

## Hillside Family of Agencies Research Overview

HILLSIDE  
FAMILY  
OF  
AGENCIES



### Hillside Family of Agencies (HFA) Mission

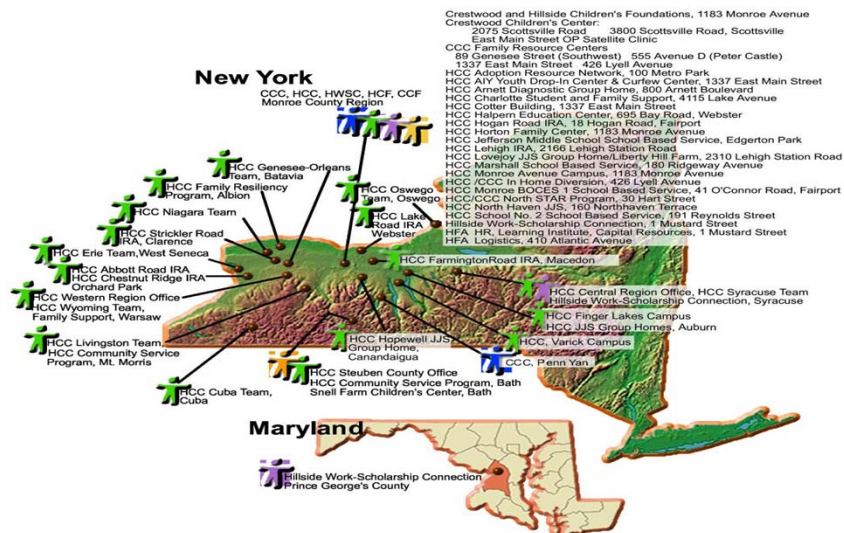
- Hillside Family of Agencies provides individualized health, education, and human services in partnership with children, youth, adults, and their families through an integrated system of care.

## Hillside Family of Agencies

- Offer over 120 services across 24 counties in Central and Western NY and Prince George's County, MD (mental health, juvenile justice, child welfare, developmental disabilities, special education, youth and family development services, medical and safety net services)
- Budget of \$140 million
- 2,238 staff



## HFA Service Locations

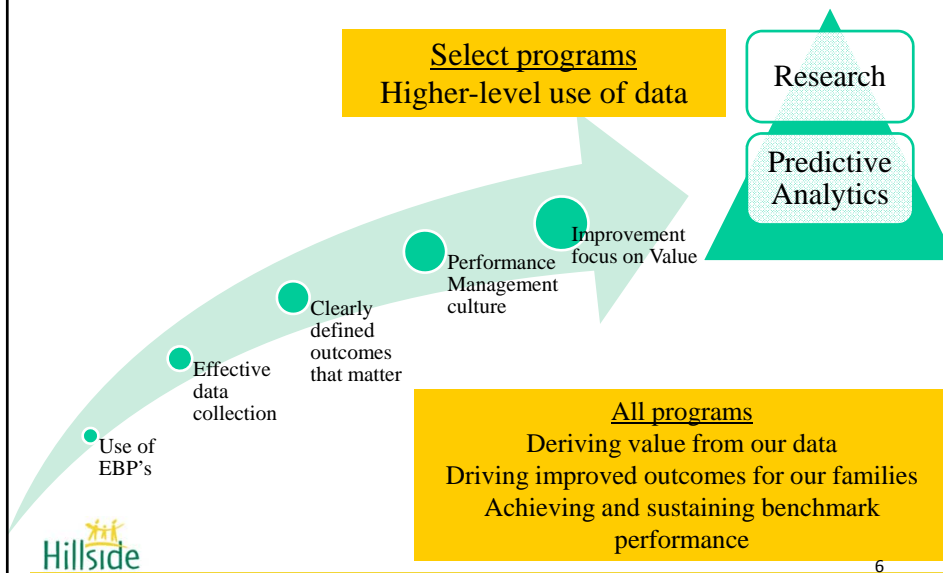


## HFA Strategic Intent

Hillside Family of Agencies, in partnership with youth, families, and communities, will be the leader in translating research into effective practice solutions that create value (outcomes/cost.)



## Building to Strategic Intent



## Hillside/University at Buffalo Partnership

- Formally began January 1, 2009
- Utilizes Community-Based Participatory Research Model and Principles
- Combines Hillside's Practice Expertise with UB's Research Expertise
- The HUB Research Model published in 2012. *Research on Social Work Practice*, 22(2), 195-202.

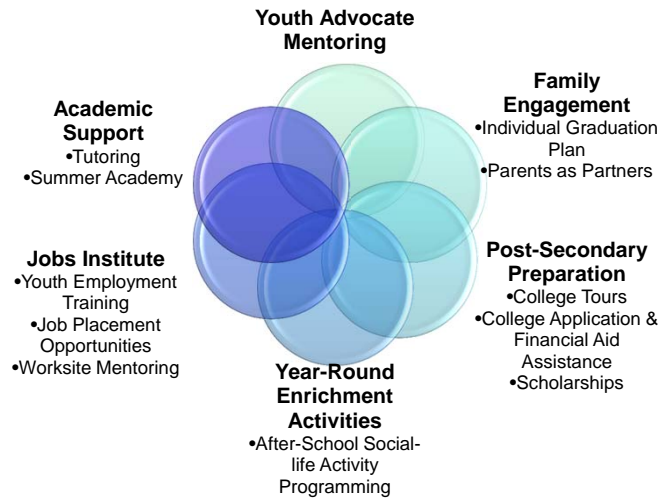


## Select Outcomes to Date

- Survey data collected on over 80% of HFA's direct care staff (n = 1273) to assess organizational climate and culture and workforce's readiness to implement evidence-based practices.
- Development of an MSW field unit within the partnership that pairs MSW students as research assistants with doctoral students to conduct program evaluation and research projects.
- Development and implementation of a federally registered Institutional Review Board (IRB) at HFA
- Research collaborations with other research universities
- Contributions to Knowledge Building – peer reviewed articles, invited book chapters, and professional publications



## Hillside Work-Scholarship Connection (HW-SC)



### High School: Risk of Not Graduating?

- National studies have identified the following Research Informed Risk Factors which correlate to a high school student's failure to graduate:
  - Low Socioeconomic Status
  - Low Standardized Test Scores
  - Failing Core Courses
  - Poor Attendance
  - Excessive Suspensions from School
  - Over Age for Grade
- Key questions:
  - Are these risk factors meaningful in the districts served by HW-SC?
  - Can they be used more effectively, to efficiently target the students who will most benefit from HW-SC service?



## A Business Intelligence Approach

Improves our visibility of “the big picture” to better inform our path forward.

**Data:** Student Transcripts from RCSD

- Acquired through partnership with Rochester City School District
- Uses Operational Data (vs. Research Data)
- Required definition and “scrubbing”: consolidation, categorization, and conversion

**Information:** How do Risk Factors impact RCSD?

- How prevalent is each?
- How do they affect Probability of Graduation –  $P(G)$ ?

**Knowledge:** What does this mean for HW-SC strategy?

- Does the HW-SC program improve grad rates?
- Which students benefit most from HW-SC?



## Step 1: Do Risk Factors Predict Graduation?

- To begin, we needed an overall understanding of if and how a student's Probability of Graduation is actually affected by risk factors in the RCSD. **Probability of Graduation =  $P(G)$**
- In Rochester, all risk factors had a correlation to  **$P(G)$** , but with varying strength. The ranking of risk factors, in order of greatest to least correlation:
  - Attendance
  - Failing Core Courses
  - Suspensions
  - Over Age
  - Low Standardized Test Scores
  - Low SES
- We found at a high level that a direct relationship does exist between the total # of risk factors and  **$P(G)$** .



## Step 2: Model Development

- We wanted to define a predictive model from the RCSD data:
  - Predicting the **P(G)** for a student based on his/her risk factors entering 9th grade
- When using real-world or operational data, the variables (in this case, risk factors) are often correlated, which can confuse a predictive model:
  - For example, poor attendance and failing core courses are highly correlated
  - Need to identify fewer, relatively “independent” risk factors that together have the greatest predictive value
- This presented two possible modeling scenarios:
  - Model 1: Attendance, Standardized Test Scores, Gender
  - Model 2: Over Age for Grade, Attendance
- Both models were applied; results were comparable. #1 chosen because:
  - Predictive Value was slightly greater
  - The measures used in Model 1 offered greater operational response
- Resulting accuracy of our chosen model:
  - Overall: About 75%
  - Greater accuracy for students whose predicted **P(G)** was either very low or very high



As is typical for this kind of model, accuracy declined as **P(G)** approached 50%.

## Step 3: Measuring the Effectiveness of HW-SC

- Our model provides a reasonably accurate estimate of a student's **P(G)**.
- Grouping students together by their **P(G)** gives us an “apples to apples” method for comparing the performance of HW-SC students to their peers.
- Using this method, we compared ALL HW-SC students (rather than a sample) to ALL of their peers in the 2002-2004 cohorts:
  - Grouped by **P(G)**
  - Assessing graduation rates

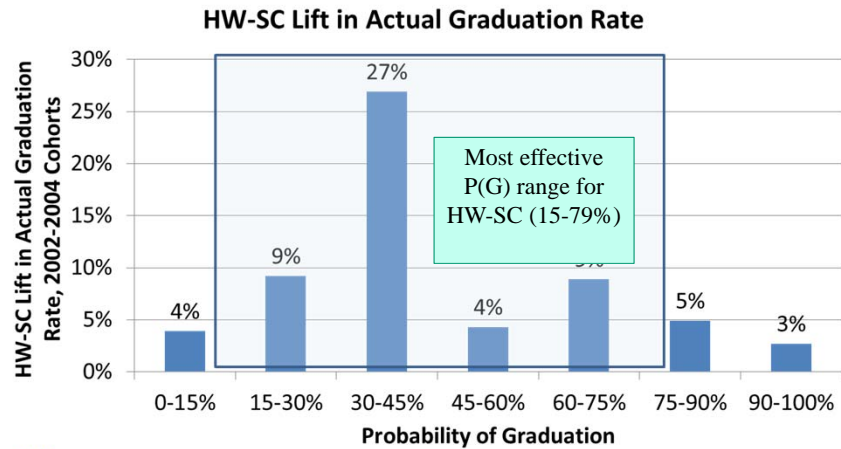
### What we found:

In every probability bracket, HW-SC participants graduated high school at higher rates than their non-participating peers.

- The HW-SC program appears to be most effective – in other words, HW-SC students had the greatest lift in graduation rates relative to their peers – for students whose **P(G)** fell between 15% and 79%.



## Effectiveness of HW-SC: % in Actual Graduation Rate “Lift”, 2002-2004 Cohorts



## Result: Organizational Innovation Targeted, Data-Driven Recruitment

- The 2011-2012 school year represented our first practical use of the risk factor analysis: a more targeted, data-driven recruitment strategy.
- We evaluated all incoming freshmen (using de-identified risk factor data from RCSD) with our **P(G)** model.
- The model identified which students would be most likely to derive the greatest benefit from the HW-SC program: **P(G)** between 15% and 79% and a minimum of two (2) risk factors.
- RCSD “flagged” these students at each of our participating high schools, to guide which students are enrolled in HW-SC this academic year:
  - Each school had a list of incoming students who would most benefit from (and who were qualified for) the HW-SC program.
  - HW-SC staff worked with school administration to identify and recruit students from these lists.

