iBudget Florida

agency for persons with disabilities
State of Florida

iBudget Algorithm

For all previous PowerPoint presentations and audio recording and transcription please visit:

http://apd.myflorida.com/ibudget/rules-regs.htm

Scroll to the appropriate date and meeting and open documents

iBudget Algorithm

- Meeting participants on the phone will have an opportunity to asks questions at the end of the presentation and type questions via Lync during the meeting.

iBudget Algorithm

Xu-Feng Niu Ph.D.
Professor and Chair
Department of Statistics
Florida State University

Minjing Tao, Ph. D
Assistant Professor
Department of Statistics
Florida State University

Current iBudget Allocation Amount

- Age (under 21, over 21)
- Living setting (family home, supported living, group home, residential habilitation center)
- QSI Functional and Behavioral Sum of Scores of all questions
- Additional QSI questions
  - Question 18 = transferring
  - Question 20 = maintain hygiene
  - Question 23 = self-protect

R - Square Value

Current allocation amount considered 53 independent variables, is based on FY 07 – 08 expenditures, and has an R-square value of .67

This presentation will demonstrate how new information could be considered including:

- 125 independent variables based on stakeholder input and reliable data,
- FY 13 – 14 expenditures, and
- Could have an R- square value of approximately .79

R - Square Value

Examine goodness of fit of the selected model

- "r-square" is a number that indicates how well the statistical model fits the data

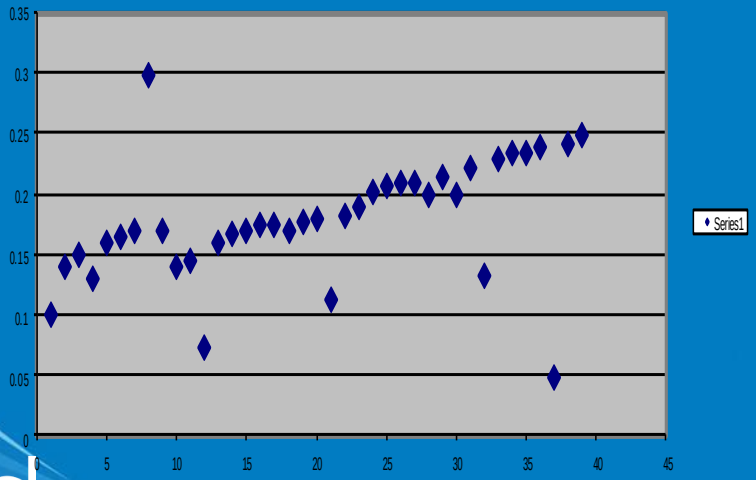
- "r-square" value is the fraction of the total variation of expenditures explained by the model
  - Total variation is the sum of squares of individual expenditures from the average

R - Square Value

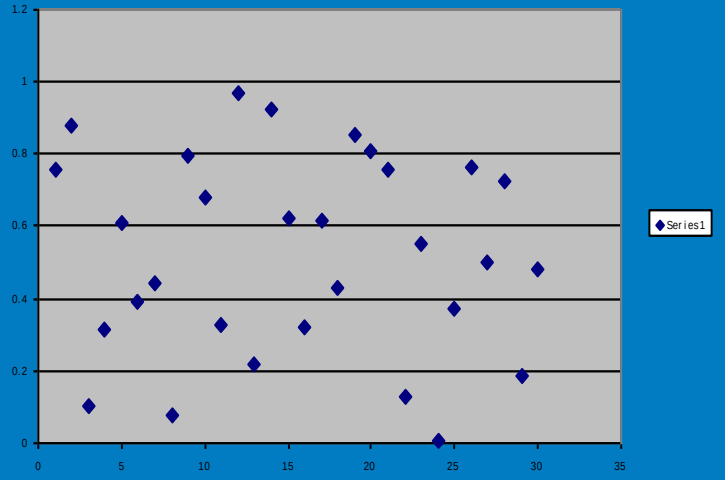
What makes a good algorithm?

"r-square" value is a measure reflecting the model goodness of fit…the larger the number, the better the fit.

Higher r^2



Lower r^2



Algorithm Tasks

1. Evaluate and Refine the Florida APD's Current iBudget Algorithm

2. Update Statistical Models for the Florida APD's iBudget Algorithm to identify new algorithm options

Outliers

- Outliers are generally individuals with extremely high or extremely low expenditures
- Outliers can sometimes reduce the precision of the model estimation and prediction results.
- Hence in practice, outliers commonly need to be detected and removed from the data.

Outliers

- It is typical that 10% of outliers are removed.
- Stakeholder input and other comments have suggested the agency use a different standard of removing only 5% of the outliers.
- The agency is considering the 5% standard rather than the 10% for removing the total number of outliers with extremely high and extremely low cost plans.

Outliers

- When running a new algorithm with removing 5.1% outliers the outcome shows there will be approximately 1,309 consumers affected
- The number of claims below $20,000 is 532
- The number of claims above $50,000 is 564
- The numbers of other claims is 213

Stakeholder Feedback

Common Recommendations/Comments to Consider from Stakeholders

- Caregiver age
- Caregiver provides care to others
- Caregiver health status
- Caregiver employment status
- Protective services involvement

Stakeholder Feedback

Common Recommendations/Comments to Consider from Stakeholders

- Client age - 50 and above
- Carve out: Transportation, Dental, Support Coordination, Environmental Adaptations, and Medical Equipment
- Break out licensed facilities by rate levels
- Include data from the Physical section of QSI
- Include more QSI questions

Stakeholder Feedback

Common Recommendations/Comments to Consider f rom Stakeholders

At the request of stakeholders, the agency has looked at other states developmental disabilities individual budgeting systems as mentioned in previous public meetings and took additional time to review Wyoming's DOORS model.

Stakeholder Feedback

Common Recommendations/Comments to Consider from Stakeholders

- Review of other states showed all states use an assessment tool and collect additional information for analysis.
- The significant factors learned are covered in the new algorithm analysis.

Stakeholder Feedback

Common Recommendations/Comments to Consider from Stakeholders

<u>All</u> questions and comments will be posted on APD's website in the near future.

Discussion

Questions from people on the phone will be taken at the end of the presentation

Questions from the audience will be taken now

Enhanced Algorithm 2015

- The algorithm considers 125 independent variables many which are new and were not used in the current algorithm.

- The current algorithm considered 53 independent variables.

Determine and Refine Dependent Variables

- FY claims in FY 13-14 with all expenditures removed if the individual was not actively enrolled on January 1, 2013, or there were not 12 months of expenditures.

- Included all expenditures for services and geographic rate differentials.

Determine and Refine Dependent Variables

- The removal of waiver support coordination, dental services, environmental adaptations, durable medical equipment and transportation were tested.
- The inclusion of these services was also tested
- There was no difference in predictability
- Therefore it is recommended that all service expenditures be included in the dependent variable

Discussion

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Independent Variables - Age

- Evaluated age variables for the following age groups:

(0-20)	years of age
(21-30)	years of age
(31-40)	years of age
(41-50)	years of age
(51-60)	years of age
(60+)	years of age

Independent Variables - Age

Age Results

- Age group 21 – 30 group showed a higher claim mean or significance.
- In later model fitting after removing outliers, the estimated weights for the last four age groups (31-40, 41-50, 51,60, and 60+) are almost identical and did not show as a predictor.

Independent Variables - Age

Age Results

- The most significant age predictors are:
  - 0-20,
  - 21-30,
  - 31+
- These age groups would be the recommended independent variables for age and are predictors for the algorithm.

Discussion

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Independent Variables
Living Setting

Living Setting

- Living Situation (family home, independent living/supported living, and licensed residential facilities)

- All licensed residential settings were identified and separated by procedure code to determine living setting. This resulted in 19 living setting variables specific to residential habilitation levels of support.

Independent Variables - Living Setting

- After analysis of residential settings, it is recommended to aggregate licensed residential settings into four groups that represent residential descriptors (levels of residential support).

- Group one - is all basic and minimal residential habilitation (standard and behavior focus)

Independent Variables - Living Setting

- Group two - is all moderate (standard and behavior focus) and residential habilitation live-in
- Group three - is all extensive one and extensive two (standard and behavior focus)
- Group four - is all CTEP and intensive behavior and special medical home care

Independent Variables - Living Setting

After analysis, breaking the living setting up into the following settings found the independent variables are strongly significant and a predictor

1. Family home
2. Supported and independent living
3. Licensed residential settings broken into four distinct groups

Discussion

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QSI Independent Variables

Questionnaire on Situational Information (QSI)

All QSI questions 1 – 50 were used in a model to predict outcomes including:

1. Community inclusion and life change and adjustment information
2. Functional status
3. Behavioral status
4. Physical status

QSI Independent Variables

Functional status questions included:

1. Transfers – Q18
2. Hygiene – Q20
3. Dressing - Q21
4. Self-Protection – Q23

QSI Independent Variables

Behavioral status question included:

1. Inappropriate Sexual Behavior – Q28

Physical status questions included:

1. Use of Mechanical Restraints or Protective Equipment for maladaptive behavior – Q34
2. Use of Psychotropic Medications – Q36

QSI Independent Variables

Community Inclusion and Life Change and Adjustment information included:

1. Anxiety Disorder - Q8c4
2. Person can use the community transportation system - Q12f
3. Person can attend and participate in community clubs, organizations and activities - Q12g

QSI Addendum

- Questions regarding caregiver and family situations analysis through the QSI addendum demonstrated some predictors; however, when ran with all independent variables the interaction did not separate the addendum questions.

- Recommendation is not to use the QSI addendum questions but continue to collect for future analysis.

Discussion

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Questions from the audience will be taken now

Other Independent Variables

Community Safety Indicator (prior history)

This independent variable was a predictor; however, these data points are not validated and not recommended to be included at this time.

- Adult Mentally Retarded Defendant Program
- Juvenile Mentally Retarded Defendant Program
- Jail pre-sentencing (all jail and prison situations prior to May 2007)
- Jail post sentencing
- Prison

Other Independent Variables

Community-Based Care (CBC)

This independent variable was not a predictor

- Variable including if the individual is a child involved in the CBC system

Consumer Directed Care + (CDC+)

This independent variable was not a predictor

Other Independent Variables

Mental Health

This independent variable is a predictor

- This variable has not been validated
- Variable indicating participation in Florida Medicaid Pre-Paid Mental Health Plan
- Access to mental health services is not consistent
- This is not recommended as an independent variable

Other Independent Variables

Disease Management Yes/No (DMYN)

This independent variable was not a predictor

- Florida Medicaid Chronic Disease Management Program (from FMMIS)

Nursing

The nursing independent variable is a predictor

- Indicate whether nursing was received in FY 13-14

iBudget Allocation Summary

This presentation demonstrated how new information could be used including 125 independent variables based on stakeholder input and reliable data, FY 13 – 14 expenditures.

The preliminary results indicated a possible R-square value of approximately .79 as compared to the current R-sqaure value of .67.

This would rank among the top statistical values for developmental disabilities HCBW services individual budget amounts in the country.

Next Steps

- Finalize proposed model
- Run case studies on model
- Next public meeting on the algorithm will be March 2, 2015, from 2 – 4 p.m. ET at the Agency for Persons with Disabilities State Office, Room 301, Tallahassee, Florida.

Discussion From Phone Participants

Questions from the audience

Questions?

Please send any questions and suggestions on the algorithm to:

iBudgetAlgorithm@apdcares.org

Thank You!