



Using Longitudinal Designs with NCLB

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Outline

- Why you don't need a vertical scale
 - Two ways of assessing longitudinal growth without a vertical scale
 - Two ways of using a longitudinal model in a NCLB system
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What Is a Vertical Scale?

- A vertical scale puts achievement in different grades on a common scale
 - If a 3rd grade and a 4th grade student both score 250, their achievement is supposedly the same
 - If a student scores 250 in the 3rd grade and 260 in the 4th grade, the student grew 10 points over the year
 - It's an interval scale—a difference of 10 points at the bottom of the 3rd grade is supposed to be the same as a difference of 10 points at the top of the scale in 8th grade
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Why You Don't Need a Vertical Scale (Part 1)

- If you had a vertical scale, it wouldn't tell you whether students had grown enough
 - If a student grows from 250 to 260 in a year, was that enough? How would you know?
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Why You Don't Need a Vertical Scale (Part 2)

- If you didn't have a vertical scale, you still could tell whether students had progressed
 - If a student is at the 50th percentile of the statewide distribution one year and still at the 50th percentile the next year, the student has made an average amount of growth
 - If standards are equivalent from year to year and a student remains at the Proficient level, the student has made an acceptable amount of growth
 - That's especially true if only matched scores are used
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Which Question Do You Need to Answer?

- Which schools have grown the most?
 - Which schools have grown enough?
 - The second question is more difficult to answer
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Which Schools Have Grown Enough?

- Need either:
 - Performance standards at each grade that are coherent and a sense of what progress needs to be made from grade to grade (West Virginia)
 - Equivalent populations at each grade and an end goal that makes sense (Alaska)
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West Virginia

- Tomlin vs. Gainer *requires* a non-status model
 - Started designing a value-added model before passage of NCLB
 - With passage of NCLB, looked for ways to integrate work already completed into a NCLB design
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NCLB “Safe Harbor”

- “The school shall be considered to have made AYP if the percentage of students ... who did not meet or exceed the proficient level ... decreased by 10 percent of that percentage from the preceding school year and made progress on one or more of the academic indicators ... ”
...
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NCLB Safe Harbor

- A 10 percent reduction from what?
 - One possible interpretation is a 10 percent reduction from the same group at the prior grade the previous year
 - Overall strategy—Set “status” bar so high that most have to rely on safe harbor, then define meeting safe harbor as longitudinal improvement
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Example

Year	Year	3	4	5
0	2004	50		
1	2005		55	
2	2006			59.5

Example

Year	Year	3	4	5	6	7
0	2004	50	60	40		
1	2005		55	64	46	
2	2006			59.9	67.6	51.4

Issues

- Who to include
 - Starting grade
 - Raising general achievement to 100 percent
 - Equivalent standards across grades
 - Knowing what school's goal is before it's too late
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Alaska

- Again, design of accountability system well underway before passage of NCLB
 - In-state advisory committee wanted a system that was 2/3 growth, 1/3 status
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Determining Growth

- Outside data made it clear that student achievement was highly consistent from grade to grade relative to national norms
 - Underlying principle of accountability system was that 95 percent of students should pass High School Graduation Qualifying Exam
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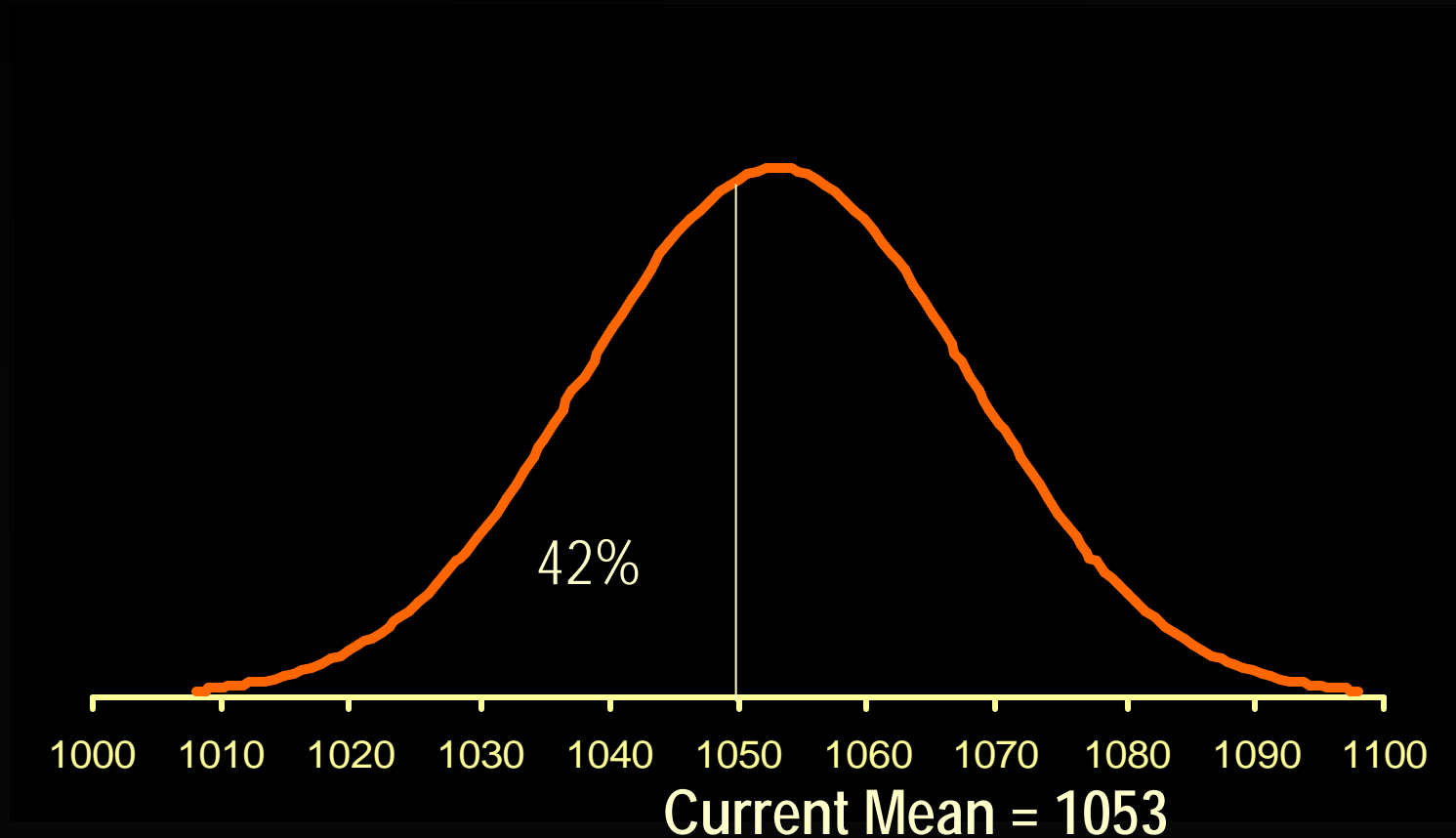
Creating a Scale for Each Grade

- Standards set to be equivalent from grade to grade
 - Three or four digit scores at each grade
 - First (or first and second) digit identifies the grade
 - X50 means being at the standard for each grade
 - Standard deviation = 15
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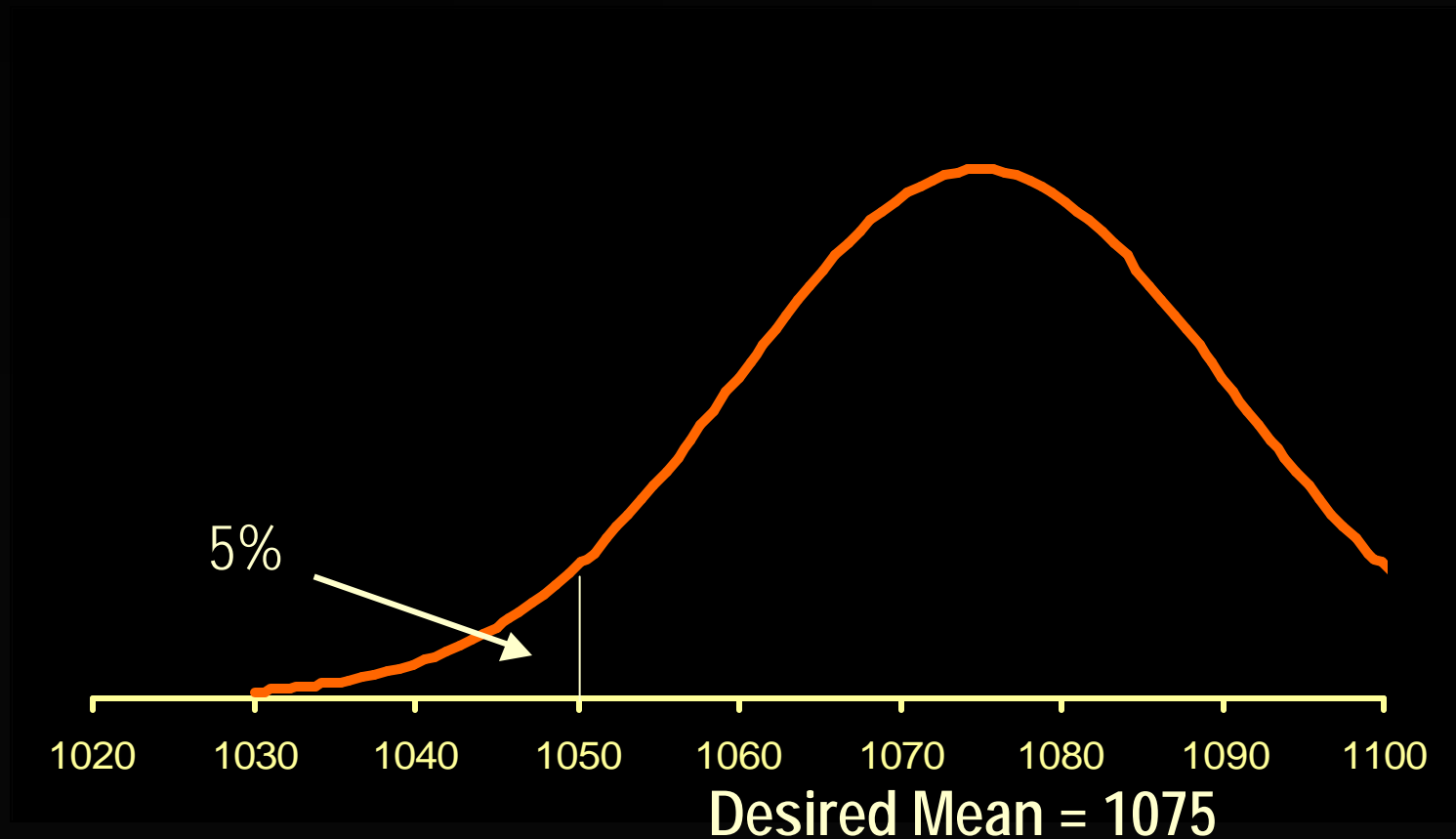
Establishing the 10th Grade Target

- 1050 is the score that 95 percent of the students need to have
 - 58 percent currently get that score or higher (including dropouts)
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Computing the 10th Grade Target: Current Performance



Computing the 10th Grade Target: Desired Performance



Example of Goal for Grade 3

■ School 1

- Mean = 325.0
- Adequate Gain = $(75 - 25) / 7 = 7.1$
- Target for Grade 4 = 432.1

■ School 2

- Mean = 368.0
 - Adequate Gain = $(75 - 68) / 7 = 1.0$
 - Target for Grade 4 = 469.0
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Two Ways of Incorporating a Longitudinal Design into NCLB

- West Virginia model
 - The design itself is compliant with NCLB
 - Two-Tiered System
 - Schools do not make AYP if they fail NCLB
 - Schools do make AYP if they pass NCLB
 - If NCLB leads to an uncertain decision about the school, a second tier of tests are applied
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Two (or more)-Tiered System

