Boston Children's Hospital
Until every child is well™

HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Care Integration for Children with Medical Complexity

Michael J. Bresnan
Child Neurology Course
Boston Children's Hospital

Richard Antonelli, MD, MS – Medical Director, Integrated Care
22 September, 2020

Disclosure

I have no conflicts to disclose.

Learning Objectives

Understand how to implement a framework of care integration
- Be able to adapt it for implementation in response to COVID19 pandemic

Gain confidence in advancing implementation of care integration with measurable high value outcomes, especially for vulnerable populations

Evidence

- Integration reduces waste associated with fragmentation in care delivery
- Inter-professional integration essential to reduce disparities due to Health Related Social Needs– housing, food, poverty, violence
- Behavioral Health– **Hint: Commonality between Adult and Child Care!!**
  - Substance Abuse and Dependence
  - Mental Health
  - Developmental Disabilities

Strategies to Achieve Health Equity

AJPH PERSPECTIVES

No Equity, No Triple Aim: Strategic Proposals to Advance Health Equity in a Volatile Policy Environment

Health professionals, including social workers, community health workers, public health workers, and licensed

Geoffrey W. Wilkinson, MSW, Alan Sager, PhD, Sara Selig, MD, MPH, Richard Antonelli, MD, Samantha Morton, JD, Gail Hirsch, MEd, Celeste Reid Lee, MEd, Abigail Ortiz, MSW, MPH, Durrell Fox, CHW, Monica Valdes Lupi, JD, MPH, Cecilia Acuff, MSW, and Madeline Wachman, MSW, MPH

Miguel

- 4 year old Hispanic boy; he and mother immigrated from Guatemala
  - Diagnosed-- asthma by PCP at 9 months
  - Referred for “poor attention”
  - ED visit 3 times in prior year for asthma
  - No assessment/ intervention for attention

- All care quality measures were met
  - Referrals made
  - Care Coordination measures require completing a loop

Innovation Begins by Identifying an Opportunity

Some of the most fragmented care we have measured occurs for patients with complex needs receiving care in academic medical centers.

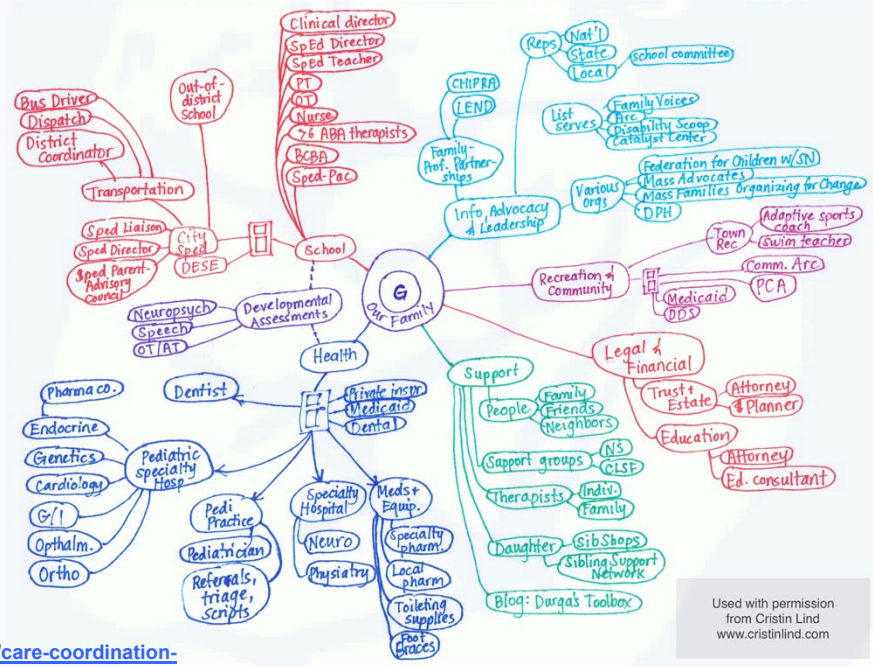
Why?

Form follows function

Playbook

- Articulate Vision
- Leverage Interprofessional Relationships and Existing Resources
- Measurement, Repeat, …..
- Value Optimization

One Family's Care Map



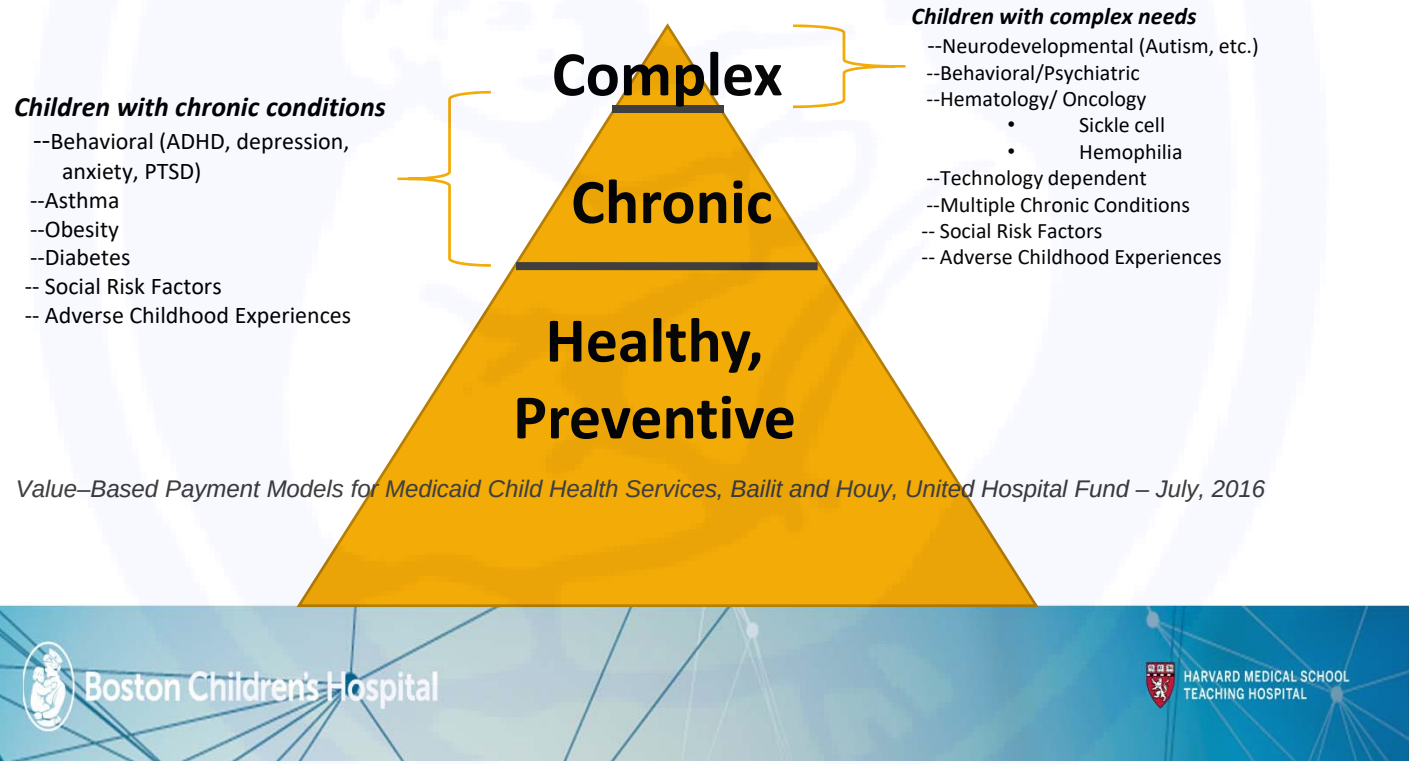
Used with permission from Cristin Lind www.cristinlind.com

www.childrenshospital.org/care-coordination-curriculum/care-mapping

Mind the gap

Matching Services to Complexity

Including Social, Medical, and Behavioral



Value–Based Payment Models for Medicaid Child Health Services, Bailit and Houy, United Hospital Fund – July, 2016

Current Activities

Care Integration Collaborations

- Neurology/Epilepsy (CP, Ketogenic Diet, Rett)
- Urology (Spina Bifida, Bladder Exstrophy)
- Medicine - GI/Nutrition (Aerodigestive, IBD, HPN, Enteral Tube, GNP)
- Adolescent Medicine – Hybrid Transition Model
- NICU GraDS Program
- Genetics
- Complex Care Service
- Community-Based Integrated Model for Weight Management– funded by New Balance Foundation

Primary Care Relationships

- Local and Regional Affiliations

External Relationships

- National Care Coordination Academy (HRSA funded)
- National Center Care Coordination Technical Assistance (HRSA funded)
  - CHOP, Cincinnati Children's, Nationwide, many others
- Global Partnerships
  - Australia, Chile, Canada, Germany, France
- Visiting International Fellow in Integrated Care

Measure What Matters

Domains of Integrated Care

Care Coordination

- Care Coordination Measurement Tool (CCMT)
- High Quality Handoffs: Clinician Reason for BCH Visit and Action Grid
- Inter-professional Education: Care Coordination Curriculum and Integrated Care Bootcamp

Person, Patient, Family, Caregiver Experience

- Pediatric Integrated Care Survey (PICS)

Provider Experience

- PCP Experience of Care Integration Survey

Utilization and Financial Outcomes

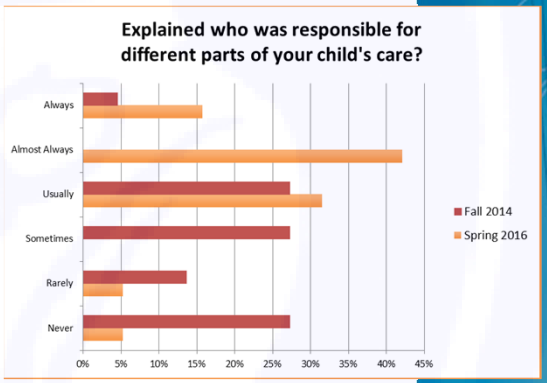
- Total Medical Expense (as relevant and available)
- Admissions, Readmissions, Emergency Department Utilization

Pediatric Integrated Care Survey

PICS

Five Core Domains

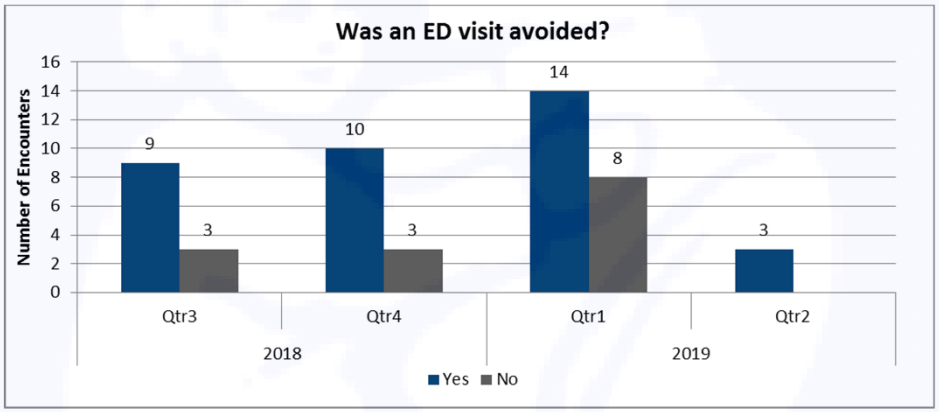
- Access to Care
- Communication with Care Team
- Family Impact
- Care Goal Creation/ Planning
- Team Functioning/Quality



Validated assessment of the family's experience of integration across the care team: medical, behavioral, social, educational, and family support

Improving Care and Decreasing Cost

Measuring outcomes of the BCH Urgent Epilepsy Clinic with the CCMT



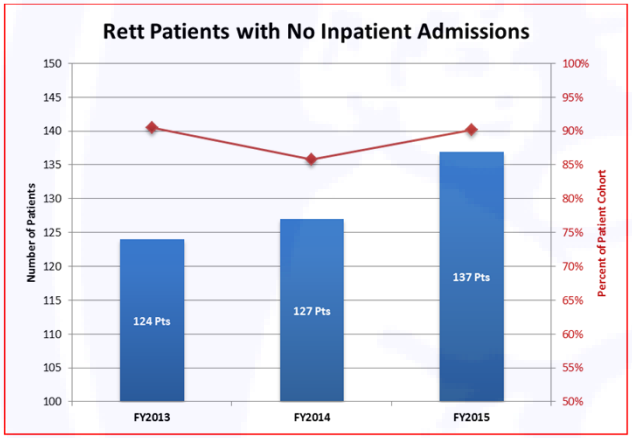
Based on documentation of 50 encounters by Neurology staff conducted from July 2018 through April 2019 as part of the DSRIP project work. ED visit was avoided 72% of the time. Courtesy of Phillip Pearl, MD

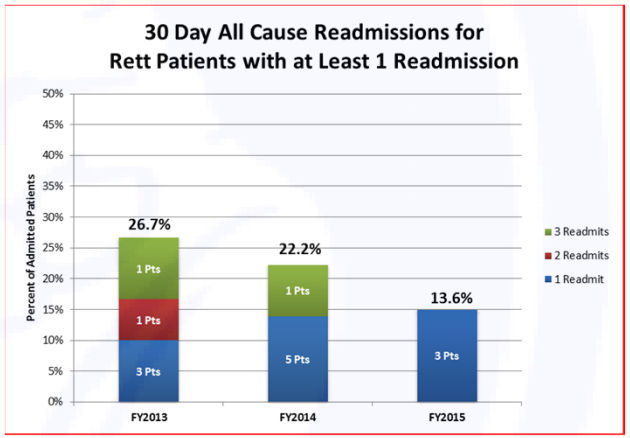
15

Boston Children's Hospital

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

BCH Rett Syndrome Clinic



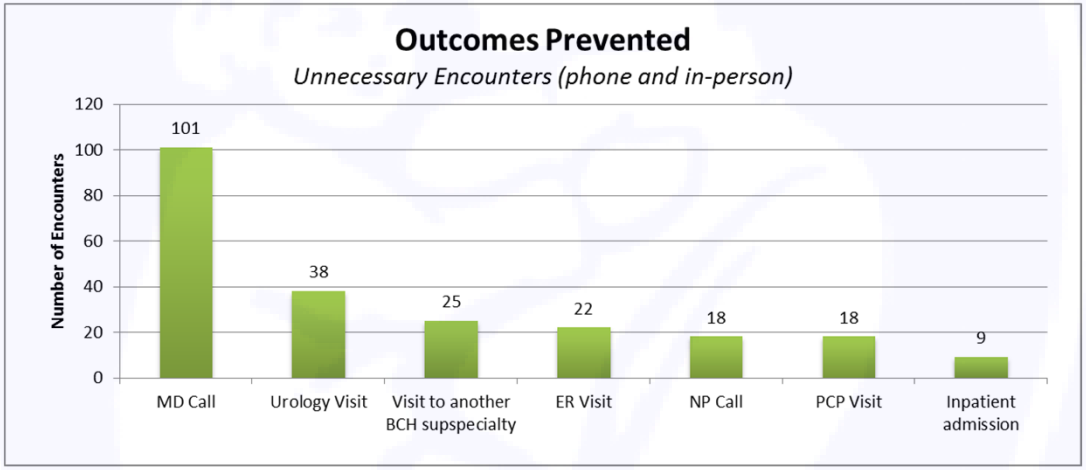


Courtesy of David Lieberman, MD, PhD

16

Quantifying the Value of Care Coordination

Use of the CCMT Instrument BCH Dept. of Urology



Based on documentation of 577 encounters by Urology staff across the Spina Bifida, Stone, and Bladder Exstrophy Clinics conducted from August 2018 through April 2019 as part of the DSRIP project work. Courtesy Rebecca Sherlock, NP, Rosemary Grant, RN

Results – Primary Care Perspective

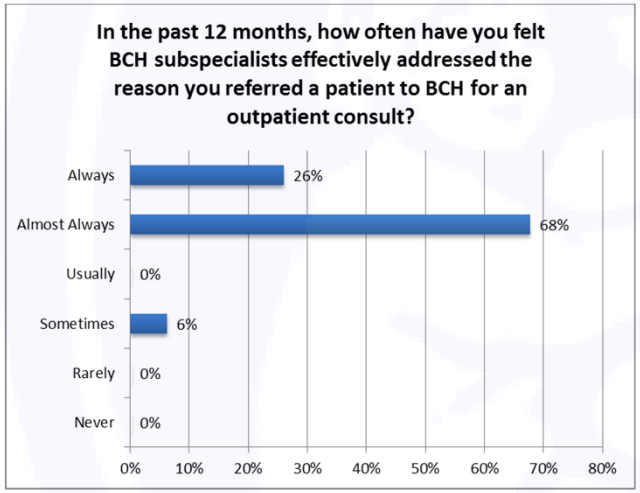
Atrius Health– Community-based provider organization

- Reductions in ED utilization, hospital admissions, and overall total medical expense
  - Sustained beyond 3 years
- Aim to keep care in highest value setting
  - Primary Care

Achieving High Value Outcomes: Care Integration at Atrius Health Pediatrics, Slater, D, Dvorkis, Y, Antonelli, R, Pediatric Academic Societies meeting, 2019.

PCP Experience of Care Integration

Connection with BCH Subspecialist



Data represents 96 responses collected between 12/5/2017 and 2/22/2018 from referring providers associated with BCH's key integration partners.

19

Boston Children's Hospital
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Tool to Integrate Care: Action Grid

Goal What is action contributing to?	Action What needs to be completed?	Who Who is responsible for completing action?	When What is the timeline that the action needs to be completed?	Contingency If there is an issue or barrier, what are next steps?
Complete necessary genetic testing	Lab orders will be placed for ### Test	Genetics - Dr. Bodamer	One month	Parents should contact Dr. Bodamer's office (123-456-7890) if unable to complete testing within one-month's time
Maintain stable blood sugar	Test blood sugar 3 times per day and control with small, frequent meals	Parents, with guidance from Endocrinology and Nutritionist	Daily, beginning immediately and to continue until reassessed at next Endocrinology appointment	Blood sugars between XXX and XXX should be reported to Dr. Example's office (123-456-7890). If a sugar is over XXX, parents will bring patient to the nearest Emergency Department
Take medication for epilepsy as prescribed	Order for medication will be sent to Longwood Galleria	Neurology, with follow up phone call by Nurse Jane Doe	RX to be started no later than 3/7/2020 and should continue until next appointment unless otherwise noted	Please call Nurse Jane Doe if any problems arise with the prescription at 123-456-7890
IEP documentation request will be updated with school system	Required school documentation and phone call to Teacher Smith	Neuropsychology and Teacher	Two weeks from most recent visit: XX/XX/XXXX	Teacher Smith should contact patient's parents with any noticeable adverse changes in behavior or understanding

Courtesy of Olaf Bodamer, MD, PhD

Don’t Let a Crisis Go to Waste

Our goal - Prove that virtual care is ***added value*** for:

- Patients/ families
- Clinicians
- Payers/ Policy makers
- Advocates

Characteristics of patients who benefit the most from virtual care

- Access issues (e.g., transportation)
- Behavioral health needs
- Care management for patients with complex needs whose services are coordinated within a Care Plan/ Action Grid

Boston Children's Hospital
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

21

Value Capture Measurement Tools

Goals and Differences

Care Coordination Measurement Tool (CCMT)

- Captures activities during the "space" between encounters to coordinate care
- Implemented across BCH clinics (14 implementations and counting…)
- Quantifies value of care coordination activities (generally non-billable)
- REDCap link to survey in PowerChart
- Highly adaptable to clinic needs

Care Management Measurement Tool (CMMT)

- Captures activities and processes of the clinic encounter
- New survey instrument adapted from the CCMT
- Quantifies value of care management (i.e. telemedicine, phone, etc)
- REDCap link to survey in PowerChart
- Adaptable, with a standard template

22

CMMT: key outcomes of virtual care

14. As a result of this encounter, the following *occurred* (choose ALL that apply)

- ❑ Affirmed existing plan of care (no changes made)
- ❑ Progressed to the next step in the existing plan of care (i.e. due to a change in clinical status or lab results, etc.)
- ❑ Developed a new plan of care
- ❑ Conducted health literacy education
- ❑ Provided guidance or family support for behavioral or psychosocial needs
- ❑ Reconciled medication discrepancies
- ❑ Reconciled or addressed other discrepancies (e.g. miscommunications, adherence to plan of care, missing data)
- ❑ Referred back to PCP for ongoing management of care
- ❑ Assessed for adequacy of supplies
- ❑ Ordered medical supplies
- ❑ Provided/refilled prescriptions
- ❑ Assessed the home environment
- ❑ Assessed for the appropriate use of durable medical equipment
- ❑ Counseled on COVID-19 risk reduction strategies or advice given the patient's presenting condition
- ❑ Managed care due to a disruption in receiving care services due to the COVID-19 pandemic
- ❑ Managed care for a patient with suspected or confirmed COVID-19 infection
- ❑ Some needs could not be addressed
- ❑ Other_____

Boston Children's Hospital

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

23

CMMT: COVID-19 related questions….

10. Would this encounter have typically occurred as an in person encounter prior to COVID-19 social distancing restrictions?

- ❑ Yes
- ❑ No

15. Compared to an in-person encounter, please rate your opinion on the level of difficulty or ease with which you provided care management services to the patient and/or family?

- ❑ 1 – Significantly more difficult
- ❑ 2 – More difficult
- ❑ 3 – The same
- ❑ 4 – Easier
- ❑ 5 – Significantly easier

16. Please describe what made the visit easier or more difficult? (optional)

[Free Text]

Boston Children's Hospital
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

24

Spreading Care Integration: US

1) BCH Child Neurology Training Program

Curriculum Development in collaboration with Dr. Bernson-Leung

Care Integration and Interprofessional Education

2) Health Resources and Services Administration (HRSA)/ Maternal and Child Health Bureau funded National Care Coordination Academy

3) HRSA funded Award to develop policy recommendations for use of virtual care to improve outcomes for children, youth, young adults with complex needs, especially NDD/ autism

Spreading Care Integration: Global

Calgary: Children with Autism

- Families reported improved communication across care team, including school
- Decreased ED and in-patient care
- Fewer behavioral issues for children
- Improved child function at home and school

Courtesy V. Nadine Gall, MSc., Manager, NeuroDevelopmental Disorders
Integrated Brain Health Initiative, Child Development Services Alberta
Children's Hospital

Validation of a Spanish version of a Parent-Reported Experience Measure of Integrated Care

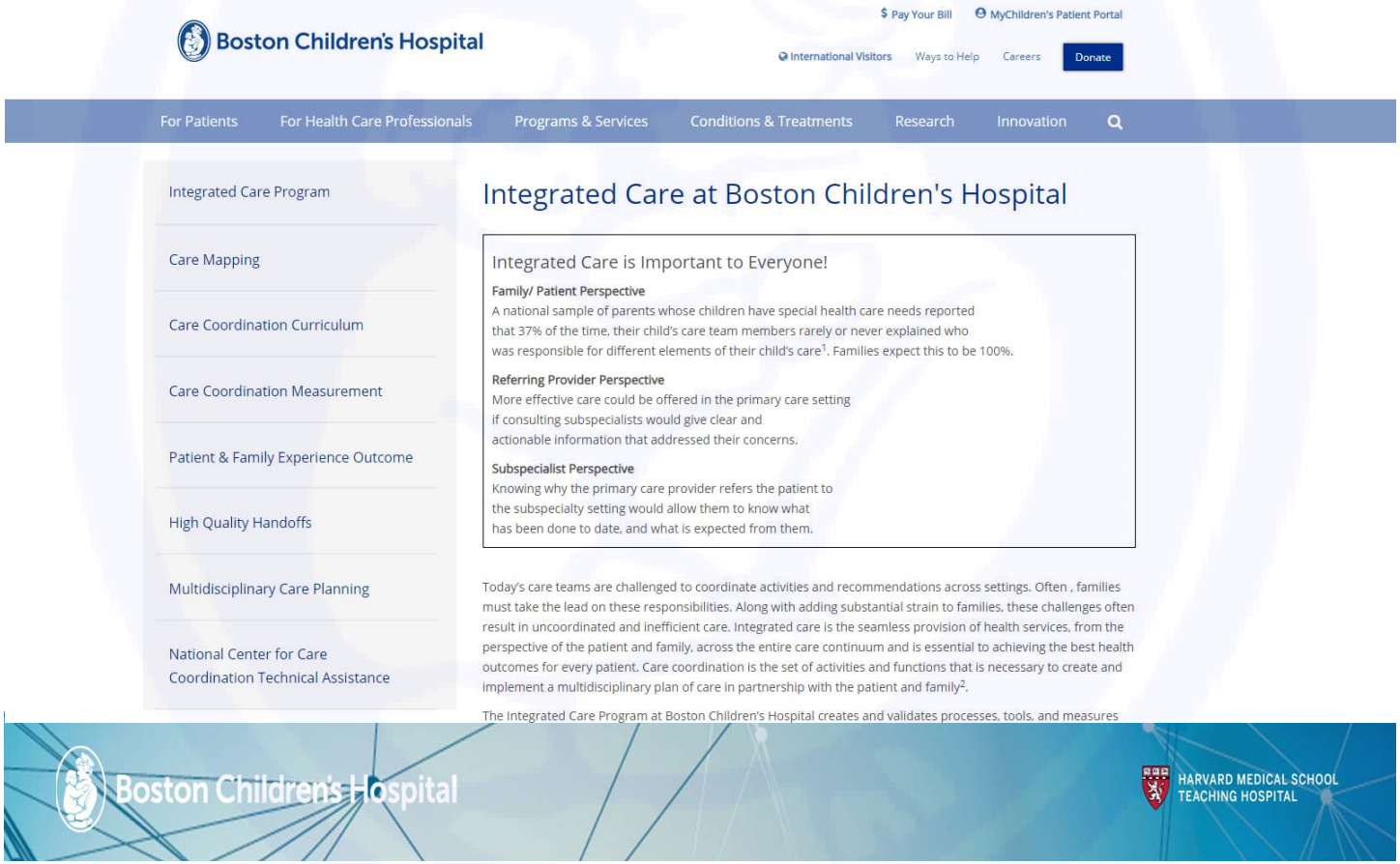
Collaborators: Juan Carlos Flores[1], Sonja Ziniel[2], Richard Antonellil[3], Maria A. Paul[1], Marta Smith[4], Fernando Gonzalez[5]

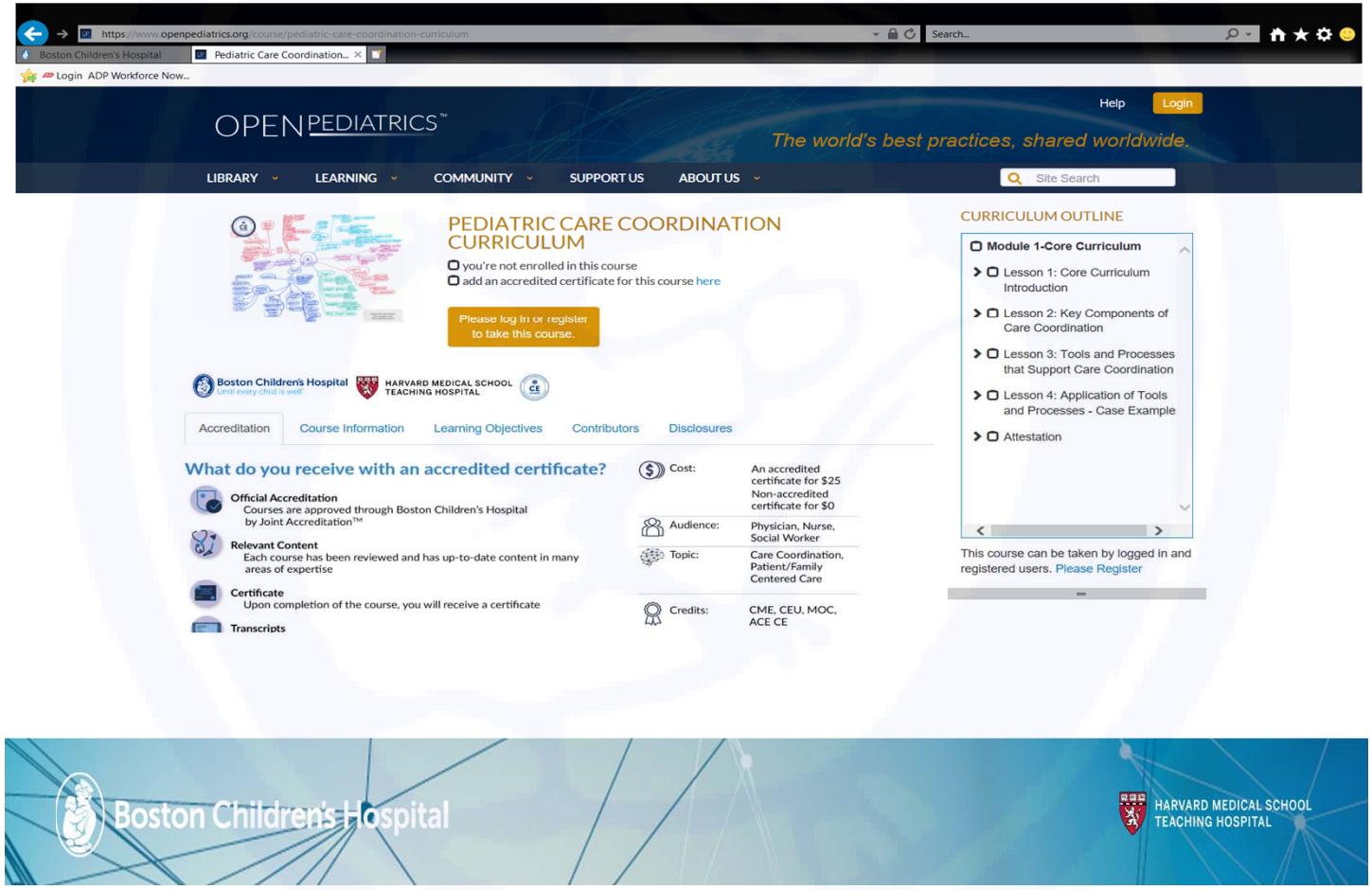
Division of Pediatrics, Pontificia Universidad Católica de Chile; 2. University of Colorado Denver - Anschutz Medical Campus, United States; 3. Integrated Care, Harvard Medical School, Boston, MA; Faculty of Medicine, Universidad del Desarrollo, Santiago, Chile; 5. Hospital Exequiel Gonzalez Cortes, Santiago, Chile

- General: Validation of a Spanish version of the Parent-Reported Experience Measure of Integrated Care (PICS).
- Specific:
- Psychometrically validate the Spanish version of the PICS, in a sample of Chilean parents of children and youth with special health care needs (CYSHCN).
- Describe measures of care integration among 3 different programs taking care of CYSHCN, in different settings of the healthcare system in Chile: public and private.
- Identify factors associated with care integration among a sample of families of CYSHCN and varying degrees of healthcare utilization.

Boston Children's Hospital

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL




https://www.openpediatrics.org/course/pediatric-care-coordination-curriculum
Search...
Boston Children's Hospital
Pediatric Care Coordination...
Login ADP Workforce Now...
OPEN PEDIATRICS
Help
Login
The world's best practices, shared worldwide.
LIBRARY
LEARNING
COMMUNITY
SUPPORT US
ABOUT US
Site Search
PEDIATRIC CARE COORDINATION CURRICULUM
you're not enrolled in this course
add an accredited certificate for this course here
Please log in or register to take this course.
Boston Children's Hospital
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL
Accreditation
Course Information
Learning Objectives
Contributors
Disclosures
What do you receive with an accredited certificate?
Official Accreditation
Courses are approved through Boston Children's Hospital by Joint Accreditation™
Relevant Content
Each course has been reviewed and has up-to-date content in many areas of expertise
Certificate
Upon completion of the course, you will receive a certificate
Transcripts
Cost:
An accredited certificate for $25
Non-accredited certificate for $0
Audience:
Physician, Nurse, Social Worker
Topic:
Care Coordination, Patient/Family Centered Care
Credits:
CME, CEU, MOC, ACE CE
CURRICULUM OUTLINE
Module 1-Core Curriculum
Lesson 1: Core Curriculum Introduction
Lesson 2: Key Components of Care Coordination
Lesson 3: Tools and Processes that Support Care Coordination
Lesson 4: Application of Tools and Processes - Case Example
Attestation
This course can be taken by logged in and registered users. Please Register

Boston Children's Hospital
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

So…What can we do right now?

- Persist with Compelling, Civil, Global Advocacy
  - Bring Data!
- Build Capacity of Families and Work Force
  - Inter-professional education
- Implement Measures of Integration, CC, and Value
  - Assess equity by stratification while specific measures being developed
- Form alliances across disciplines, sectors
- Leverage Adult Priorities for Maternal and Child Health
  - Integrated Behavioral Health
  - SDoH

Select References

- **Validation of a Parent-Reported Experience Measure of Integrated Care,** Ziniel, S, Rosenberg, H, Bach, A, Singer, S, Antonelli, R, Pediatrics, December, 2016.
- **Making Care Coordination a Critical Component of the Pediatric Health System: A Multidisciplinary Framework**. Antonelli R, McAllister J, Popp J.. The Commonwealth Fund. May, 2009.
- **MA Child Health Quality Coalition Care Coordination Framework.** *Funded by the Centers for Medicare and Medicaid Services (CMS) through grant funds issued pursuant to CHIPRA section 401(d)*. Contact: grogers@mhqp.org www.masschildhealthquality.org/work/care-coordination/
- **AAP Policy Statement: Patient- and Family-Centered Care Coordination:** A Framework for Integrating Care For Children and Youth Across Multiple Systems. *Pediatrics*. May 2014.
- **AHRQ Care Coordination Atlas** (McDonald Nov 2010, June 2014) and companion document Care Coordination Accountability Measures for Primary Care (McDonald Jan 2012).
- **Care Coordination Measurement Tool (CCMT).** Care Coordination for Children and Youth with Special Health Care Needs: A Descriptive, Multisite Study of Activities, Personnel Costs, and Outcomes. Antonelli RC, Stille CJ, Antonelli DM. *Pediatrics* 2008; Providing a Medical Home : The Cost of Care Coordination Services in a Community-Based, General Pediatric Practice. Antonelli RC, Antonelli DM. *Pediatrics* 2004. www.childrenshospital.org/care-coordination-curriculum/care-coordination-measurement
- **Care Coordination Curriculum and Care Mapping Tool User Guides:** Antonelli, Browning, Hackett-Hunter, McAllister, Risko; Lind. Boston Children's Hospital; funded thru Family Voices/MCHB HRSA grant. 2012. www.childrenshospital.org/care-coordination-curriculum
- **Continuity and Coordination of Care: a practice brief to support implementation of the WHO framework on integrated people-centered health services.Geneva:World Health Organization, 2018. Licence CC-BY-NC-SA 3.0 IGO.**

Contact

Richard Antonelli, MD, MS
richard.antonelli@childrens.Harvard.edu

Medical Director of Integrated Care
Department of Accountable Care and Clinical Integration
And
Division of General Pediatrics
Boston Children's Hospital
Harvard Medical School