EARLY WARNING
Addressing the Dropout Challenge
AGENDA

Welcome & Introduction 10 min
Drop out Prevention Keynote 15 min
Early Warning Module Highlights 30 min
Your Analysis-Your Decisions 30 min
Implementation Plan 30 min
Wrap-Up 10 min
Who is BrightBytes?

- Mission-Driven Organization
- Former Educators
- Technology Experts
- Educative, Engaging, & Actionable
- Tens of Thousands of Schools Nationwide
“To improve the way the world learns”
Think, Pair, Share

PONDER
What are you currently doing with your data?

- **How** have you been identifying “at risk” students?
- **What programs** are you currently using?
- **What infrastructure** do you already have in place?
Early Warning

A partnership between BrightBytes & Mazin Education
Dr. Mariam Azin
President, PRES Associates
Cofounder & CEO, Mazin Education

RESEARCHER
- 20+ years of work experience in the field of research and evaluation;
- Principal investigator on numerous national, statewide, and local evaluation efforts related to at-risk learners;
- Multiple research studies reviewed by the What Works Clearinghouse (WWC) -- all receiving the highest quality ratings possible.

PRACTITIONER
- Worked with hundreds of school districts
- Focus on the application of research
- Embed transformative technologies and infrastructures to help students and educators

MISSION-ORIENTED
- Prevent students from falling through the cracks
- Promote effectiveness of services and programs
Early Warning
### Early Warning Checklist Approach*

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 20/30 days absence rate</td>
<td>10%</td>
</tr>
<tr>
<td>Grading period absence rate</td>
<td>10%</td>
</tr>
<tr>
<td>Annual absence rate</td>
<td>10%</td>
</tr>
<tr>
<td>GPA</td>
<td>2.00</td>
</tr>
<tr>
<td># of course fails (per grading period)</td>
<td>1</td>
</tr>
<tr>
<td># of fails (annual)</td>
<td>2</td>
</tr>
<tr>
<td># of credits earned (annual)</td>
<td>4</td>
</tr>
<tr>
<td>Major behavioral incidents (per grading period)</td>
<td></td>
</tr>
<tr>
<td>Major behavioral incidents (annual)</td>
<td></td>
</tr>
</tbody>
</table>

* Everyone Graduates Center – Johns Hopkins University: Based on numerous research studies across a number of different states and districts, a consistent set of triggers have been identified.
What Does the Research Say?
State-of-the-art predictive analytics

Draws upon multiple data points spanning the domains of academics, attendance, behavior, and demographics

Customized to districts and grade levels

Looks at actual dropouts in the district and, using available data across all domains, fits the best predictive models that would have predicted those dropouts. Such predictive models are then applied retroactively to students still in the district.

Customized, flexible
one size does not fit all

Earlier identification
middle and elementary

Greater accuracy
minimizes false positives/negatives

Timeliness
real-time district data; promotes the effectiveness of existing services and supports
## Jack 5th Grader

### Overall Risk is High

NOTE: Jack would not have been identified through the WV Checklist System because: 1) Jack is in 5th grade and 2) he wouldn’t have met the threshold on any of the checklist “flags.”

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Data</th>
<th>WV EWS</th>
<th>Clarity EWS</th>
<th>Domain Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance Rate</td>
<td>91.0%</td>
<td>No</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>First 30 Day Attendance Rate</td>
<td>80.0%</td>
<td></td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Tardy Rate</td>
<td>3.7%</td>
<td></td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Suspensions</td>
<td>1</td>
<td>No</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td># of Major Behavioral Incidents</td>
<td>0</td>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td># of Minor Behavioral Incidents</td>
<td>2</td>
<td></td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Academic Indicator (GPA)</td>
<td>2.80</td>
<td>No</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Courses Passed</td>
<td>100.0%</td>
<td></td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>State Assessment: Math*</td>
<td>Slightly Below</td>
<td></td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>State Assessment: Reading*</td>
<td>Far Below</td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>State Assessment: Science*</td>
<td>Below</td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>State Assessment: Social Studies*</td>
<td>Below</td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Grade Retention (prior 12 months)</td>
<td>No</td>
<td></td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>
MTSS
Multi-Tiered Systems of Support

WV State Student Distributions based on Clarity’s EW

- **High Risk**
  - 14% of students
  - Tier 3: Intensive Individualized Interventions
    - ~5-10% of students

- **Moderate Risk**
  - 22% of students
  - Tier 2: Strategic Interventions for Targeted Students
    - ~10-15% of students

- **Low Risk**
  - 65% of students
  - Tier 1: All Students
    - ~75-80% of students

- **Low Risk**
  - 65% of students
Early Warning by Clarity is more accurate for predicting students who will actually drop out (85% compared to 40%).

Analyses used historical WV cohort data for 9-12 students who actually dropped out.
Bowers et al (2013) compared the accuracy of 110 dropout models across 36 studies. Results indicate Clarity Early Warning models (in red) are more accurate.
Every Student Has a Story

Dropping out of School = Cumulative Event

- Was disengagement apparent in elementary or middle school?

- Would that student have been identified with the current 9th - 12th checklist approach?

What's your story?
High Quality Standards

Making Connections of Early Warning to WV State Standards

**Standard 1: Positive Climate and Cohesive Culture**
- Function A: Shared Beliefs and Values
- Function B: High Expectations for All
- Function C: Safe, Orderly and Engaging Environment

**Standard 2: School Leadership**
- Function B: School Teams and Councils

**Standard 4: Student Support Services and Family/Community Connections**
- Function B: Student Personal Development
- Function C: Parent and Community Partnerships
Making Connections of Early Warning to WV State Standards

**Standard 5: Educator Growth and Development**
- Function B: Teacher Collaboration

**Standard 6: Efficient and Effective Management**
- Function D: Data information systems technology tools and infrastructure

**Standard 7: Continuous Improvement**
- Function C: Monitoring for Results
A General Tour

Here’s what
DATA

So what
REPORTS

Now what
INSIGHTS
Student Risk Prediction

- 375 Students
- 65 High (17%)
- 88 Medium (24%)
- 203 Low (54%)
- 19 Unavailable (5%)

Ordered by Risk
- Adam Johnson
- Dale Coleman
- Cohen Guzman
- Buckley Robinson
- Justin Lawless

Risk Prediction Tool

Graduation Rate
- 93% of your students graduate

Academics
- Average GPA: 4.6
- 8 Success indicators
  - Assessments - District
  - Assessment - State
  - Credits Earned Annually
  - GPA: All Courses
  - GPA: Core Academic Courses
  - Grade retention
  - Pass rate: All courses
  - Remedial Courses

Attendance
- 12% Students at High Risk in Attendance year-to-date

Behaviors
- 68 Behavioral referrals year-to-date
- 5 Success indicators
  - Disciplinary referrals
  - Expulsions
  - Major behaviors
  - Minor behaviors
  - Suspensions

Red Flags
- GPA: All Courses
- Suspensions
- Attendance - First 30 days

Improve Analysis
- Mobility: No data.
- Grade retention: Insufficient data.
- Attendance - First 30 days: Unpredictive.
Custom Link for troubleshooting:

support@brightbytes.net
1. Go to:  
https://wv.clarity.brightbytes.net

2. Enter your login information and password
DATA MINING ACTIVITY

Your Analysis – Your Decisions: Research and Metrics for System-wide Change
IMPLEMENTATION PLAN

System-Wide Change
Next Steps for District and/or School Administrators
Reflections
Please provide formative feedback by completing the survey form

Thank You!
QUESTIONS?

Thank You!