Mechanics	The means by which funding decisions are actually made, including data used, level of decentralization, oversight and analytic capabilities, etc.	▪ An entity external to the provider (WIND) completes the initial ICAP assessment. ▪ The state uses state-employed Waiver Specialists to run the DOORS statistical model and determine funding. ▪ ECC is comprised of the Division Financial Manager, Office of Healthcare Financing representative, Waiver manager and the consumer's Individually Selected Service Coordinator (ISC) ▪ Decisions about services are made at the provider/consumer level.
14. Cost Neutrality	The approaches used to assure the costs of services furnished under each waiver meet relevant cost neutrality requirements.	▪ DOORS is designed to allocate available resources across the number of waiver participants.

Appendix B

State	Assessment Tool(s)[1]
Alabama	**Inventory for Client and Agency Planning (ICAP)**
Arkansas	**ICAP**
Arizona	**ICAP**
California	**State developed needs assessment tool: Client Development Evaluation Report (CDER)**
Connecticut	State-developed needs assessment tool: **Connecticut Level of Need Assessment and Screening Tool**
Colorado	**ICAP** and **Supports Intensity Scale (SIS)** used by some local regions, state considering **SIS** for statewide use
Florida	In the process of developing a needs assessment tool
Georgia	**SIS**
Idaho	Uses a tool called the **Scales of Independent Behavior-Revised (SIB-R)** to determine eligibility
Illinois	**ICAP**
Indiana	An adaptation of the **Developmental Disabilities Profile (DDP)** to determine eligibility
Iowa	Reviewing the use of the **SIS** as a component of quality assurance activities
Kansas	**Basic Assessment and Services Information System (BASIS)**, which uses scores from the DDP
Kentucky	Considering the use of the **North Carolina Support Need Assessment (NC-SNAP)**
Louisiana	**ICAP** used by some case managers, state planning to implement **SIS** statewide
Maryland	**Individual Indicator Rating Scale**
Minnesota	County agencies use the state developed needs assessment tool
Missouri	**Critical Adaptive Behaviors Inventory (MOCABI)** is used to screen adults
Montana	**ICAP** with a supplemental state-designed screening tool
Nebraska	**ICAP**
Nevada	Evaluating the **NC-SNAP**
New York	**DDP** (developed in NY)
North Carolina	**NC-SNAP**
North Dakota	**Progress Assessment Review (PAR)**

[1] Sources: "Short Survey of Statewide DD Assessment Practices," Brad Hill, Minneapolis, MN, January 20, 2003. www.cpinternet.com/bhill/icap/assessmentsurvey.doc; other information gathered during state interviews by Navigant Consulting or conversations with industry experts.

Appendix B

State	Assessment Tool(s)[1]
Pennsylvania	Adding the SIS for service planning in January 2007
Ohio	**State developed Eligibility Determination Instrument,** and the DDP for funding decisions
Oregon	Allows the use of a variety of standardized assessment tools
Rhode Island	**Personal Capacity Inventory (PCI)**
South Carolina	ICAP with a state-designed supplemental screening tool
South Dakota	ICAP
Tennessee	**State developed Pre-Admission Evaluation (PAE)** for waiver eligibility
Texas	ICAP with a state-designed supplemental screening tool
Utah	SIS currently being implemented statewide
Washington	SIS is being incorporated into the State's computerized assessment tool
West Virginia	Uses the ICAP for individuals in ICF-MR facilities and group homes only
Virginia	Allows the use of any published or provider-developed assessment tool—piloting the SIS in some regions

Appendix C

Wyoming Department of Health, Developmental Disabilities Division
DOORS Evaluation Project
Navigant Consulting, Inc.
Charles Mosley Ed.D.

Reviewing State Individual Budgeting Strategies: Criteria for Selecting States

The following criteria are offered to assist in identifying three to five states for a comprehensive in-depth review of individual budgeting strategies, practices and policies. Specific issues or questions are included to explain or expand the standard under consideration.

Review states should be selected based in part on the extent to which their resource allocation and individual budgeting methodologies are consistent with the guiding principles underpinning the project evaluation. These include:

- *The allocation/individual budgeting process should enable individuals receiving support to choose their own services.*
- *The budgeting methodology should favor cost effective support alternatives.*
- *Funding offered by the state should be sufficient to maintain appropriate access to needed services and supports.*
- *Provider payments should be consistent and equitable across the state.*
- *An appropriate balance must be maintained between individual choice and fiscal responsibility.*
- *Provider payment methodologies should be predictable.*
- *The allocation/individual budgeting process should support and/or facilitate the expansion of the provider community, including non-traditional services and supports*

To fullest extent possible, the states that are selected for review should utilize individual budgeting and resource allocation practices that meet the following criteria:

1. Resource Allocation Process Development. The overall approach to individual budgeting and resource allocation was developed with input from key stakeholders including, but not limited to, individuals receiving support, provider agency representatives, citizen advocates, legislative and/or governmental staff. Information was gathered through the use of:
    a. Advisory panels, focus or work groups.
    b. Key informant interviews
    c. Surveys and studies

2. Addresses System Needs. The individual budgeting/resource allocation system is designed to reflect and address broad systems issues related to:

    a. Assuring statewide resource availability – as set by the state's executive office and legislature.

b. Implementing resource allocation policies and priorities that: (a) target available funding to individuals most in need, (b) assure the fair and equitable distribution of resources across individuals and regions, and (c) control costs within available resources.
c. The need to administer and support a layered service delivery system at the state, regional, county, and local and provider levels.
d. The need to meet Medicaid and other funding requirements set by federal, state and regional governmental entitles.
e. The need to maintain accountability and fiscal integrity.
f. The need to assure service quality.

3. Individual Needs Assessment. The individual budgeting methodology utilizes a standardized, valid and reliable process for evaluating each eligible person's strengths and needs for support, treatment, training and supervision. Ideally, this process would:

   a. Employ assessment tools that directly measure the extent of service need. Instruments that infer service need through an analysis of disability related functional factors should utilize an appropriate statistical design.
   b. Identify existing "natural" supports that would not be funded through public resources.
   c. Include an assessment of the individual's living situation in the family or at home (e.g., aging caregiver, single parent family, etc.) when relevant to meeting the individual's support needs.
   d. Include a mechanism for separating service "needs" from un-funded service "wants" that are not required by the plan of care. It should be noted that some resource allocation systems identify address this issue by identifying certain services or supports that will not be funded by the state through the individual budgeting/resource allocation process.

4. Service Selection. The resource allocation approach promotes the ability of service recipients to choose the supports, services, and the providers that best meet their needs and preferences. The process does not force the person to choose among a list of limited service options (see 2.d., above).

5. Analysis of Covered Services and Costs. The resource allocation/individual budgeting methodology should establish allowable service rates based on statistical analyses of service costs and utilization.

   a. Setting rates and costs – The budgeting process should clarify the basis upon which rates are set and provider costs reimbursed, such as actual expenditures using audited service utilization data including provider costs, state-set rates, cost limits, funding bands, or budgeting formulas based on weighted variables.

b. Statistical models used should assess the impact of key clinical, demographic and individual variables on service costs and outcomes.
c. The statistical model should identify the individual, program and service related factors that influence or drive increases in costs and expenditures.
d. Statistical models should be able to predict costs based on assessed needs and other related variables.
e. The statistical model should appropriately address provider costs related to staff salaries, employee related expenses, program-related costs and administrative expenses.

6. Individual Budget Development. Federal Medicaid waiver regulations require that individual budgets are set through a "data-based" process. The statistical model utilized to develop and set individual budgeting amounts should have the following characteristics:

a. Produces valid (addresses the issues it is designed to address), reliable (produces consistent results and outcomes over time) and predictable (effectively anticipates costs based on assessed needs) results across individual and regions of the state.
b. Identifies and address the primary drivers of service costs, such as:
    i. Level of mental retardation or other disability
    ii. Health
    iii. Safety
    iv. Supervision
    v. Mental health and other conditions
c. Allocates resources on a fair and equitable basis across individuals, providers and locations.
d. Includes a mechanism for funding "cost outliers," individuals whose needs legitimately exceed those that might be anticipated by the individual budgeting methodology.
e. Produces an individual budgeting amount that is portable and take be taken by the person receiving support from one provider to another.
f. Deals effectively with risk by adjusting for both long term and time limited cost increases due to unanticipated changes in individual's service needs or living situations.
g. Produces an open and transparent budgeting format and process that is easy to understand and administer and allows for the involvement of individuals receiving supports and their families or guardians.
h. Appropriately funds short term intensive emergency services and supports.
i. Self-determination - Adequately funds the wide variety of services and supports requested by individuals who are self-directing including, fiscal agent or intermediary services, support brokerage, employment, personal support agent, etc.

7. Provider Reimbursement, Billing and Payment. The resource allocation methodology is designed to adequately and appropriately reimburse providers for the services provided.

The system of funding and payment supports the development of necessary program infrastructure and administrative support.

8. Implementation Strategies. The individual budgeting/resource allocation methodology provide for the effective implementation of new or revised payment systems through collaboration with key provider and stakeholder groups.

9. Data Management. The individual budgeting/resource allocation process should keep key performance and use data on the individual budgeting process.

Appendix D

Wyoming Department of Health, Developmental Disabilities DivisionDOORS Evaluation Project
Navigant Consulting
Charles Mosley Ed.D.

State Interview Questions
HCBS Medicaid Waiver Individual Budgeting

Resource Allocation Process Development

1. Regarding the development of your current individual budgeting strategy, what was the process your state used to obtain stakeholder input? Which stakeholders were included?

System Needs

2. Please identify and describe existing state, regional/county or local funding allocation policies that ensure the fair and equitable distribution of resources across individuals and regions.

3. Does the current individual budgeting system facilitate the delivery and administration of supports and services at the state, regional, county, local, and provider levels? If so, how? Does it appropriately address administrative costs at each level?

4. How does the current system ensure fiscal integrity and compliance with funding requirements set by federal, state and regional governments?

5. How does the individual budgeting/funding allocation system assist in assuring quality services?

Individual Needs Assessment

6. Please describe the assessment instrument and process used by your state to evaluate an individual's need for publicly financed services and supports. Does the assessment tool directly measure an individual's need or infer need through an determination of disability type? What types of disability related factors are measured within the tool?

7. Does the assessment tool identify and evaluate the value of "natural" supports not funded through public resources?

8. Does the individual budgeting methodology or assessment tool evaluate the individual's needs within his or her living situation? If so, how?

9. How does the assessment tool separate unfunded service "wants" from service "needs" addressed and funded under the plan of care?

Service Selection

10. How does the individual budgeting/resource allocation process ensure that an individual can choose the provider that is best able to meet his or her needs and preferences?

Analysis of Covered Services and Costs

11. What cost variables are used as the basis for setting rates and reimbursing provider costs?

12. What statistical or other methodology is used to assess the impact of key clinical, demographic and individual variables on services costs and outcomes?

13. What methodology is used to identify individual and service-related variables that cause service costs to rise, or predict expenses?

Individual Budget Development

14. How does the "data-based" process (statistical model) employed in determining individual budgets address the individual's needs, provide consistent results and project costs for all types of customers?

15. How does your state's individual budgeting methodology set rates and budgets for "cost outliers," individuals whose needs significantly exceed the majority of individuals served by the system.

16. What is the data-based process used in determining individual budget amounts as well as adjusting to unanticipated changes in individual's service needs?

17. Is the budgeting process transparent and understandable for customers?

18. Is the state's individual budgeting process designed to be utilized by individuals who direct and control the services they receive? If so, how?

Data Management

19. Does the individual budgeting process gather and maintain data on key budgeting performance and outcome variables? If yes, please describe.

20. How is data relevant to key statistics for the individual budgeting/resource allocation process maintained and stored?

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NAVIGANT

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- Navigant Consulting
- University of Michigan
- Detroit Medical Center
- Arthur Andersen
- Congressional Research Service

Education and Certification

- University of Chicago
  – PhD in Public Policy Studies
- Georgetown University
  – BS in Foreign Service with honors

Dr. Martin is a statistician with experience in a range of analytical methodologies for dispute resolution, litigation support, rate-setting and operational performance measurement. Previously, he taught statistics at the University of Michigan and worked in the finance department of the Detroit Medical Center.

Specializing in the healthcare industry, he analyzes claims for payments under Medicare and Medicaid programs, other federal and state programs, and private contracts between payers and providers. He also consults with healthcare clients to construct and test statistics for performance benchmarks in order to improve their operations or to defend their compliance with contractual obligations. These statistics have also tested the patient de-identification of data bases containing protected health information.

Dr. Martin's consulting services often assist health care clients in responding to allegations of non-compliance, including allegations of fraud and abuse behavior. These services involve extensive data management, including the integration of data from multiple transactional data warehouses into a common data structure. This integration allows for the re-analysis of previously reported statistics under various "but-for" simulations and the inferential testing of allegations made by other parties, and proved especially useful for investigations involving complex and voluminous transaction databases.

He has designed, implemented, and testified on the results of random sampling plans and extrapolation of overpayments for a population of claims. He has also testified on the statistical validity of samples and econometric analyses conducted by other experts.

He has provided consulting services and developed expert testimony on disputes including class action litigation on billing practices, and settlement negotiations with state attorneys general.

Exhibit A

NAVIGANT

Representative Dispute Resolution / Litigation Support Experience

- Developed testimony provided by a health care strategy expert on the market definition and market size for a hospital that had allegedly restricted the entry into its geographic area by a diagnostic-imaging company.
- Co-authored a report submitted to a state regulatory agency regarding the selection bias of a selection of claims with alleged fraudulent billing selected by a state Medicaid Inspector General. Tested for the likelihood of the selection being randomly drawn and described the lack of representativeness of the selection relative to the claims population.
- Calculated Herfindahl–Hirschman Index (HHI) and related statistical indices to demonstrate the change in market concentration for an antitrust regulatory review considering the merger of two health maintenance organizations within a state.
- Conducted a sampling of patient accounts at a hospital to quantify the extent of credit balances on patient accounts by a payer. These estimates were relied upon for issuing settlement refunds to certain payers following approval from the Health and Human Services' Office of the Inspector General ("HHS OIG").
- For a community hospital, designed and implemented a random sampling plan to measure the error rate of admissions for one-day stays that should have been billed as observation visits. Calculated the "but-for" payments for the unbilled observation visits as an offset to the overpayments received for the one-day admissions. The self-disclosure with a refund for the offset overpayments was accepted by the HHS OIG.
- For oncologists practicing at an academic medical center, developed an algorithm to calculate the amount of overpayments received for unused portions of chemotherapy. This algorithm relied on all available data from accounts receivables and clinical logs to determine and re-apportion the value of the unused vials per payer on a daily basis across a fifteen month period.

Other Representative Health Care Experience

Payer Rate-Setting And Government Reimbursement

- For a major payer, developed a reimbursement allowance approach for non-participating hospitals. Payments were tied to the underlying services rendered, and were based on payment levels in close proximity to those typical of other payers in the same state. Payments had previously been calculated solely as a reduction from charges. Under the developed approach, payments were calculated as a mark-up over a provider's estimated costs, after taking into account a provider's cost-to-charge ratio as reported in public documents. Presented the approach to state regulators upon the request of the major payer.

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» Analyzed the Children's Hospitals Graduate Medical Education Formula that is administered by the Health Resources And Services Administration. This analysis had two purposes: to study the effectiveness of the current payment formula to appropriately distribute funds to all children's hospitals; and to understand the variations among children's hospitals in terms of the types of patients treated, and whether these variations need additional characteristics in the formula. The project suggested as a policy consideration that only changes to the patient capacity variable, e.g. discharges or daily census, will have a sizeable impact on the allocation of payments.

» Performed economic and statistical analysis at the Congressional Research Service on Federal programs such as Medicare, Medicaid and Aid to Families with Dependent Children and provided technical briefings to congressional staff.

» Provided data management and statistical analyses to evaluate the Healthy Moms/Healthy Kids payment program in Chicago, Illinois. The evaluation tested for the responses by physicians to changes in payment incentives.

Provider Operations And Performance Measurement

» For a hospital faced with severe competitor challenges, analyzed the local market for tertiary healthcare services. Developed detailed projections for patient volume and break-even financial estimates resulting from capital expenditures in surgical outpatient facilities. This analysis led to strategy alternatives to migrate toward a specialization in surgical outpatient services.

» Developed a system of forecasting patient volume within its geographic area for the Detroit Medical Center's corporate offices. These forecasts were subsequently integrated into annual budget cycles.

Testimony Experience on Health Care Matters

» United States District Court for the Eastern District of New York
Disability Advocates, Inc. v. David A. Paterson (in his official capacity), et al.
Case Number 03-CV-3209 (NGG)

Testified on the procedures that were designed and implemented for drawing a random sample of nursing home residents and the statistical validity of extrapolations for a resident population made from the sample's findings.

» United States District Court for the Eastern District of Pennsylvania
United States of America, et al. v. Merck-Medco Managed Care, L.L.C., et al.
Case Number: 00-CV-737

Testified on behalf of a pharmaceutical benefit management company on the necessary characteristics of a sample to make inferential statements about the company's operational performance.

» American Arbitration Association Proceeding, Chicago, IL
Option Care Enterprises, Inc. v. Ferguson & Fitzgerald, Inc.
Case Number: 51 489 Y 00530 07

Testified on the overstatement of revenue by a home infusion provider in a post-acquisition dispute. Designed and oversaw the random sampling and extrapolation of overpayments for entries in the acquired company's accounts receivable.

» Commonwealth of Kentucky Cabinet for Health Services Administrative Hearings Branch
In Re: King's Daughter Medical Center
Case Number: CON #010-10-022(49)

Rebutted testimony before an administrative law judge regarding a hospital's methodology of an econometric forecasting of inpatient days in response to a Certificate of Need application.

Publications And Presentations

» "FAQs About Compliance Audits" Presentation for the *Compliance And Ethics Program In The Health Care Industry*. Loyola University Chicago School Of Law. March, 2009.

» "Keeping The Sampling Gains Going" Catherine Sreckovich, Alan Peterson, and Bo Martin. Book Chapter in *Monitoring and Auditing Practices for Effective Compliance*. (Health Care Compliance Association. 2007)

» "Cracks in the Foundation: How a Money Laundering Scheme Impacted One Private Bank's Business" Kristofer Swanson and Bo Martin. Article in *Investigations Quarterly*, (Association of Certified Anti-Money Laundering Specialists. Volume 1: Issue 4. 2008)

» "The 1, 2, 3's of Claims Sampling To Resolve Overpayment Errors" Bo Martin. Article in *Health Care Compliance Today*. (Health Care Compliance Association. August, 2008)

From: Kandace Penner <kandypenner@mac.com>
Sent: Wednesday, February 18, 2015 3:33 PM
To: iBudget.Algorithm
Subject: Resend: Response to January 16th meeting

To Ms. Denise Arnold--

Thank you for the opportunity to attend by phone the meeting on February 16th; it was another interesting meeting concerning Florida's iBudget plan. I had sent the email below after the January 16th meeting. I am sending it again as I am not sure it reached you and your partner and that it will be included in the comments section you plan to post on the APD iBudget website. You announced on Monday that all comments would be shared; I would be interested in the issues raised below to be shared, particularly those about moderate physical disabilities not being well assessed by the QSI. It would be helpful to see if others around the state have experienced the same concern.

If you will, please send me a brief acknowledgement that this email has been received; then I won't wonder/worry. We are looking forward to the next meeting. Also, the ability for those of us online to write a note/question to the presenters was a very good improvement in your online access-- Thanks!

Sincerely,
Kandy Penner

Begin forwarded message:

From: Kandace Penner <kandypenner@mac.com>
Subject: Response to January 16th meeting
Date: January 22, 2015 9:39:47 PM EST
To: iBudgetAlgorithm@apdcares.org
Bcc: Dick Di Bradley <dbradley@arcalachua.org>, Steve Drago <SDrago@arcalachua.org>, Nancy Wright <newright.law@gmail.com>, deborah@arcflorida.org

Hello, Denise-- I'm sorry I cannot locate your last name but I wanted to send this email to you in response to the very interesting meeting about the iBudget held on January 16th. I was one of the phone call participants. The meeting was informative and I appreciated you and your partner's clear invitation to send input to your office regarding the topics covered in the meeting.

I have several concerns I'd like to bring to your attention.

1. We have observed that the QSI does not do a very good job identifying physical disabilities that significantly affect a person's life but do not reach the point of needing a wheelchair, lifting to transfer, etc. Our foster daughter has intellectual disability and cerebral palsy. She walks very slowly with crutches, has great difficulty getting in/out of cars/vans, cannot walk down ramp or any decline without hands on assistance, needs some help with dressing, cannot carry a bag or plate of food for herself and she falls several times per week (falls that result in scrapes and bruises but do not require medical care.) She also cannot wake herself and walk or crawl to the bathroom at night. These disabilities make for a very compromised daily life. However, these disabilities are not reflected appropriately in the items in the functional portion of the

QSI.

2. We wonder why the QSI has a section called Physical Status which is comprised of questions of physical status such as over/underweight, seizures, skin breakdown, bowel function etc. which do reflect one's physical status and then a similar number of questions which would be more appropriate as part of the Behavior Status section since they are directly related to one's physical status in terms of the behaviors listed in that section. Our daughter for instance has weight problems, seizure history, bowel disfunction but they are unrelated to any of the behavior restraints listed in the section. We have experienced that the QSI questioner tends to lump these questions as one topic (Behavior) and therefore skim over the questions that are relevant for our daughter because she does not have behavior problems.

The upshot of the two concerns above is that, because our daughter is lucky enough not to have developed behavior problems, her physical disabilities are largely passed over and not given proper consideration in the QSI. We would like to see improvements in the QSI in this area.

The concerns below are really questions that bothered us during the iBudget meeting last week. I asked two of them but unfortunately the professors from FSU were very difficult to understand over the phone. So we'd like to ask them now of you and your colleague:
3. The researchers talked about removing outliers from the data for our state; this raised the percentage of reliability for the FL data and therefore the FL data compared favorably with other states. Did the other states also remove outlier data? If they did not, doesn't that make the outcomes among other states not comparable to the outlier-removed FL data?

4. In the design itself, you said the data used for iBudget success rate was the expended Cost Plan data. If some of the participants were consumers who filed for a fair hearing because their iBudget cost plan assignments reflected a reduction in their existing cost plans and if those participants had their cost plans frozen at the pre-iBudget level and therefore their expended Cost Plan amounts did not reflect their iBudget assignment, would this not be invalid data for the study?

5. And finally, the two FSU professors at the meeting on January 16th did the study of the effectiveness/validity of the iBudget. However, we understand that they are the very same professors who designed the iBudget algorithm in the first place. Isn't the outcome weakened when the same parties who designed the iBudget algorithm are then permitted to validate the outcomes of that iBudget? Why wouldn't there be an independent assessment?

Thank you again for hosting these community meetings and inviting input from stakeholders.

Sincerely,
Kandy Penner
Gainesville, Florida

From: Suzanne Sewell [mailto:ssewell@floridaarf.org]
Sent: Thursday, February 19, 2015 10:33 AM
To: Barbara Palmer; Denise Arnold; David DeLaPaz
Cc: Courtney Swilley; Linda Mabile; Troy Strawder; Tina Philips (tphilips@pbhab.com)
Subject: Florida ARF Recommendations for iBudget System

Barbara, Denise, and others,

Attached you will find a letter that contains our recommendations for improvement of Florida's iBudget System. We have discussed several of our concerns at public meetings, and we are now following up with our written suggestions.

During implementation of the iBudget System, we heard two primary complaints. The most frequent one was that transportation services were not included as a priority service when cost plans were calculated at the time of transition. The second complaint was the iBudget evaluation process does not accurately pick up service needs for individuals with severe behavioral and/or functional needs. As you will see, our paper addresses these two concerns extensively. We were pleased to hear at the February 16 meeting that the Agency is pursuing changes that should address the behavioral and functional needs of individuals being served.

Our recommend changes have been vetted with our membership. Our Association's position is that we want to see the iBudget process fixed and we think the system can work given certain improvements. If you have questions about our recommendations, please feel free to contact me for further clarification.

Thank you for the opportunity to provide input.

Suzanne Sewell
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Association of Rehabilitation Facilities
Florida ARF
A Voice for Community Agencies

Troy Strawder
Board Chair

Suzanne Sewell
President & CEO

February 19, 2015

Ms. Barbara Palmer, Director
Agency for Persons with Disabilities
4030 Esplanade Way, Suite 380
Tallahassee, Florida 32399

RE: Comments on the iBudget System and Algorithm

Dear Ms. Palmer:

Over the past several years Florida ARF has provided input on the iBudget system, the algorithm, the allocation methodology that generates individual cost plans, and the services and supports authorized by the Agency. We have submitted numerous responses regarding our concerns and recommendations and have communicated that we support a defined, systematic process for establishing cost plans and services as long as the needs of the individuals served are met, and the program is adequately funded. As stated on many occasions, no system will provide program stability if funding is inadequate to meet individuals' needs or if too many dollars are removed from cost plans to generate savings. Fortunately, additional funding has been added to the iBudget System that more closely aligns the funding level with the historical spending trends.

We have expressed concern all along that the strong focus on cost cutting, first with the Tiered Waivers and now with the iBudget system, would move the DD Service System away from the very rudimentary and critical foundational values it was built upon. Certain basic tenants are critical to the Florida system of services and supports for individuals with intellectual and developmental disabilities and the Agency for Persons with Disabilities (APD) must ensure continuation of these tenants. The values we reference are included in rule and statute, and we believe these values need to be re-validated as integral components of the iBudget System. We address this issue in more in detail in the following pages.

We recognize much work is being done to evaluate shortcomings in the algorithm and to improve the iBudget allocation methodology. Information shared at recent hearings is encouraging. We are eager to see how the proposed revisions impact individuals receiving services and the service system.

Today, we are almost two years post implementation of the iBudget System, and all waiver recipients have transitioned into the System. Even so, calculation of iBudget cost plans remains unsettled. Our Association has spent a great deal of time reviewing the iBudget System, examining the concerns our members identified, and identifying solutions. We have summarized our conclusions and recommendations and offer them today in the spirit of seeking to fix the iBudget System.

Recommendation 1: A Sound iBudget Framework

The iBudget algorithm and service system must support the assurances stated in section 393.062, F.S., which reads: *"Further, the greatest priority shall be given to the development and implementation of community-based services that will enable individuals with developmental disabilities to achieve their greatest potential for independent and productive living, enable them to live in their own homes or in residences located in their own communities, and permit them to be diverted or removed from unnecessary institutional placements. This goal cannot be met without ensuring the availability of community residential opportunities in the residential areas of this state . . ."* This priority is reflected in the current *Florida Medicaid Developmental Disabilities Waiver Services Coverage and Limitations Handbook* (November 2010, Page 1-8, Purpose of the DD Waiver) which states: "*Recipients enrolled in the DD Waiver receive services that enable them to: Have a safe place to live; have a meaningful day activity; receive medically-necessary medical and dental services; receive medically-necessary supplies and equipment; and receive transportation required to access necessary services.*" However, the draft iBudget Handbook (Page 1-1) reads: *"This waiver reflects use of an individual budgeting approach and enhanced opportunities for self-determination. The purpose of this waiver is to: Promote and maintain the health of eligible individuals with developmental disabilities; Provide medically necessary supports and services to delay or prevent institutionalization; and, Foster the principles of self-determination as a foundation for services and supports.*

The proposed language in the draft iBudget handbook is weaker than that in the current handbook and does not support the established values for services and supports as outlined in section 393.062, F.S. ***Any algorithm methodology built on the proposed, overly broad assumptions will not be responsive to individuals' needs.*** For example, transportation services were not included within the total dollar amounts for services that were to be included in clients' annualized cost plan sums when transition occurred; therefore, many individuals' cost plans were not funded adequately. Individuals lost meaningful day activities due to limited iBudget funding, or the inability to travel to services since transportation services were reduced or eliminated. Had the new iBudget System continued to address the same foundational supports and service options identified in the current handbook purpose of the waiver, many of the concerns being discussed today would have been avoided. This is a major concern to our members and the individuals/families they serve. Transportation services must be reinstated.

Correction #1:

Incorporate "Purpose" language from current handbook, Pages 1-8 & 9, into the iBudget handbook, Page 1-1, to read as follows:

Individuals enrolled in the HCBS Medicaid Waiver should receive services that enable them to:

- Have a safe place to live
- Have a meaningful day activity
- Receive medically-necessary medical and dental services
- Receive medically-necessary supplies and equipment
- Receive transportation required to access necessary services.

Delete Purpose/Introduction statement in the draft iBudget Handbook, Page 1-1, as follows:

~~The purpose of this waiver is to:~~

- ~~Promote and maintain the health of eligible individuals with developmental disabilities.~~
- ~~Provide medically necessary supports and services to delay or prevent institutionalization.~~
- ~~Foster the principles of self-determination as a foundation for services and supports.~~

Recommendation 2: A Community Based Service System

Any service system that serves individuals with intellectual and developmental disabilities must include the service options defined in the Medicaid waiver and state law. Section 393.066(1), F.S. states: *"The agency shall plan, develop, organize, and implement its programs of services and treatment for persons with developmental disabilities to allow clients to live as independently as possible in their own homes or communities and to achieve productive lives as close to normal as possible. All elements of community-based services shall be made available, and eligibility for these services shall be consistent across the state."* Further, Section 393.066(3), F.S. reads: *"Community-based services that are medically necessary to prevent institutionalization shall, to the extent of available resources, include:*

(a) Adult day training services
(b) Family care services
(c) Guardian advocate referral services
(d) Medical/dental services, except that medical services shall not be provided to clients with spina bifida except as specifically appropriated by the Legislature
(e) Parent training
(f) Personal care services
(g) Recreation
(h) Residential facility services
(i) Respite services
(j) Social services
(k) Specialized therapies
(l) Supported employment
(m) Supported living
(n) Training, including behavioral analysis services
(o) Transportation
(p) Other habilitative and rehabilitative services as needed."

At a February 16, 2015 meeting, APD indicated it is evaluating the impact of dependent variables on the algorithm and is reviewing inclusion or removal of services from the algorithm calculations based on FY 13-14 expenditure data. We reply that the algorithm must accurately predict needed funding to cover the cost of the array of medically necessary services allowed per statute and as needed by the recipient. During transition to the iBudget System, if a client's algorithm allocation generated an amount higher than the current cost plan, their allocation was reduced to the amount of the current cost plan but only certain services (15 of 27) were calculated in this exercise. Many individuals lost transportation or other services because the service was not one of the 15 priority services. This action negatively impacted the ability of many to receive medically necessary services and supports and is not consistent with the statutory references cited above. Loss of transportation services was the complaint we heard most frequently regarding iBudget implementation. Expenditures for transportation services totaled $34 million in FY 10-11 and decreased to $22.3 million by FY 13-14. The transportation reduction and/or elimination issue must be included as part of the iBudget methodology.

Correction #2:

Reinstatement of individuals' transportation services to their cost plans would keep the expenditures within the appropriation since the Agency reported a $56 million surplus last year. Because transportation costs and services vary across the state, the algorithm may be incapable of predicting adequate funding for individual cost plans. Transportation services could be calculated as either supplemental for extraordinary need services within the algorithm methodology. This provision would need to be included within the iBudget rule (65G-4.027).

Recommendation 3: iBudget Service Packages

Per Section 393.0662, F.S., APD is to establish an iBudget for each person served in the HCBS Medicaid Waiver program. The iBudget System is to provide for:

- Enhanced client choice ***within*** a specified service package
- Appropriate assessment strategies
- Efficient consumer budgeting and billing process to include reconciliation and monitoring
- Redefined role for Support Coordinators to avoid potential conflict of interest.
- Flexible and streamlined review process
- Methodology and process that ensures equitable allocation of available funds to each client based on level of need as determined by variables in the allocation algorithm.

Statutory language supports the concept of service packages. An iBudget service package for individuals requiring residential care should include funding for an appropriate place to live, meaningful day activity(s), and transportation to access needed services. The service package for individuals with intensive behavior needs should provide adequate funding to support Intensive Behavior Residential Habilitation Services - not just basic Residential Habilitation services. The service package for a child living at home and supported by the public school system and Medicaid State Plan would look very different from an adult in a home setting.

One of the proposals identified at the February 16th meeting is to break residential settings into four groups based on level of support needs (descriptors). This grouping would more accurately identify adequate funding for residential settings based on the needs of the individuals rather than using only one variable to cover all residential living options. This approach appears to be a positive step forward for individuals with more intense intervention needs, but the rates for residential levels of supports must be funded appropriately. APD should use the highest rate within the residential grouping for the initial allocation. If a lower support level and rate is determined to be appropriate based on an individual's needs, modifications and adjustments to the funding to more accurately cover the appropriate residential rate could be made during the individual review of the iBudget cost plan.

Several concerns regarding the funding of behavior services within the iBudget System could be resolved through the service package concept. APD staff are reporting intent to conduct utilization reviews to reduce Behavior Focus/IB Levels, fade Behavior Analysis services, and eliminate Behavior Assistant services in group homes. At the same time, providers are being expected to staff homes to address foreseeable scenarios, but the level of approved care does not support the cost. APD is asking providers to admit very difficult clients as Behavior Focus Moderate or Extensive levels when the clients are often in need of Intensive Behavior services. If a serious incident occurs, providers are found to be negligent, and if it is believed that a staff member could have prevented the critical incident, the provider will receive findings substantiating neglect/lack of supervision. The service package concept would ensure funding of service models that meet the needs of individuals with ***similar*** behaviors.

The service package concept can be developed within the iBudget system. Implementation of this recommendation would assist APD with cost forecasting.

Correction #3:

While implementation of this recommendation may not be achievable immediately, this recommendation would allow APD to manage the iBudget program versus attempting to manage 30,000 individual iBudget plans.

Recommendation 4: Improve the Client Assessment Tool

The QSI contains probes and questions intended to assess individual service needs, including extensive needs. The results should indicate the types of interventions needed to cover needed treatment and supports. The tool must accurately identify individuals' specific behaviors and the supports necessary to appropriately treat and intervene. Florida's QSI does not appear to accurately reflect extensive need and required treatments. For example, the current weighting of whether a person is on medication for certain behaviors may not be the best indicator of the type and cost of supports and interventions that are needed; instead, the assessment tool and corresponding weighting within the algorithm should generate budgets that cover the additional supports and interventions needed to address the behaviors being treated.

We support APD's intent to include residential living settings as a variable within its allocation methodology. If applied correctly, the definitions and guidelines in handbook and rate structures for individuals requiring Behavior Focus or Intensive Behavior levels of Residential Habilitation services should be reflected in the QSI questions, and the results should ultimately be reflected within the iBudget algorithm. This is not happening using the current algorithm.

The assessment tool probes currently address individuals' living status as family home, independent living, or residential care. More weighting is needed to reflect the levels of assistance and supervision needed in residential living settings as well as in supported living. For example, children in residential care will require more residential supports than those living in the family home. Providers indicate the Residential Habilitation levels their clients receive are often based on cost containment pressures rather than service needs. This is a key concern when assessing service needs of individuals with severe behavioral or functional needs.

The QSI and algorithm do not pick up the need for one-on-one staffing, either for residential or day service settings. How are providers to address staffing needs to meet the behavior needs of individuals with severe behaviors when the assessment tool does not distinguish between levels of supervision needed?

Another weakness within the QSI is that individuals with intellectual and developmental disabilities tend to age more rapidly and many are more prone to age related conditions such as Alzheimer's. These individuals often require specialized supports and additional health interventions. The assessment process should reflect the additional care needs of older individuals who are showing early onset of dementia, or who simply need more hands on support and supervision to manage daily routines.

The assessment process is not occurring every three years as intended, and some individuals have not been assessed for five years.

It is noted that APD is evaluating an expanded use of the QSI information and specific questions used in the algorithm. These changes should improve the predictability of the algorithm.

Correction #4:

Amend the QSI instrument to more accurately assess individual client needs, or purchase an assessment tool that has proven inter-rater reliability such as the Supports Intensity Scale (SIS) developed by the American Association on Intellectual and Developmental Disabilities if APD cannot rely on its assessment tool to accurately predict statistically valid algorithm allocations. If the QSI (Questionnaire Situational Information) tool remains in use, it needs to more accurately assess needs of individuals with severe behavioral and functional challenges.

Recommendation 5: Amend iBudget Algorithm Legislation Statutory Language

The Agency should seek legislative amendments to 393.0662, F.S., to clarify the algorithm methodology and to incorporate an individual client review process as part of the methodology.

Section 393.0662, F.S., (1) (a) reads: *In developing each client's iBudget, the agency shall use an allocation algorithm and methodology. The algorithm shall use variables that have been determined by the agency to have a statistically validated relationship to the client's level of need for services provided through the home and community-based services Medicaid waiver program. The algorithm and methodology may consider individual characteristics, including, but not limited to, a client's age and living situation, information from a formal assessment instrument that the agency determines is valid and reliable,* ***and*** *information from other assessment processes.*

Section 393.0662, F.S., (1) (b) reads: *The allocation methodology shall provide the algorithm that determines the amount of funds allocated to a client's iBudget. The agency may approve an increase in the amount of funds allocated, as determined by the algorithm, based on the client having one or more of the following needs that cannot be accommodated within the funding as determined by the algorithm and having no other resources, supports, or services available to meet the need, and if one of the following occurs:* Extraordinary need; Significant need for one-time or temporary (<12 months) supports or services; Significant increase in need for services after the beginning of the service plan year that creates health and safety concerns.

Section 393.0662, F.S., (1) (c) reads: *A client's iBudget shall be the total of the amount determined by the algorithm and any additional funding provided pursuant to paragraph (b).* Court rulings opined that iBudgets are to be developed in strict accordance with this section. The reference to "Information from other assessment processes," in paragraph (a), appears to have been vacated by paragraph (c).

Section 393.0662, (4) F.S., reads: *A client must use all available services authorized under the state Medicaid plan, school-based services, private insurance and other benefits, and any other resources that may be available to the client before using funds from his or her iBudget to pay for support and services.* The iBudget rule (65G-4.020) includes this provision and assumes use of natural supports, or services or supports available from the individual's family members, neighbors, or friends and for which no payment for the service or support is provided to reduce cost plans but, again, paragraph (c) appears to negate this provision.

Correction #5

Amend Section 393.0662, F.S., (1) (a): ... *The algorithm and methodology may consider individual characteristics, including, but not limited to, a client's age and living situation, information from a formal assessment instrument that the agency determines is valid and reliable, and information from other assessment processes to include an individual client review process.*

Amend Section 393.0662, F.S., (1) (b): *The allocation methodology shall ~~provide the algorithm that~~ determines the amount of funds allocated to a client's iBudget. The agency may approve an increase in the amount of funds allocated, as determined by the algorithm methodology, based on the client having one or more ...*

Amend Section 393.0662, F.S., (1)(c): *A client's iBudget shall be the total of the amount determined by the algorithm methodology to include ~~and any~~ additional funding provided pursuant to paragraph (b) (as amended).*

Recommendation 6: Fund an Extraordinary Need Pool

The Agency should seek legislative approval to reserve surplus dollars to fund an extraordinary need pool for subsequent years.

Section 393.0662, F.S., (9) reads: *The agency and the Agency for Health Care Administration may adopt rules specifying the allocation algorithm and methodology; criteria and processes for clients to access reserved for funds for extraordinary needs ... .*

APD has reverted surplus iBudget waiver dollars that have been re-appropriated in the "Back of the Bill" of the General Appropriations Act to cover deficit spending. Such funds could be used to fund an extraordinary need pool for unanticipated client needs.

Correction #6

APD should pursue proviso language within the General Appropriations Act to allow use of surplus iBudget funding to create an Extraordinary Need Pool.

Recommendation 7: Ensure a Strong Provider Network

An across the board 14.17% rate reinstatement is required to stabilize the iBudget service system; stakeholders recommend the reinstatement be phased in over a two year period, with a 7% reinstatement in FY 15-16 followed by 7.17% the following year.

In July 2003 the State of Florida adopted a rate system that established uniform rates for most of the waiver services. The rate system was based on direct care wages funded at the 25th percentile compared to national averages for wages. Overall, iBudget waiver rates are 14.17% lower than in FY 2003-2004. While some incremental increases occurred, there has not been a systematic rate adjustment to address the increased operational costs providers face. Since 2003, the Florida Minimum Wage has increased from $5.15 per hour to $8.05 per hour - for a 56% increase; the Consumer Price Index has increased 32.13%; and, costs continue to rise for employee health care, workers' compensation and liability/property insurance coverage. Further, multiple unfunded mandates have been added in the form of billing requirements, background screening of staff, new licensure standards, staff training and experience requirements, and now additional residential and community integration standards.

Correction #7

A year one investment of $26.4 million in General Revenue funds, supplemented by $39.2 million in federal matching funds, for a total increase of $65.6 million, will strengthen the provider network and will reduce the number of providers who are having to close their doors or reduce the number of services provided. APD needs a strong and vibrant provider network in order to meet the needs of the large and diverse consumer population in Florida.

Recommendation 8: Implement an Electronic Data System

APD must have a data driven system that allows it to accurately develop service plans and track expenditures.

Per Section 393.0662, F.S., APD is to establish an iBudget for each person served in the HCBS Medicaid Waiver program. The iBudget System is to provide for:

- Enhanced client choice within a specified service package
- Appropriate assessment strategies
- ***Efficient consumer budgeting and billing process to include reconciliation and monitoring***
- Redefined role for Support Coordinators to avoid potential conflict of interest.
- Flexible and streamlined review process
- Methodology and process that ensures equitable allocation of available funds to each client based on level of need as determined by variables in the allocation algorithm.

The above statutory reference clearly indicates the iBudget System is to feature an efficient consumer budgeting and billing process.

Correction #8

Immediately implement a reliable system that supports both Agency and provider needs for data input, tracking, and billing.

Thank you for the opportunity to provide input on the iBudget system and the algorithm. As mentioned, we are pleased the Agency is pursuing improvements in the algorithm methodology, and we appreciate being part of the discussions on systems improvements. If you have questions regarding our remarks, feel free to contact me at 850-942-3500.

Sincerely,

Suzanne Sewell
President & CEO

Attachment - Recommended Legislative Changes

CC: Denise Arnold
David De La Paz