Achieving Proficiency for All: Maryland's Opportunity

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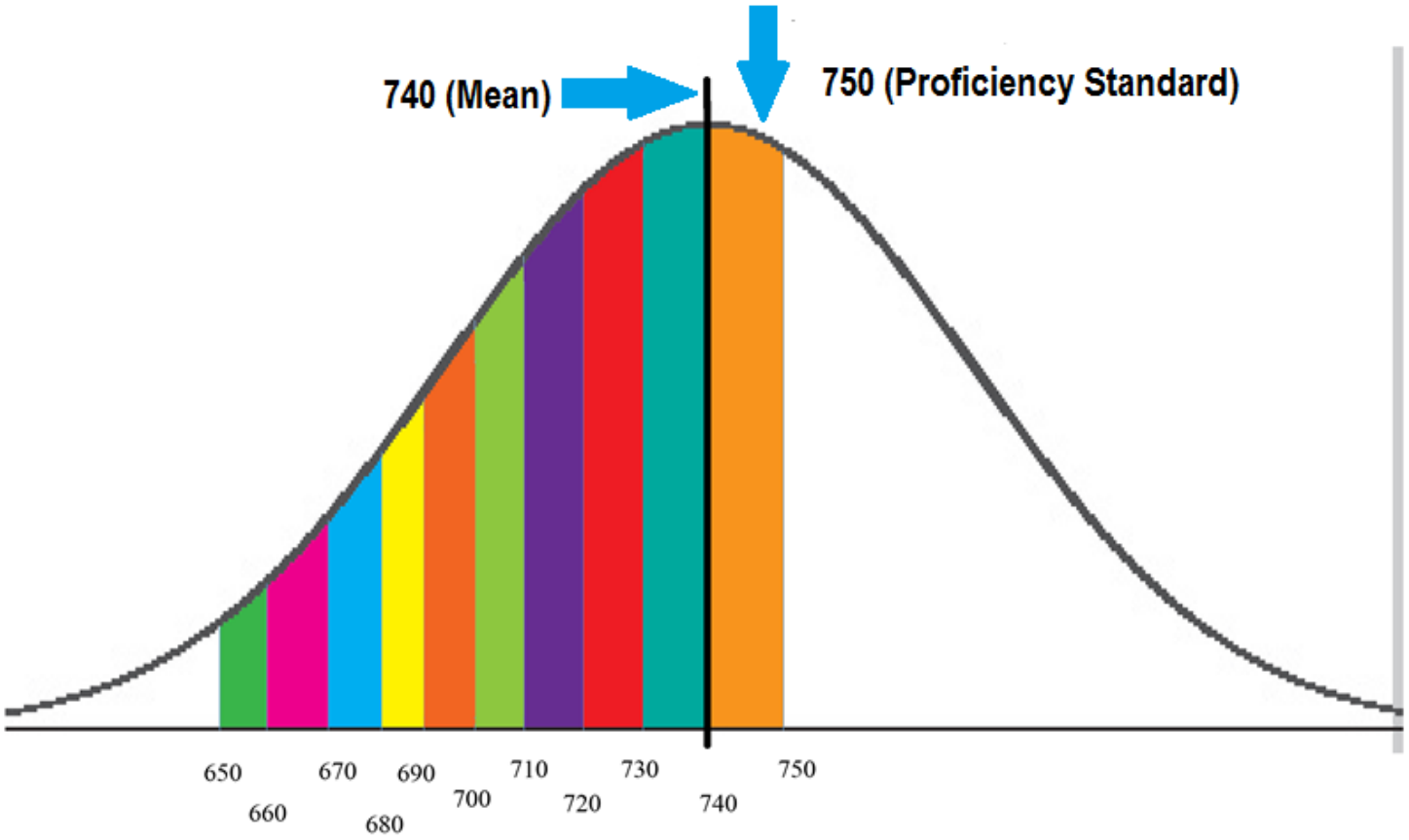
The Problem

- Maryland is among the top 3 states in household income
- Yet its NAEP achievement is mediocre:
  - 30th in 4th grade reading
  - 19th in 8th grade reading
  - 30th in 4th grade math
  - 26th in 8th grade math

<u>This must change</u>

Approximate Distribution of Maryland PARCC Scores



- Many approaches can improve students by one band
- Only tutoring can improve by two bands or more
- For students in lower bands, multiple years of tutoring will be needed

The Job to be Done: Proficiency for All		
Proficiency goal in reading and math on PARCC: 750		
Average PARCC Score	**Distance to go (in effect sizes)**	**Proportion of All MD Students (Approx.)**
747	+0.06	4.0
740	+0.20	7.9
730	+0.40	7.9
720	+0.60	7.6
710	+0.80	7.0
700	+1.00	6.2
690	+1.20	5.3
680	+1.40	4.4
670	+1.60	3.4
660	+1.80	2.6
650	+2.00	1.9
<650		1.8
TOTAL		60.0

Proven Programs as the Core of Response to Intervention

<u>Tier 3</u>: Intensive, individual programs

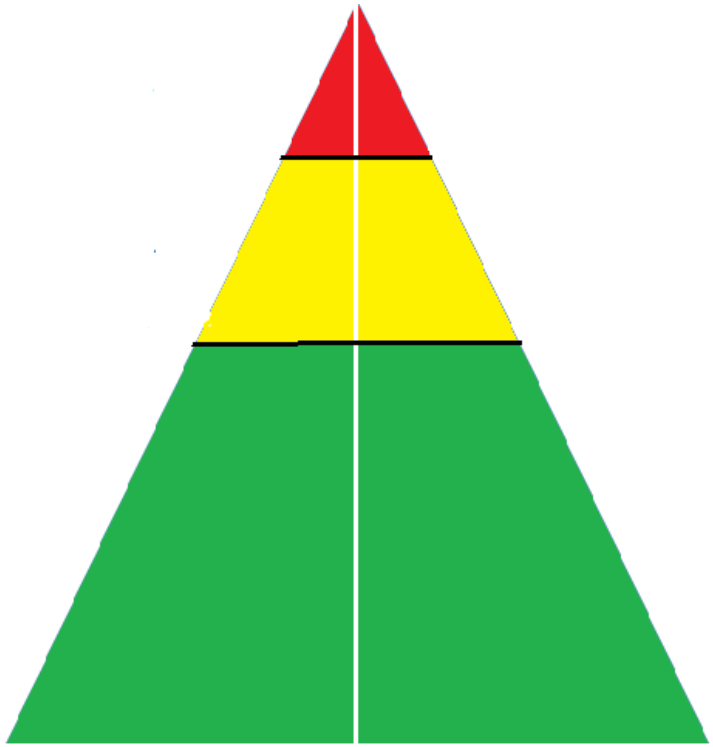
- **Proven one-to-one tutoring**

<u>Tier 2</u>: Targeted group programs

- **Proven one-to-small-group tutoring**

<u>Tier 1</u>: Core instruction

- **Proven classroom programs**



Tier 1 Approaches

- Proven programs can add one band-but for all students.
- Proven programs can reduce need for tutoring.
- Examples:
  - School turnaround approaches
  - Cooperative learning approaches
  - Some technology approaches

Proven Classroom Approaches for Tier 1

Numbers of Reading and Math Programs Meeting Evidence for ESSA Standards				
	Strong	Moderate	Promising	Total
Reading				
Elementary	33	7	13	53
Secondary	14	1	4	19
Total Reading	47	8	17	72
Mathematics				
Elementary	11	2	7	20
Secondary	4	1	4	9
Total Math	15	3	11	29
Total-Both Subjects	62	11	28	101

Proven Tier 2 Reading Approaches: One-to-Small Group Tutoring

	Grades	Studies	Average ES	Study-Weighted Means
Butterfly Phonics (1-6)	7	1	+0.30	
QuickReads (1-2)	2-5	2	+0.21	
Lightning Squad (1-6)	1-3	1	+0.20	
Tutoring with Alphie (1-6)	1-3	2	+0.43	+0.30

Proven Tier 3 Reading Approaches: One-to-One Tutoring

	Grades	Studies	Average ES	Study-Weighted Means
Reading Recovery	1	4	+0.43	
Lindamood	K-2	2	+0.68	
Targeted Reading	K-1	2	+0.21	
Alphies Alley	1	1	+0.53	
Reading Rescue (Teacher)	1	1	+1.08	
Perry Beeches	7	1	+0.36	
Sound Partners	K-1	4	+0.58	
Reading Rescue (Para)	1	1	+0.89	
SMART	1-2	1	+0.48	
REACH	7-8	1	+0.42	+0.54

Tutoring Resources and Schedules

Tutoring Sessions

- One-to-one: 30 minutes (10 30-min. sessions per tutor = 10 students per day).
- One-to-small group: 45 minutes (7 45-min. sessions per tutor = 7 x 4 = 28 students per day).

Amount of Tutoring Per Child

- As much as needed, up to multiple years if necessary.

Professional Development

- Initial training from provider of proven program.
- Ongoing coaching from provider's staff and lead tutor in school.

Tutoring Need and Numbers of Students in an Elementary School of 450 With 60% Below Proficient (n=270)

Actual or Predicted PARCC	N	Tier 2 Tutor/Years per Student	Tier 2 Tutor Years	Tier 3 Tutor Years Per Student	Tier 3 Tutor Years
747	18	0	0	0	0
740	36	1	36	0	0
730	36	2	72	0	0
720	34	3	102	1	34
710	32	4	128	2	64
700	28	3	84	3	84
690	24	3	72	3	72
680	20	3	60	3	60
670	15	3	45	3	45
660	12	3	36	3	36
650	9	3	27	3	27
<650	6	3	18	3	18
Total	270				
Daily tutoring need per year			680 tutor years		440 tutor years
Divided by 6 years			÷ 6=113 students tutored daily, groups of 4		÷ 6=73 students tutored daily
Tutors needed			Seven 45-min sessions daily= 28 students served per tutor=4 tutors		Ten 30-min sessions daily per tutor = 7.3 tutors
Total				11.3 tutors + 1 lead tutor 12.3 tutors	

Tutoring Need and Numbers of Students in a Middle School of 450 With 60% Below Proficient (n=270)

Actual PARCC Score	N	Tier 2 Tutor/Years per Student	Tier 2 Tutor Years	Tier 3 Tutor Years Per Student	Tier 3 Tutor Years
747	18	0	0	0	0
740	36	0	0	0	0
730	36	1	36	.5	18
720	34	1	34	.5	17
710	32	2	64	1	32
700	28	2	56	1	28
690	24	3	72	1	24
680	20	3	64	1	20
670	15	3	45	1	15
660	12	3	36	1	12
650	9	3	27	1	9
<650	6	3	18	1	6
Total	270				
Daily tutoring need per year			448 tutor years		781 tutor years
Divided by 3 years			÷ 3=150 students tutored daily		÷ 3=60 students tutored daily
Tutors needed			Groups of 4, seven 45-min sessions daily= 28 students per tutor=5.4 tutors		Ten 30-min sessions per week per tutor = 6 tutors
Total				11.4 tutors + 1 lead tutor 12.4 tutors	

Estimated Annual Costs of Proposed Plan to Increase Student Success Statewide			
Category	**Unit Costs (Salary + Benefits)**	**Number**	**Total Cost**
Teachers	$84,000		
Elementary (400,000 students)		12.3 per 450 students =10,934	$918,456,000
Middle (200,000 students)		12.4 per 450 students =5512	$463,008,000
Proven programs for Tier 1 ($200 x 60% students below "proficient")			$72,000,000
TOTAL			$1,453,464,000

Cost

- Total cost for all schools in Maryland: $1.46 billion/year (at full implementation)

Offsets: Resources and Savings

- APA already has $519 million for tutoring
- Potential special ed savings estimated at $379 million

Net Cost

- $555 million
- 4.5% of current expenditures

Resources and Savings to Support Tutoring

Resources in APA Plan	Number of Teachers	Cost @ $84,159
Tutors		
1 per 450 students	1956	$164 mil
1 per 125 low-performing students	4224	$355 mil
Total savings from APA plan		$519 mil
Special Education		
1 teacher, 1 aide per 150 students-reduce need by half	Teachers 5920/2=2960 Aides 5920/2=2960	$249 mil $130 mil
Total savings from special ed		$379 mil
Total resources and savings		$898 million

Phase-In

- Start with early grades, disadvantaged schools
- Study and improve process over time

Why Will This Matter?

- While the proposed approach is unprecedented, tutoring using proven models is virtually certain to improve achievement.
- Proven tutoring and Tier I models are ready to go. Impacts will be seen quickly.
- Tutoring is expensive, but cost-effective, and will save money now being spent ineffectively.

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- Published more than 300 articles, 22 books
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