Demonstrating Value in a System of Care: A Review of Expenditures and Outcomes

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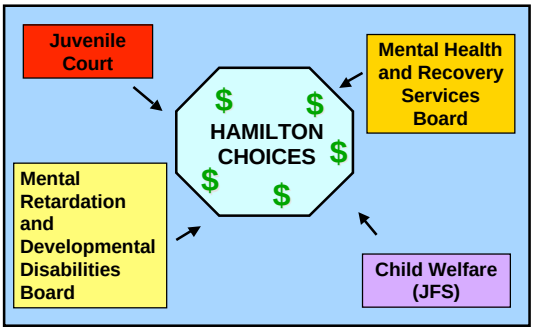
Choices Foundation

- Systems of Care Principles (Clinical)
  - Family Involvement (Voice, Ownership, Access, Satisfaction)
  - Wraparound Principles
  - Multi-system Coordinated Care
- Care Management Technologies (Fiscal)
  - Capitated Rate
  - Outcome Based
  - Flexible Funding
- Technology Blending (Clinical & Fiscal)
  - Achieving outcomes within the capitated rate

Pure Blended Funding



The Delicate Balance

No Margin… No Mission

Study Questions

1. In a pure pooled funding business model, how can the question of value be best understood or studied?
2. What limitations and unknowns are inherent in this type of study?
3. Is there a "deterrent value" or an "avoidance cost savings" that can be represented or better understood?
4. What are the clinical and financial benefits of participation in a pooled funding business model?

Why is This Important?

Child serving systems face the ongoing challenge of serving multi-system involved youth. In an era of limited resources, results achieved must be obtained at a cost that is sustainable for involved system partners.

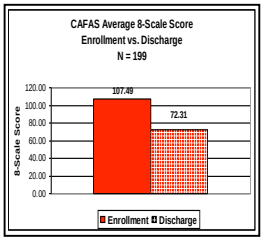
Pooled Funding Basics

1. No formal "slots" assigned to individual funders. The underlying belief is that providing for multi-system youth is everyone's collective responsibility and that the system as a whole benefits through the pooling of resources.
2. Youth referred to the project must have involvement in two or more child serving systems.
3. There is an assumption of collateral benefits for the non-referral entity due to the fact that youth are involved in two or more systems. Quantifying this benefit is difficult as it is hard to estimate what each system would have spent individually had Choices not been involved.
4. A pure pooled funding business model affords each participant with both direct and indirect clinical and fiscal benefits.
   - One price includes care coordination and ALL services that a youth receives. This includes residential treatment, foster care, respite, behavioral health services, etc.
   - One price includes both direct services and all administrative costs for operating the program.

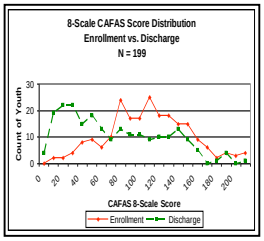
Measuring Clinical Effectiveness

- Youth assessed using the Child and Adolescent Functioning Assessment Scale (CAFAS).
- Youth with case activity during FY 06 (N=436) reviewed. Enrollment and Discharge 8-Scale scores analyzed for (N=199) discharged youth.
- Paired samples t-tests used to compare mean CAFAS scores at enrollment and discharge.
  - Enrollment = 107.49 Discharge = 72.31
- Youth with marked impairment or higher severe impairment in functioning at enrollment (N=120) reviewed at discharge to determine the degree to which functioning has improved, remained the same or worsened.
  - 58.33% (N = 70) improved to Minimal, Mild or Moderate Impairment
  - 41.67% (N = 50) remained in the Marked to Higher Severe Impairment Category
    - Of this group, 19 or 38% showed at least a 20 pt. CAFAS decrease indicating clinically significant improvement.

Aggregate CAFAS Results

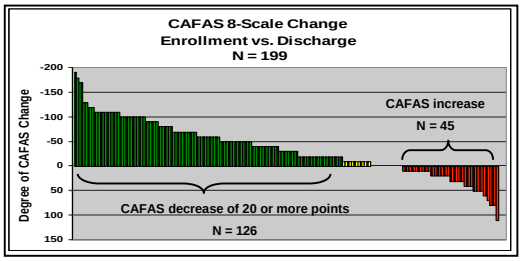


Statistically significant decrease between Enrollment (M=107.49, SD = 42.28) and Discharge (M=72.31, SD = 49.24) t(198) = 9.341, p<.001



The distribution of CAFAS scores shifted favorably to the lower end of the severity scale by time of discharge

Within Subjects CAFAS Results



63% CAFAS decrease of 20 or more points

30% no change or worse

Understanding E Days

- Hamilton Choices operates in a capitated funding system in which the project is paid a predetermined amount (case rate) for each day of youth enrollment (E Day).
- Total monthly E Days are multiplied by the case rate figure to generate operating funds.
- Choices is 100% at risk for the cost of care for enrolled youth (psych services, residential treatment, group home, foster care, other service needs).

Examining FY 06 Financial Data

- FY 06 service revenue calculated and divided across funders based on contractual contribution percentages.
- Enrollment days during FY 06 for youth referred by each funder summed.
- Funder contribution divided by referred youth enrollment days to calculate *funder participation cost* per day of youth enrollment.
- FY 06 service expenditures for each funders' referred youth added and divided by enrollment days to calculate *expenditures per enrollment day.*

Descriptive Statistics - Fiscal Year 2006

Funder	% Contribution by contract	% Referred of active FY 06 Youth (N=436)	% of all Hamilton Choices FY 06 service expenditures	Funder participation cost per enrollment day using referred E days and FY 06 project contribution*	Service expenditures per enrollment day using referred E days and FY 06 service expenditures** for referred youth	Avoidance Cost Savings	Mean CAFAS score at Enrollment	Mean CAFAS score at Discharge	Significance
Funder 1	58%	48%	50.38%	$ 143	$ 120	?	102.25	67.19	p<.001
Funder 2	30%	22%	23.30%	$ 132	$ 102	?	98.46	65.64	p<.01
Funder 3	7%	11%	10.00%	$ 71	$ 101	?	101.11	56.11	p<.05
Funder 4	5%	20%	16.32%	$ 28	$ 93	?	125.09	91.32	p<.001
				Average system participation cost	Average service expenditures				
Funders Combined				$ 94	$ 104	?			

* Project contribution = Contractual percentages of FY 06 direct service revenue and care coordination portion of case rate.
** Service expenditures = Service expenditures for services received during FY 06 and care coordination costs for days enrolled in FY 06.

The difference between funder participation cost per enrollment day and the dollar amount of services received for referred youth bears further examination and brings to light the difficulties associated with ascribing value using a dollar for dollar model.

Referred and Non Referred

- Classifying youth as either system Referred or Involved (open case with funder during enrollment but not referred) helps quantify the degree to which each funder is touched by enrolled youth.
- If a youth has involvement with a particular child serving system but is not necessarily referred by that system, there is still an assumption of resource allocation (services and administrative) associated with all involved systems.
- Quantifying this allocation has proven difficult.

Descriptive Statistics Referred and Non Referred

- Funder 1
  - 48% (N = 208) of active FY 06 youth referred by this funder
  - 17% (N = 76) of active FY 06 youth involved with this funder but not referred
  - 65% (N = 284) of active FY 06 youth either referred or not referred had involvement (open case during Choices enrollment) with this funder
- Additional Questions Raised By This Data
  - Is there a way to accurately quantify the resources allocated to the 17% as a way to best represent the service value received in aggregate?

Are Our Assumptions Accurate?

- Without comparison data, the following remains unknown:
  - Does the cost of participating in the project differ favorably from what each individual system would be required to spend to meet the needs of these youth?
  - Do differential positive clinical outcomes exist for youth participating in a system of care to those who do not? Both during program participation and post discharge.
- Does an "avoidance cost savings" exist and how can it be accurately measured?
- Does participation in the project decrease the likelihood of future need for more intensive services from participating systems?
- Can true total system cost including administrative and direct services be accurately calculated and used as an apples to apples comparison?

AREAS FOR ADDITIONAL STUDY

- Use measures of clinical functioning and service expenditure data to examine treatment trajectories for Hamilton Choices involved youth and a naturally occurring comparison group.
  - This study is currently in process through a collaborative venture with researchers at UCLA. Growth mixture modeling will be used to examine each group over time.
- Longitudinal follow up of program participants to better understand deferral and re entry rates across various child serving systems.
- Calculation of true system cost that includes both direct service and administrative expenditures.

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