

Assessment Tools Training

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Types of Assessment

- Population status assessment
- Program effectiveness assessment

Population Status Assessment

- What to assess?
 - Anemia
 - Iron Deficiency
 - Iron Deficiency Anemia

Anemia

Hemoglobin or hematocrit <5th %ile for healthy individuals of same age, sex, and stage of pregnancy

Iron Deficiency (ID)

Iron stores low enough to impair red blood cell production, but not to the point of reducing hemoglobin (Hb) concentration

- assessed by biochemical tests (e.g serum ferritin)
- not detected by Hb test

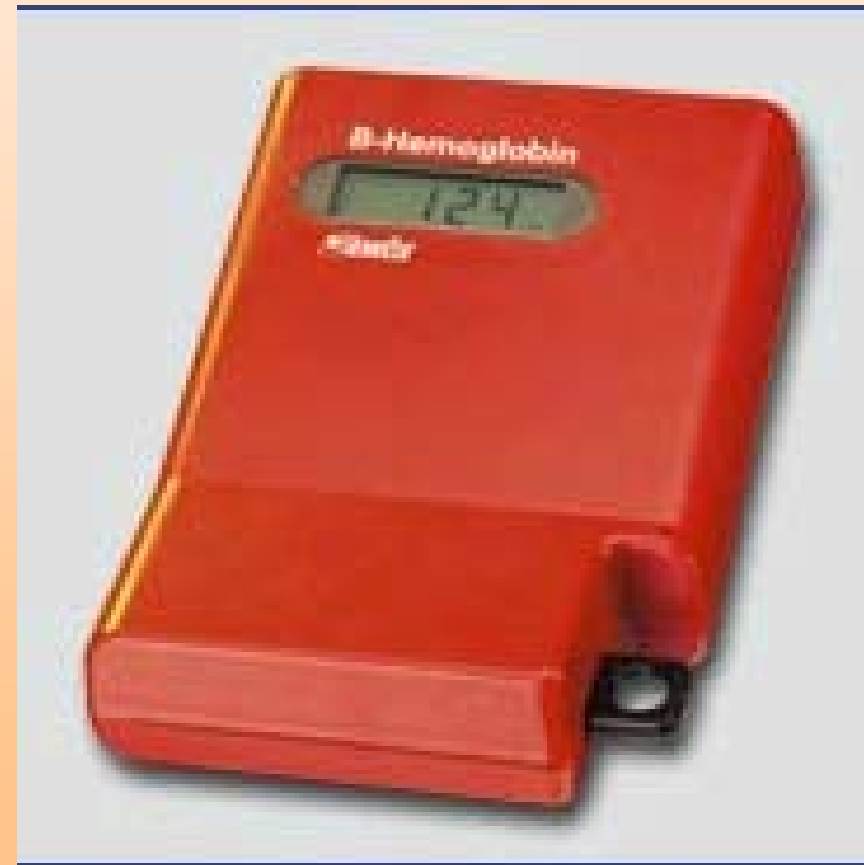
Iron Deficiency Anemia (IDA)

Anemia together with iron deficiency

- e.g. low Hb ***and*** low serum ferritin

Anemia Assessment

- Hb - commonly used indicator
- HemoCue™ photometer – commonly used instrument



HemoCue™ System

➤ Advantages:

- One blood drop – finger stick
- Portable
- Field friendly
- Easy to use
- Relatively low cost



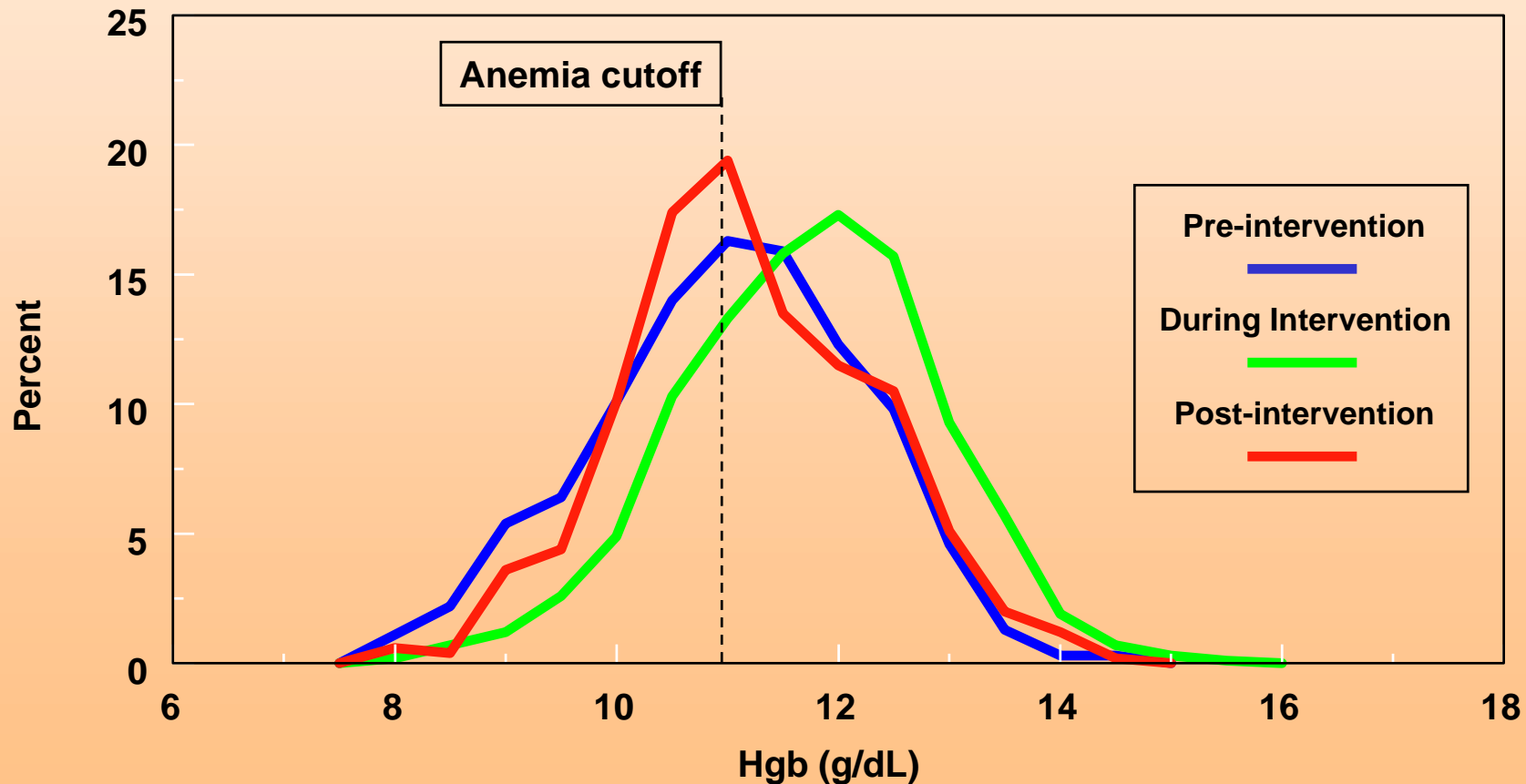
HemoCue™ System

➤ Considerations:

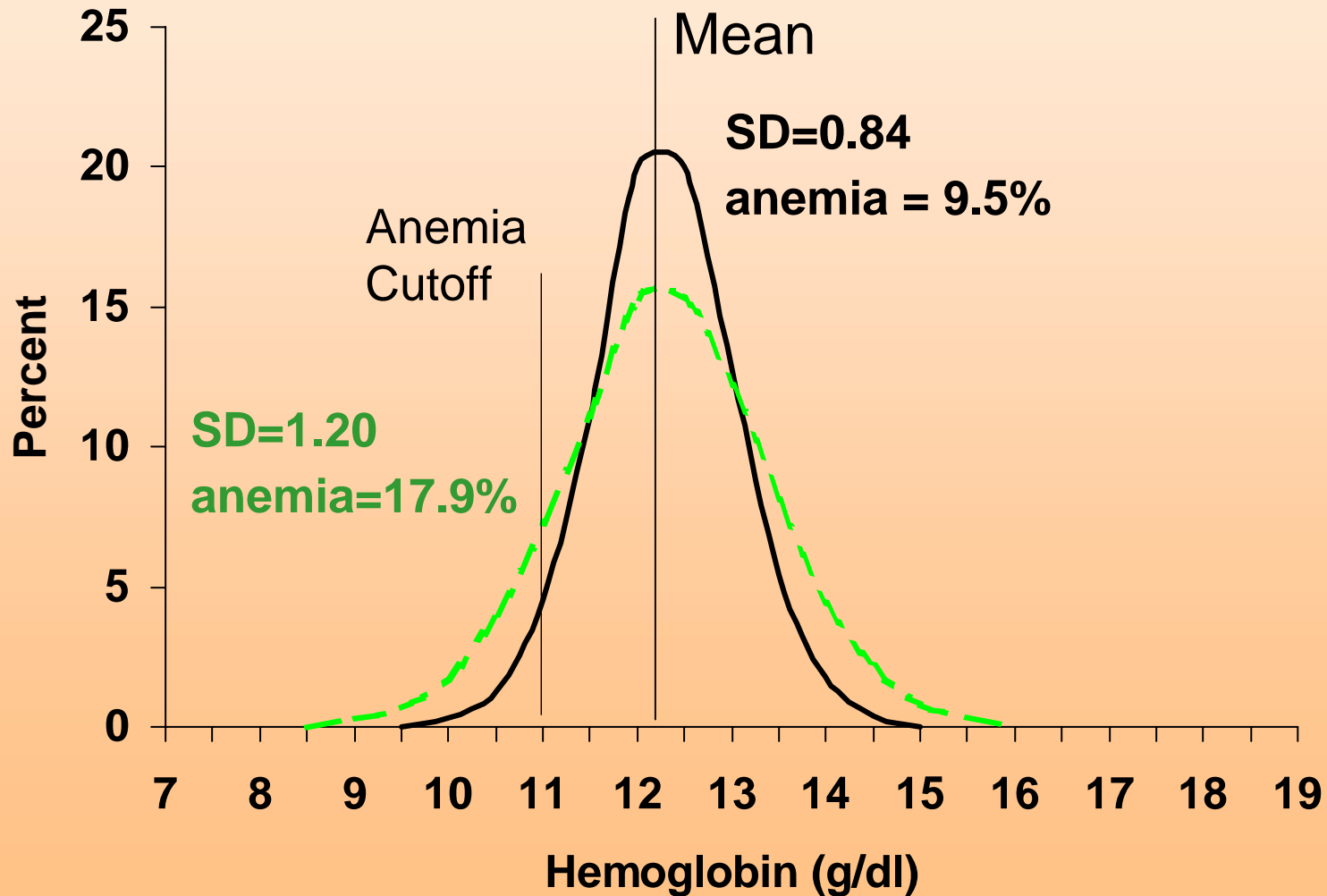
- More variability in Hb data from small (10 μ L) drop of capillary blood
- Lack of training protocols
- Lack of trainers
- Lack of data quality assessment indicator



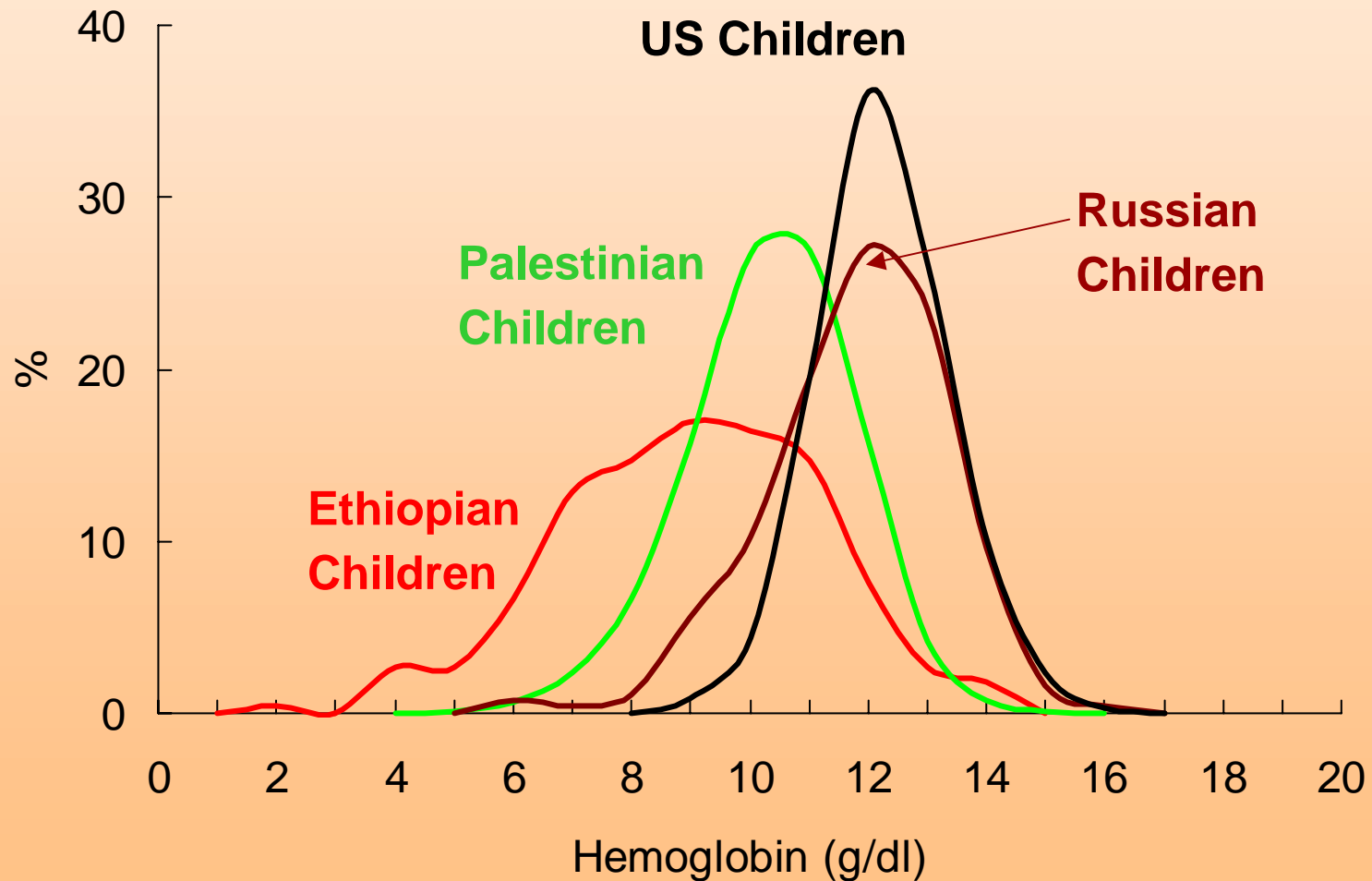
Impact of Training and/or Testing Procedures on Hb Results



How to Assess Hb Data Quality?



How to Assess Hb Data Quality?

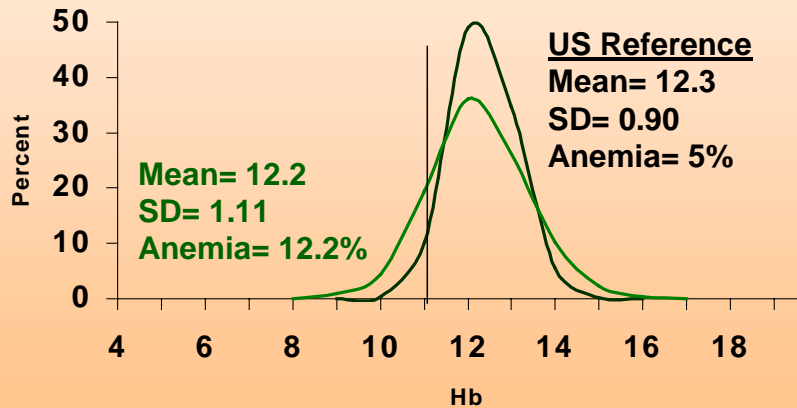


Source: WHO, 2001

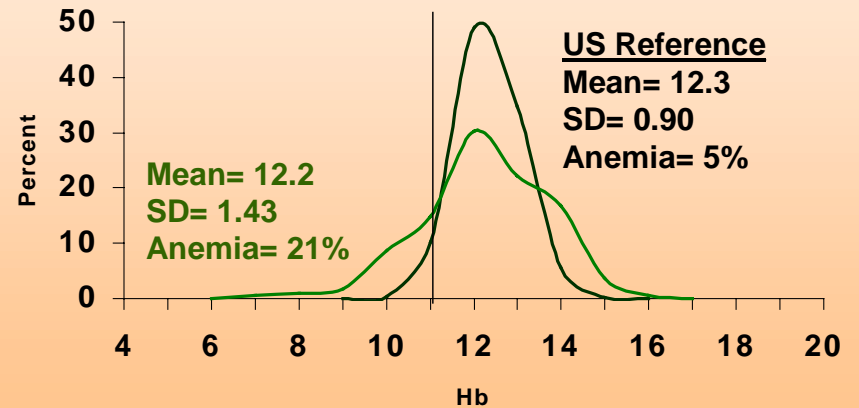


How to Assess Hb Data Quality?

Result 1



Result 2



To Improve Hb Assessment

- Develop standard training protocols and materials
 - e.g. use retractable lancets to ensure consistent punctures
- Use more than two testers per team and monitor inter-tester results
- Collect larger volume of capillary blood (e.g. in microtainer) to reduce variation in Hb distribution
- Agree on Hb data quality indicators

Disadvantages of Anemia as Assessment Tool

- Anemia – late indicator of iron deficiency; harm to children may already be done
- Impact of iron intervention may not impact Hb status because of other anemia risk factors

Questions?

- Why let available technology drive how we assess population iron status?
- Why not engage lab product developers to meet our technology needs?
- Why not support development/improvement of low-cost, field friendly technology to assess direct indicators of iron status (e.g. ZP, SF, TfR)?

Program Effectiveness Assessment

Need Process Indicators

- What should be minimum population coverage level for fortified baby foods?
- What should be minimum population coverage level for preventive supplement use?
- How long should coverage level be in place before “formal impact evaluation”?
- Could program coverage data be sufficient as indicators of iron deficiency elimination?