Research Update

- Signature and Emerging Areas
- Overview of Research Projects
- Results from Selected Projects

Signature and Emerging Areas

- Signature Areas
  - Forestry and the Environment
  - Marine Sciences
  - STEM Education (incl research), preschool through grad school
  - Climate Change
  - Advanced Materials for Infrastructure and Energy
  - College of Engineering
  - Honors College
- Emerging Areas
  - Graduate School of Biomedical Sciences and Engineering
  - Northeastern Americas: Humanities Research and Education
  - Data Science and Engineering
  - Sustainability Solutions and Technologies
  - Aging Research
  - Finance Education

CCIDS Research Projects by Funding and by Research Area

Early Childhood

- Child Care Professional Development Network (Maine DHHS) *Cobo-Lewis/Labas/USM*
- Quality for ME Revision (Maine DHHS) *Cobo-Lewis/Labas/USM*
- CLASS (US DHHS ACF) *Cobo-Lewis*
- Educare and Beyond (KVCAP) *Cobo-Lewis*
- Educare Followup (Buffett/UNC) *Cobo-Lewis*

Transition, Employment, Community Living, Health

- Transition of Youth with ASD (US DHHS NIH—under review) *Kurtz*
- Care Coordination (US DHHS HRSA—under review) *DDC/Kurtz*

Physical Disabilities

- AFARI (US DHHS NIH STTR, MTI) *RMB/Caccese/DePoy/Gilson*
- MOJO (UMS RRF Seed) *RMB/Caccese/DePoy/Gilson*
- HIP (UMS RRF Seed) *RMB/Caccese/DePoy/Gilson*
- Stigma (US DHHS NIH—under review) *DePoy/Gilson*
- Eco-Sno Co-design *DePoy/Gilson*

Computerized Assessment

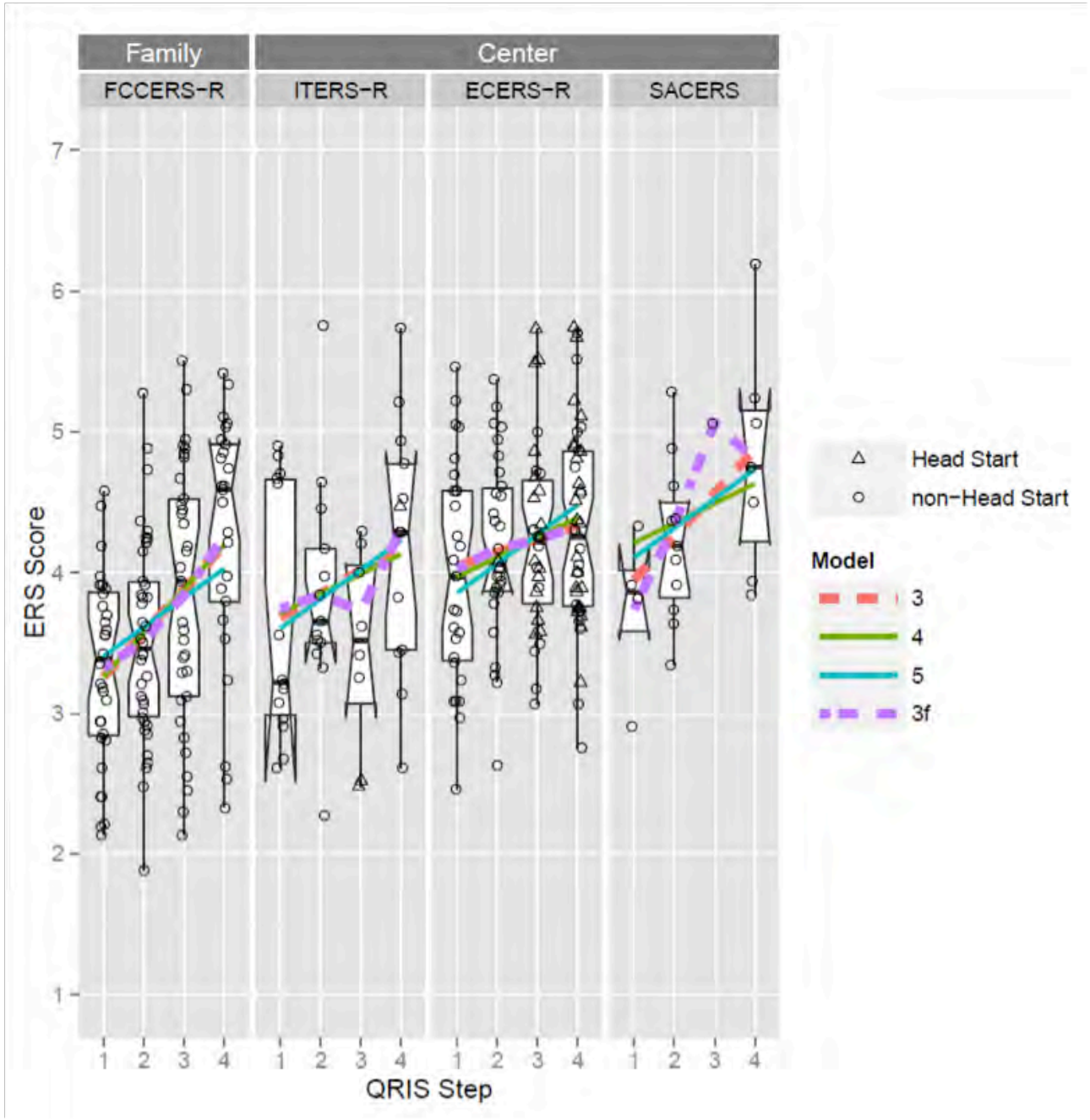
- Computerized Adaptive Bates-McArthur CDI
- Dementia Screen for Persons with DD *Cobo-Lewis/DDC*

Aging

Early Childhood

Project: Quality for ME Validation (Child Care Professional Development Network Project)

Result: For each type of provider, as QRIS Step goes up, Environment Rating Scale score goes up



Explanation of graphic on previous slide, “Early Childhood”

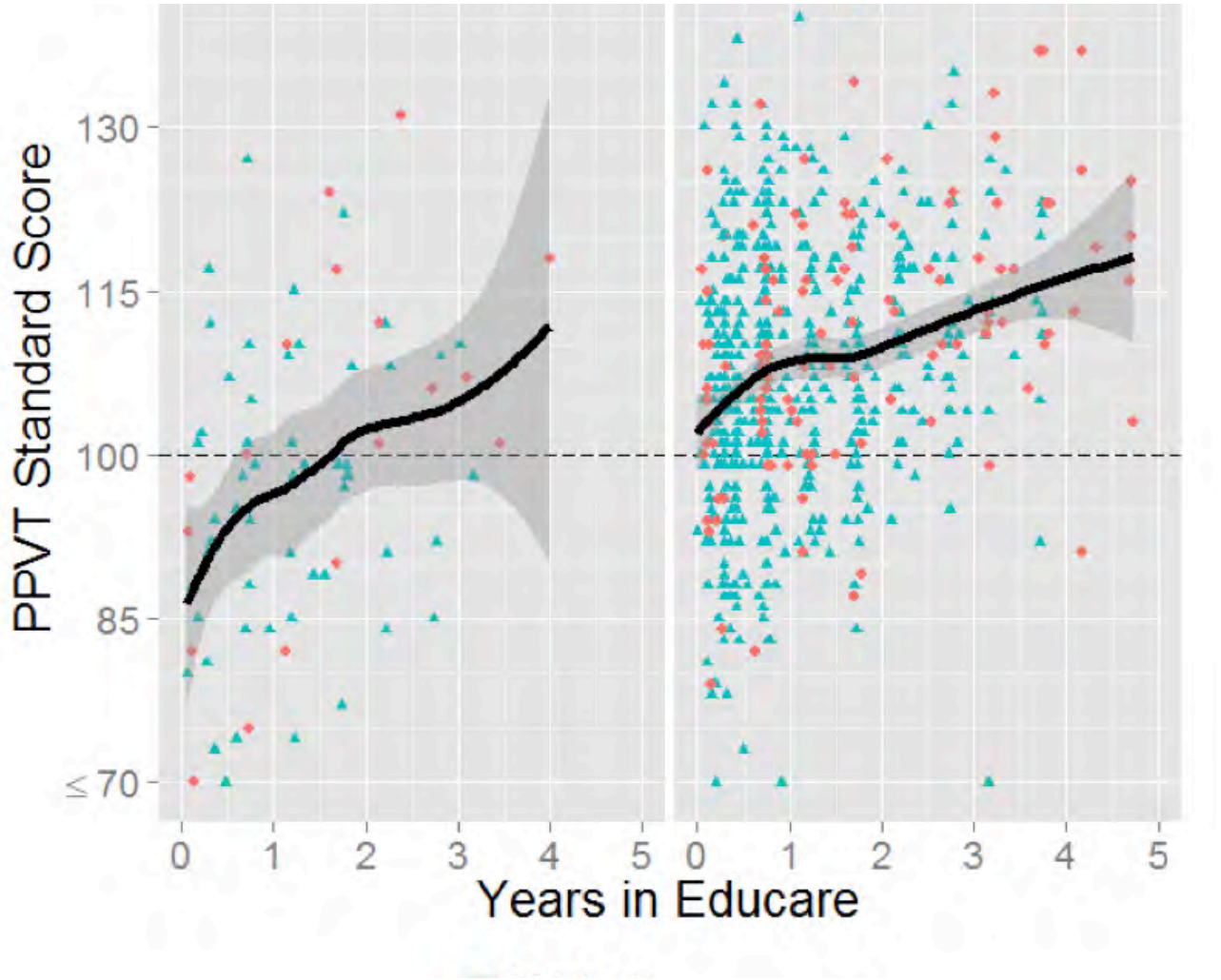
x axis shows quality rating (QRIS Step) for child care providers. y axis shows on-site quality rating (ERS Score) for child care providers. There are four panels: for family child care homes (FCCERS-R), infant-toddler classrooms in centers (ITERS-R), preschool classrooms in centers (ECERS-R), and school age classrooms in centers (SACERS). In each panel, ERS Score tends to go up as QRIS Step goes up.

Early Childhood (b)

Project: Educare and Beyond

Result: The more time children spend in Educare, the higher their Peabody Picture Vocabulary Test scores

Result: Children with disability plans (IFSP/IEP) gain at least as quickly as children without disability plans



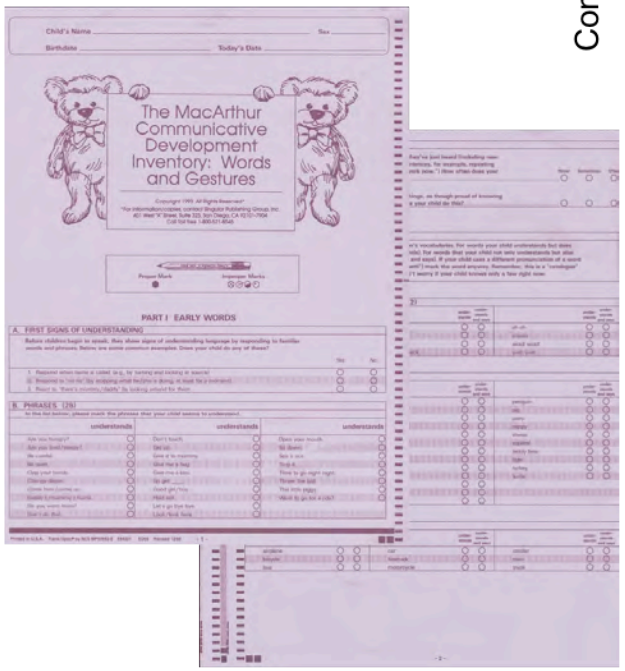
Explanation of graphics on previous slide, “Early Childhood (b)”

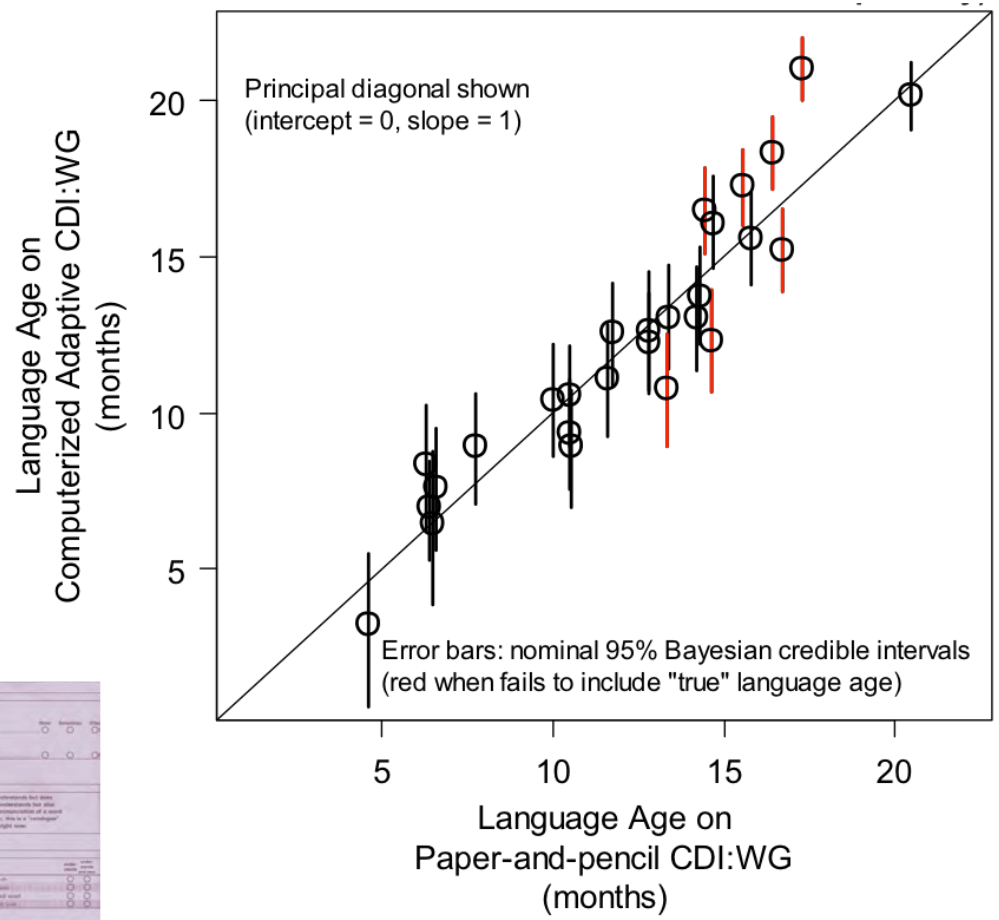
X axis shows Years of Educare for children at Educare Central Maine. Y axis shows children’s Peabody Picture Vocabulary Test score (“PPVT Standard Score”). There are two panels: for children with disability plan (“IFSP/IEP”), and for children without disability plan (“None”). In each panel, PPVT tends to go up as years in Educare goes up. Scores of children with disability plan tend to be lower, but increase at least ats steeply as they do for children without disability plan.

Computerized Assessment

Project: Bates-MacArthur Communicative Development Inventories

Result: We can assess an infant or toddler's "language age" in about 5 minutes from parent report, and it correlates well with a much longer parent report instrument.





Explanation of graphics on previous slide, “Computerized Assessment”

There is an image of the first two pages of a paper-and-pencil MacArthur Communicative Development Inventory: Words and Gestures.

The graph:

- X axis shows language age measured by a paper-and-pencil test. The y axis shows language age measured by computerized adaptive test. The two measurements of language age are highly correlated—as paper-and-pencil language age goes up, the computerized adaptive language age also goes up.

Computerized Assessment (b)

Project: Dementia Screener for Adults with Intellectual/ Developmental Disabilities

Aging Initiative

NTG-EDSD - page 3

[Check column option as appropriate]

	Always been the case	Always but worse	New symptom in past year	Does not apply
[19]Activities of Daily Living				
Needs help with washing and/or bathing				
Needs help with dressing				
Dresses inappropriately (e.g., back to front, incomplete, inadequately for weather)				
Undresses inappropriately (e.g., in public)				
Needs help eating (cutting food, mouthful amounts, choking)				
Needs help using the bathroom (finding, toileting)				
Incontinent (including occasional accidents)				
[20]Language & Communication				
Does not initiate conversation				
Does not find words				
Does not follow simple instructions				
Appears to get lost in middle of conversation				
Does not read				
Does not write (including printing own name)				
[21]Sleep-Wake Change Patterns				
Excessive sleep (sleeping more)				
Inadequate sleep (sleeping less)				
Wakes frequently at night				
Confused at night				
Sleeps during the day more than usual				
Wanders at night				
Wakes earlier than usual				
Sleeps later than usual				

Explanation of the previous slide, “Computerized Assessment (b)”

Example of items from page 3 of the National Task Group-Early Detection Screen for Dementia (NTG-EDSD). Includes several items from Activities of Daily Living, Language & communication, and Sleep-Wake Change Patterns For example, Activities of Daily Living includes items like, “Needs help with washing and/or bathing”. For each item, respondent checks “Always been the case”, “Always but worse”, “New symptom in past year”, or “Does not apply”.

Transition, Employment, Community Living, Health

- **Project:** Transition of Youth with ASD (Alan Kurtz's NIH application)
- **Project:** Care Coordination (DD Council's HRSA application, evaluation by Alan Kurtz)