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Top 50 High-Cost Users of Maryland's Public Behavioral Health System: An Analysis of Healthcare Service Use and Spending

Office of Applied Research and Evaluation
Presentation at BHA Annual Conference
May 2, 2018

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Top 50 High-Cost Users: Presentation Outline

- Background: Purpose of Study
- Methodology: Target Population and Data Sources
- Findings: Demographics, Clinical Characteristics, Expenditures and Service Use
- Summary: Conclusions and Recommendations

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Top 50 High-Cost Users: Study Background

- **Why Target High Utilizers of Services?**
  - Healthcare spending driven by a small number of high service utilizers.
  - High service utilizers typically have complex health and social needs.
  - Care is often fragmented leading to high avoidable costs for services such as inpatient hospital and emergency rooms.
  - Targeting high utilizers with timely and appropriate interventions results in improved outcomes, quality of life and substantial cost reductions.

Top-50 High-Cost Users: Methodology

Study Focus:

- Provide a descriptive profile and a snapshot of the healthcare service use and spending patterns for the Top-50 highest cost users of Maryland's PBHS services.

Target Population:

- Top 50 highest cost child and adult PBHS service users based on total behavioral health expenditures for SFY 2017.

Data Sources:

- Medicaid Paid Claims/Encounters.
- Behavioral Health Authorization Data.
- Claims data is preliminary (Providers have up to 12-months to file a service claim).

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Top 50 High-Cost Users: Findings

Demographics and Clinical Characteristics

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Top 50 High-Cost User: Demographic and Clinical Characteristics

- Top 50 high-cost users are more likely to be Male (60%) and ranged in age between 9 to 64 years; Average 26.2 years
- Over one-half (54%) were under 21 years of age.
- Majority were African American (54%).
- Nearly 20% experienced homelessness.
- Slightly more than one-half (54%) were dually-diagnosed with mental health and substance use disorders.

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Top 50 High-Cost Users: Charactistics of Youth and Adults

Characteristic	Children/Youth (<21 years)	Adults (21 years and older)
Total Count	28	22
Gender (Percent Female)	32.1%	50.0%
Average Age	14.3 Years	42.3 Years
Dual MH/SA Diagnosis	28.6%	86.4%
Race (Percent Non-White)	64.3%	54.5%
Homeless (Percent)	3.6%	36.4%

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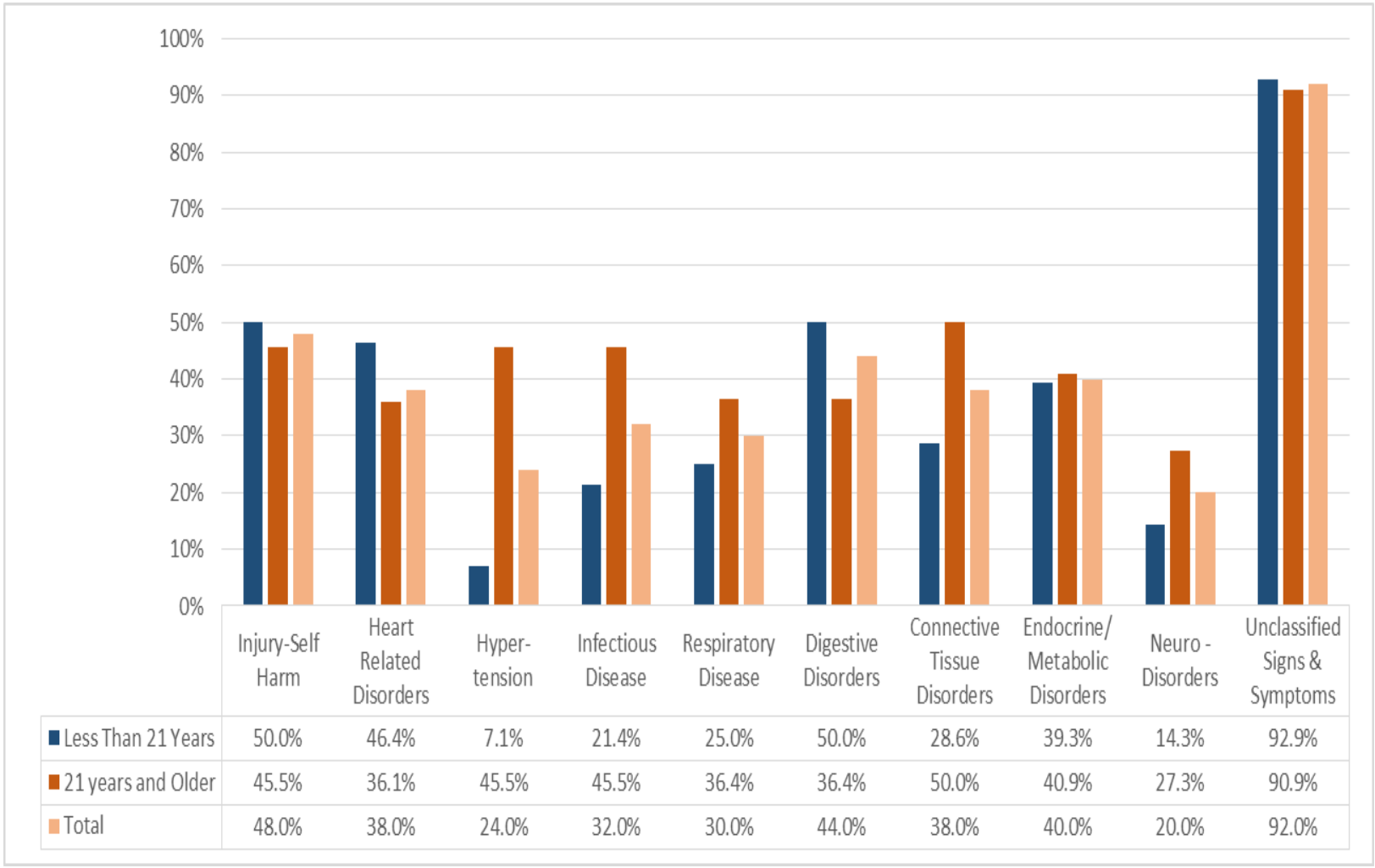
Top 50 High-Cost Users: Clinical Profile: Non-Behavioral Health



	Injury-Self Harm	Heart Related Disorders	Hyper-tension	Infectious Disease	Respiratory Disease	Digestive Disorders	Connective Tissue Disorders	Endocrine/ Metabolic Disorders	Neuro - Disorders	Unclassified Signs & Symptoms
Less Than 21 Years	50.0%	46.4%	7.1%	21.4%	25.0%	50.0%	28.6%	39.3%	14.3%	92.9%
21 years and Older	45.5%	36.1%	45.5%	45.5%	36.4%	36.4%	50.0%	40.9%	27.3%	90.9%
Total	48.0%	38.0%	24.0%	32.0%	30.0%	44.0%	38.0%	40.0%	20.0%	92.0%

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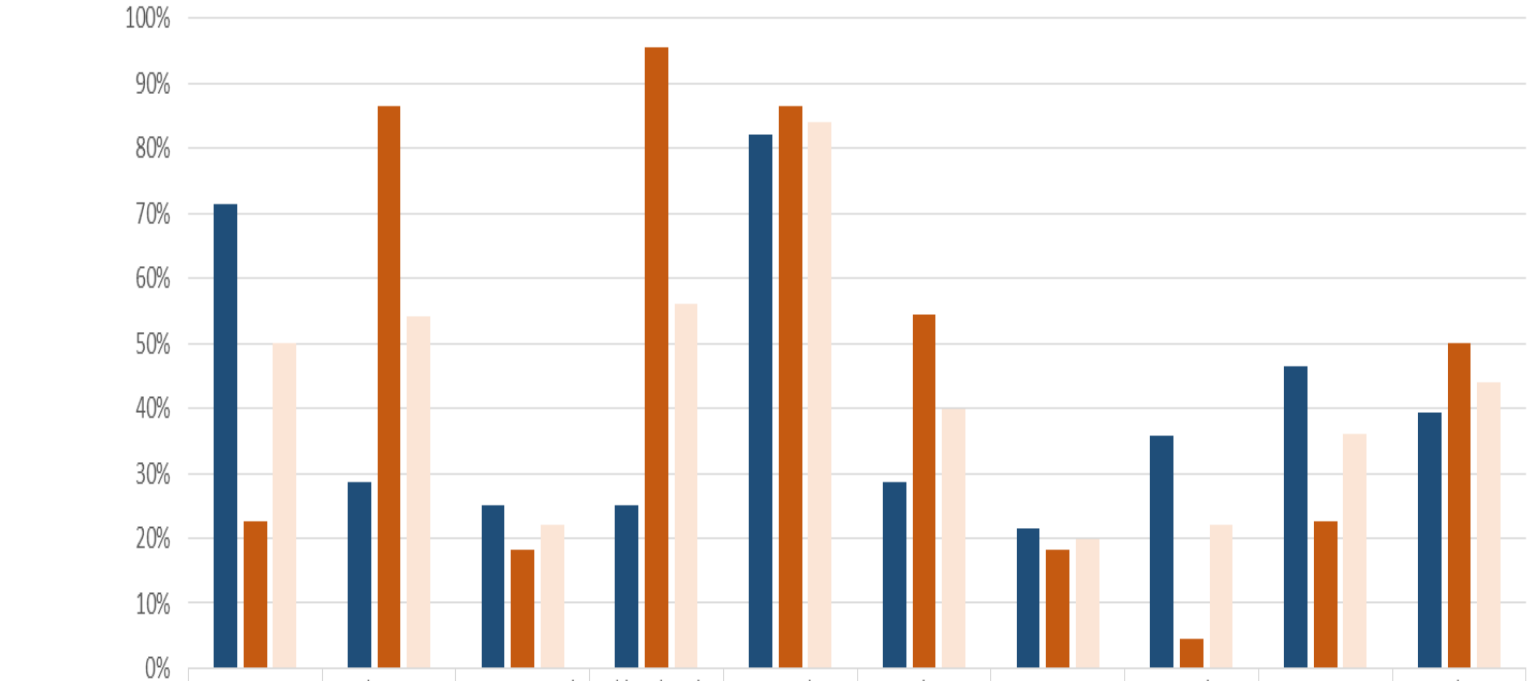
Top 50 High-Cost Users: Clinical Profile: Behavioral Health



	Developmental Disorders	Substance Abuse Disorders	Post Traumatic Stress Disorders	Schizophrenia-Psychotic Disorders	Mood-Affective Disorders	Anxiety-Related Disorders	Personality Disorders	Attention Deficit Disorders	Conduct-Oppositional	Other Behavioral Health
Less Than 21 Years	71.4%	28.6%	25.0%	25.0%	82.1%	28.6%	21.4%	35.7%	46.4%	39.3%
21 years and Older	22.7%	86.4%	18.2%	95.5%	86.4%	54.5%	18.2%	4.5%	22.7%	50.0%
Total	50.0%	54.0%	22.0%	56.0%	84.0%	40.0%	20.0%	22.0%	36.0%	44.0%

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Top 50 High-Cost Users: Findings

Service Use and Expenditures

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Top 50 High-Cost Users: Service Use and Expenditures

- Top 50 high-cost users accounted for $15,700,595 in behavioral and non-behavioral healthcare expenditures in SFY 2017.
- Behavioral health spending alone accounted for 92% ($14,466,186) of the overall spending.
- Inpatient Hospital, Residential Treatment and Emergency Room services were top drivers of ***behavioral health*** spending, accounting for 97% of the overall expenditures.
- Non-behavioral health Emergency Room, Developmental and Pharmacy services were the top cost drivers of ***non-behavioral health*** spending, accounting for two-thirds (69%) of the expenditures.

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Top 50 High-Cost Users: Service Use and Expenditures (continued)

- Children/Youth (under 21 years) accounted for 56% of the total healthcare expenditures for the cohort. Adults (>21 years), 44%.
- Inpatient Hospital and Residential Treatment services accounted for 93% of overall spending for children/youth (<21 years) and nearly all (99%) of behavioral health only spending for that same group.
- Major cost drivers for adults were Inpatient Hospital services and Emergency Room services, accounting for 88% of overall adult expenditures.
- Adults accounted for 63% of non-behavioral health spending and over 80% of Emergency Room spending.

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Top 50 High-Cost Users: Inpatient Hospital and Emergency Room Use

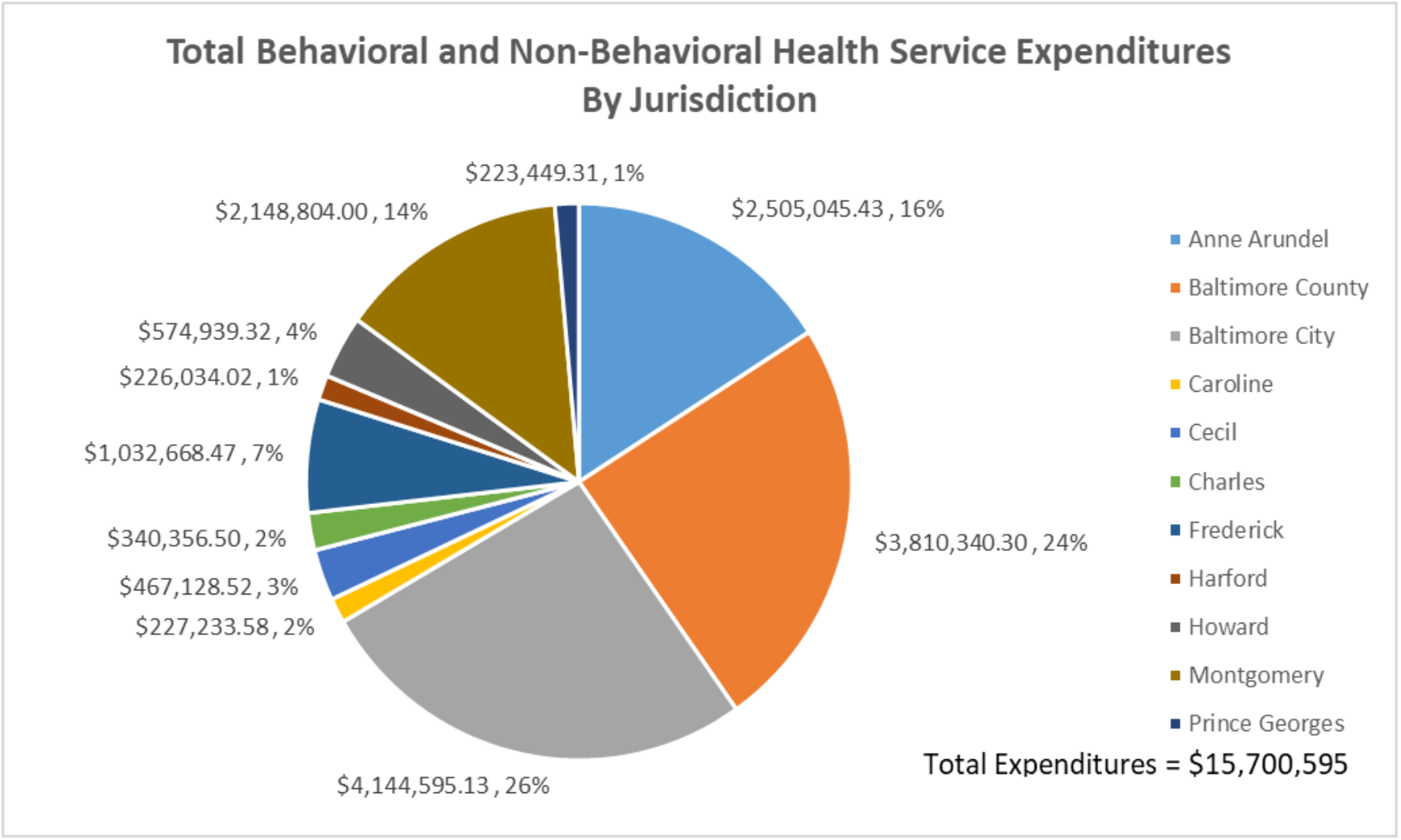
Inpatient Hospital:

- Of the top-50 high-cost users, 46 had one or more inpatient admissions, accounting for a total of 606 admissions.
- Nearly one-half (48%, or 24) of high-cost users had 12 or more hospital inpatient admissions in the SFY2017.
- Frequent Inpatient users (12+ admissions) were more likely to be female, have a diagnosis of schizophrenia/other psychotic disorders and have a co-occurring substance use disorder.

Emergency Room:

- 38 of the 50 (76%) high-cost users had one or more emergency room visits in 2017, accounting for a total of 613 visits.
- Seventeen of the 38 (45%) ER users had six or more emergency room visits during SFY2017 – Average: 16 visits per user.
- High ER utilizers were more likely to have a diagnosis of schizophrenia/other psychotic disorders and have a co-occurring substance use disorder.

Top 50 High-Cost Users: Healthcare Expenditures by Jurisdiction



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Top 50 High-Cost Users: Summary

Conclusions and Recommendations

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Top 50 High-Cost Users: Conclusions

- Are young with average age of 26 years.
- Present with complex health and social needs (e.g., co-occurring substance use, homelessness, multiple physical and behavioral health diagnoses).
- Are high frequency users of inpatient and emergency rooms.
- Behavioral health services accounted for 92% of overall healthcare expenditures for the group.
- Cost drivers for healthcare spending are:
  - Inpatient Hospital treatment;
  - Residential Treatment (RTC), and
  - Emergency Room (ER) services,
  - Developmental services,
  - Pharmacy

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Top 50 High-Cost Users: Recommendations

- Conduct a larger multi-year study to examine service use and spending patterns of high utilizers over time.
- Develop predictive models to identify potential high cost service users based on demographic, clinical, social determinants of health and service use patterns.
- Design interventions that target high utilizers of Inpatient and Emergency Room Services that address the complex physical, behavioral and social needs of these individuals (***Healthcare Hotspotting***).

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References

- Jeffrey Brenner (2011). Healthcare hotspotting. The Camden Coalition of Healthcare; https://hotspotting.camdenhealth.org/

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- Gladwell, Malcolm (2006). Million-Dollar Murray: Why problems like homelessness may be easier to solve than to manage. *The New Yorker;* http://gladwell.com/million-dollar-murray/

- [3]Gawande, Atul (2011). The Hotspotters: Can We Lower Medical Costs by Giving the Neediest Patients Better Care? *The New Yorker;* https://www.newyorker.com/magazine/2011/01/24/the-hot-spotters

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Questions

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