Guest Intervention

Using frameworks to measure and promote integrated care: key learning from innovation in the USA

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Boston, USA
Care Coordination

Care Coordination is the set of activities in “the space between”- Visits, Providers, Hospital Stays


Integrated Care

seamless provision of health care services, from the perspective of the patient and family, across entire care continuum.

It results from coordinating the efforts of all providers, irrespective of institutional, departmental, or community-based organizational boundaries.

Antonelli, *Care Integration for Children with Special Health Needs: Improving Outcomes and Managing Costs.*

*National Governors Association Center for Best Practices, 2012*
Dimensions of Care Integration

Align with “Triple Aim”—Better Health, Better Care, Less Cost Per Capita

• Patient and Family Experience

• Care Coordination
  o Closing the Loop
  o High Quality Handoffs
  o Care Tracking
  o Care Planning

• Utilization and Financial Outcomes

• Provider Experience
## Framework for High Performing Pediatric CC

### Care Coordination Competencies:

1. Develops partnerships
2. Proficient communicator
3. Uses assessments for intervention
4. Facile in care planning skills (PFC)
5. Integrates all resource knowledge
6. Possesses goal/outcome orientation
7. Approach is adaptable & flexible
8. Desires continuous learning
9. Applies solid team/building skills
10. Adept with information technology

### Care Coordination Functions:

1. Provide separate visits & CC interactions
2. Manage continuous communications
3. Complete/analyze assessments
4. Develop care plans (with family)
5. Manage/track tests, referrals, & outcomes
6. Coach patient/family skills learning
7. Integrate critical care information
8. Support/facilitate all care transitions
9. Facilitate PFC team meetings
10. Use health information technology for CC

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Antonelli, McAllister, Popp, The Commonwealth Fund, 2009
Evolving the Care Model to Achieve Triple Aim—Variations on Medical Home Theme

Specialist or PCP comfortable with high risk patients as the medical home. Patient's specialists highly connected and identified patient coordinator supports the patient and/or family.

PCP as the medical home and specialist visits as needed. Most care coordination is conducted by the patient and/or family.

PCP as the medical home + the patient’s specialists. PCP care team support care coordination with the patient and/or family.
Matching Services to Complexity

**Children with complex needs**
- Neurodevelopmental (Autism, etc.)
- Behavioral/Psychiatric
- Hematology/Oncology
  - Sickle cell
  - Hemophilia
- Technology dependent

**Children with chronic conditions**
- Behavioral (ADHD, depression, anxiety, PTSD)
- Asthma
- Obesity
- Diabetes

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HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL
Pediatric Integrated Care Survey (PICS)

- Family reported measure to inform Quality Improvement/interventions

- The PICS is:
  - 19 validated experience questions + health care status/utilization & demographic questions
  - Supplementary and topic specific modules
  - Spanish version is available

- Development funded by Lucile Packard Foundation for Children’s Health

- Contact: Hannah.Rosenberg@childrens.harvard.edu
Pediatric Integrated Care Survey (PICS)

Integrated Care
“Holistic Care”

- Team-Based Care
  - Team Configuration
  - Communication
  - Knowledge Sharing

- Connection to Life/Community (Connecting Medical Care and Other)
  - Information
  - Family Impact

- Future (Care Planning)
  - Long-Term Plan/Roadmap
  - Goals

Authentic Outcome Measure of Patient/Family Experience

Funded by Lucile Packard Foundation for Children’s Health
CTM = Care Team Member

CTMs considered "big picture"
- 2nd Top-Box: 44.5
- Top-Box: 22.4

CTMs followed through on responsibilities
- 2nd Top-Box: 32.5
- Top-Box: 36.5

CTMs aware of tests and evaluations
- 2nd Top-Box: 20
- Top-Box: 27.1

CTMs assigned and explained responsibility
- 2nd Top-Box: 18.2
- Top-Box: 16.2

CTMs knew about advice from other CTMs
- 2nd Top-Box: 19.6
- Top-Box: 19.2
Elements of a High Quality Information Exchange

Occur Many Times and in Multitude of Settings

• Purpose of the referral request from the view of PCP or other entity. Family engaged in process of referral choice and goal setting

• Relevant information received by community organization or specialist, including clinical, behavioral/ social risk factors

• Management relationship specified (eg, limited number of consults, continued co-management, etc.)

• Care planning across team members
"Quadruple Aim"

Primary Care Provider Experience with High Quality Handoffs

![Bar Chart](image1.png)
Subspecialist sufficiently addressed the concerns and questions that I and/or my care team raised prior to the patient’s visit to the subspecialist.

![Bar Chart](image2.png)
Subspecialist clearly communicated to me the information that I needed to know about the patient’s treatment plan.

![Bar Chart](image3.png)
My team was able to efficiently incorporate the information provided from the subspecialist into the patient’s plan of care.

![Bar Chart](image4.png)
This handoff was valuable for improving the patient’s care.
Closing the Loop: Consultation Orders

**Performance on Consult Orders**

- **Number of Consults**
  - FY2015: Jun - 16, Jul - 24, Aug - 24, Sep - 17, Oct - 14, Nov - 0, Dec - 1, Jan - 0
  - FY2016: Jun - 16, Jul - 24, Aug - 16, Sep - 24, Oct - 17, Nov - 14, Dec - 2, Jan - 0

- **Percent of Consults Completed**
  - FY2015: Jun - 0%, Jul - 10%, Aug - 15%, Sep - 20%, Oct - 25%, Nov - 30%, Dec - 35%, Jan - 40%
  - FY2016: Jun - 0%, Jul - 10%, Aug - 20%, Sep - 30%, Oct - 40%, Nov - 50%, Dec - 60%, Jan - 70%

**Communication of Consult Notes to PCP and Ordering Provider**

- **Communicated to PCP**
  - FY2015: Jun - 10%, Jul - 20%, Aug - 30%, Sep - 40%, Oct - 50%, Nov - 60%, Dec - 70%, Jan - 80%
  - FY2016: Jun - 10%, Jul - 20%, Aug - 30%, Sep - 40%, Oct - 50%, Nov - 60%, Dec - 70%, Jan - 80%

- **Communicated to Ordering Provider**
  - FY2015: Jun - 0%, Jul - 10%, Aug - 20%, Sep - 30%, Oct - 40%, Nov - 50%, Dec - 60%, Jan - 70%
  - FY2016: Jun - 0%, Jul - 10%, Aug - 20%, Sep - 30%, Oct - 40%, Nov - 50%, Dec - 60%, Jan - 70%

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Measure What Matters

Care Coordination Measurement Tool (CCMT)

• Captures Value of CC activities— For Both QI and Business Planning
  o Supports efforts of all disciplines doing CC
  o Identify Gaps and Redundancies in Care (eg, vulnerable and underserved populations)
  o Rationalization of workforce education and deployment-- functioning at “top of license or scope”
  o More accurate reflection of true cost of care— enables sustainability of move from reactive to proactive care; fee-for-service to value-based care delivery

• Adapted to capture activities/ outcomes in diverse settings (adult, child)
  o Community Health Workers
  o Social Workers
  o Primary Care
  o Subspecialty Care (behavioral, surgical, medical)
  o Home Care
  o Families

• Located on BCH website: http://www.childrenshospital.org/care-coordination-curriculum/care-coordination-measurement
<table>
<thead>
<tr>
<th>Date</th>
<th>Patient Study Code And Age</th>
<th>Patient Level</th>
<th>Focus</th>
<th>Care Coordination Needs</th>
<th>Activity Code(s)</th>
<th>Outcome(s) Prevented Occurred</th>
<th>Time Spent*</th>
<th>Staff</th>
<th>Clinical Comp.</th>
<th>Initials</th>
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**Patient Level**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tr>
<td>I</td>
<td>Non-CSHCN, Without Complicating Family or Social Issues</td>
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<tr>
<td>II</td>
<td>Non-CSHCN, With Complicating Family or Social Issues</td>
</tr>
<tr>
<td>III</td>
<td>CSHCN, Without Complicating Family or Social Issues</td>
</tr>
<tr>
<td>IV</td>
<td>CSHCN, With Complicating Family or Social Issues</td>
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**Care Coordination Needs**

1. Make Appointments
2. Follow-Up Referrals
3. Order Prescriptions, Supplies, Services, etc.
4. Reconcile Discrepancies
5. Coordination Services (schools, agencies, payers, etc.)

**Activity to Fulfill Needs**

1. Telephone discussion with:
   - Patient
   - Hospital/Clinic
   - Parent/family
   - School
   - Voc. / training
   - Agency
   - Pharmacy
2. Electronic (E-Mail) Contact with:
   - Patient
   - Hospital/Clinic
   - Parent/family
   - School
   - Voc. / training
   - Agency
   - Pharmacy
3. Contact with Consultant
   - Telephone
   - Letter
   - Meeting
   - E-Mail
4. Form Processing: (eg. school, camp, or complex record release)
5. Confer with Primary Care Physician
6. Written Report to Agency: (eg. SSI)
7. Written Communication
   - E-Mail
   - Letter
8. Chart Review
9. Patient-focused Research
10. Contact with Home Care Personnel
11. Develop/Modify Written Care Plan
12. Meeting/Care Conference

**Outcome(s)**

As a result of this care coordination activity, the following was PREVENTED (choose ONLY ONE, if applicable):
- 1a. ER visit
- 1b. Subspecialist visit
- 1c. Hospitalization
- 1d. Visit to Pediatric Office/Clinic
- 1e. Lab / X-ray
- 1f. Specialized Therapies (PT, OT, etc.)

As a result of this care coordination activity, the following OCCURRED (choose all that apply):
- 2a. Advised family/patient on home management
- 2b. Referral to ER
- 2c. Referral to subspecialist
- 2d. Referral for hospitalization
- 2e. Referral for pediatric sick office visit
- 2f. Referral to lab / X-ray
- 2g. Referral to community agency
- 2h. Referral to Specialized Therapies
- 2i. Ordered prescription, equipment, disposables, taxi, etc.
- 2j. Reconciled discrepancies (including missing data, miscommunications, compliance issues)
- 2k. Reviewed labs, specialist reports, IEP's, etc.
- 2l. Advocacy for family/patient
- 2m. Met family's immediate needs, questions, concerns
- 2n. Unmet needs (PLEASE SPECIFY)
- 2o. Not Applicable / Don't Know
- 2p. Outcome Pending

Supported by grant HRSA-02-MCHB-35A-AB

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Data represents care coordination encounters for patients with enteral tubes
216 encounters were recorded by RNs over a 4 week period

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Department of Gastroenterology CCMT

- Prescriptions/supplies ordered
- Advised family on home management
- Confer with provider (specialist)
- Advocated for patient/family
- Scheduled clinic visit
- Education/anticipatory guidance
- Reconciled discrepancies
- Developed/modified clinical plan

Outcomes Occurred

- Care Coordination Needs
  - Clinical Management: 66%
  - Ordered Prescriptions/ Supplies/ Services: 47%
  - Education: 20%
  - Make Appointments: 10%
  - Coordination of Services (Schools, Agencies, Payers): 9%
  - Reconcile Discrepancies: 7%

- Outcomes Prevented
  - Supply Problem
  - ED visit
  - MD Phone Call
  - Urgent Clinic Visit
  - Specialist/Clinic Visit
  - PCP Visit
  - Hospitalization

Outcomes Prevented

- Percent of Encounters
- Outcomes Occurred
- Percent of Encounters

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- TEACHING HOSPITAL
What About Cost Outcomes?

- Integrated Care Model for Patients with Complex Multisystem Needs
- Reduced Expense by 10%, primarily by shifting in-patient to ambulatory care
- Reduced 30 day, all cause readmissions from 22% to 13%
- Reduced ED usage
Engaging the Next Generation of Providers

BCH Neurology Training Program
• 62 clinical faculty members
• 15 child neurology residents, 4 Neurodevelopmental Disabilities residents
• Strong Quality Improvement presence in our education and training programs

Boston Combined Residency Program
• Harvard and Boston University combined Pediatrics residency
• ~150 total residents (50/year) with tracks including Categorical, Urban Health and Advocacy, Peds-Anesthesia, Peds-Genetics, Peds-Neurology, Medicine-Peds

Current Projects
• Families as Faculty
• Inter-professional training across disciplines (Nursing, Social Work, CHW’s)
• Primary Care Interest Group: Resident-led, focus on innovations in care integration
• Resident clinic workflow QI
Care Coordination Curriculum

Pediatric care coordination is a patient and family-centered, assessment-driven, team-based activity designed to meet the needs of children and youth while enhancing the family’s caregiving capabilities. Care coordination addresses interrelated medical, social, developmental, behavioral, educational and financial needs in order to achieve optimal health and wellness outcomes. Key activities of Care Coordination involve the creation of care plans, care tracking, and timely, structured information for all members of the care team, including the patient and their family.
Contact

- Richard.antonelli@childrens.harvard.edu

Medical Director of Integrated Care
Boston Children’s Hospital/ Harvard Medical School
300 Longwood Avenue
Boston, MA 02115
Appendix
In the past 12 months, how often did your child’s care team members explain things in a way that you could understand?

In the past 12 months, how often did you feel that your child’s care team members knew about the advice you got from your child’s other care team members?

In the past 12 months, how often did you feel that your child’s care team members followed through with their responsibilities related to your child’s care?

In the past 12 months, how often has someone on your child’s care team explained to you who was responsible for different parts of your child’s care?

In the past 12 months, how often have your child’s care team members treated you as a full partner in the care of your child?
Needs assessment for care coordination and continuing care coordination engagement

- Family-driven, youth-guided needs assessment, goal setting
- Use a standard process to assess care coordination needs (differs from clinical needs)
- Engage team, assign clear roles and responsibilities
- Develop authentic family-provider/care team partnerships; requires family/youth capacity building, professional skill building

Care planning and communication

- Family and care team co-develop care plans
- Ensure communication among all members of the care team
- Monitor, follow-up, respond to change, track progress toward goals
- Workforce training occurs that promotes effective care plan implementation

Facilitating care transitions (inpatient, ambulatory)

- Family engagement to align transition plan with family goals, needs
- Implement components of successful transitions (eight elements, including receiving provider and acknowledging responsibility)
- Ensure information needed at transition points is available

Connecting with community resources and schools

- Facilitate connection to family-run organization/family partner
- Coordinate services with schools, agencies, payers
- Identify opportunities to reduce duplication of efforts in building knowledge of available community services

Transitioning to adult care (for children), self-care skill development

- Implement Center for Health Care Transition Improvement’s Six Core Elements of Health Care Transition (HCT)
- Teach/model self-care skills, communication skills, self-advocacy

Source: Massachusetts Child Health Quality Coalition Care Coordination Task Force, funded by the Centers for Medicare and Medicaid Services (CMS) through grant funds issued pursuant to CHIPRA section 401(d) (Care Coordination Task Force. Rodgers, Antonelli, & Leadholm. 2013)
<table>
<thead>
<tr>
<th>Key Elements</th>
<th>Sample Measures</th>
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<tbody>
<tr>
<td>1) Needs assessment, continuing CC engagement</td>
<td>Use of a <strong>structured</strong> care coordination needs assessment tool/process</td>
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<td></td>
<td>Ask family: did you get what you wanted?</td>
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<tr>
<td>2) Care planning and coordination</td>
<td>Family engagement in co-creation and implementation of care plan</td>
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<tr>
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<td>Care team members can access, update plan</td>
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<tr>
<td>3) Facilitating care transitions</td>
<td>“Closing the loop”: timely communication after referral visit (to PCP/family/others)</td>
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<td>Measure bundles, adaptations (HEDIS, CTM–P, CAHPS–PCMH/PICS, ABCD)</td>
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<tr>
<td>4) Connecting with community resources/schools</td>
<td>Link to family partner/family–run org/peers</td>
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<td>Referral connections made</td>
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<td>Bi-directional communication of results</td>
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<tr>
<td>5) Transitioning to adult care</td>
<td>Acquisition of self-management skills</td>
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<td></td>
<td>ID adult providers with capacity, expertise</td>
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**MA Child Health Quality Coalition CC Task Force** - [www.masschildhealthquality.org/](http://www.masschildhealthquality.org/)
# Referral to BCH Subspecialty Department

*High-Quality Handoff from Primary to Subspecialty Care Team Members*

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<th><strong>Patient Name</strong></th>
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<th><strong>Patient DOB</strong></th>
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<tr>
<th><strong>Appointment Date/Time</strong></th>
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<table>
<thead>
<tr>
<th><strong>Referring Provider</strong></th>
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<th><strong>Referring Provider Organization</strong></th>
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<th><strong>BCH Subspecialty Department</strong></th>
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## Purpose of the upcoming patient encounter based on the perspective of the medical home team:

<table>
<thead>
<tr>
<th><strong>Relevant clinical and/or psychosocial information:</strong></th>
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## Status of the referral relationship:

- [ ] One-time consultation
- [ ] Co-management/shared care
- [ ] Subspecialty-based management
- [ ] Unknown

If other, please specify:
Capacity Building and Measurement Tools

The following tools were developed and implemented in the Integrated Care Program at Boston Children’s Hospital

- Pediatric Integrated Care Survey (PICS)  
  (contact: Hannah.Rosenberg@childrens.harvard.edu for access to the PICS tools)

- Care Coordination Measurement Tool (CCMT)  
  (http://www.childrenshospital.org/care-coordination-curriculum/care-coordination-measurement)

- Pediatric Care Coordination Curriculum  
  (http://www.childrenshospital.org/care-coordination-curriculum)
Across these states, we are aware of over 20 different institutions using the Pediatric Care Coordination Curriculum

Legend

- states with entities that are in early stages of engagement.
- Expressed interest in developing care coordination workforce capacity on level of individual institution and/or statewide program.*some sites may have implemented since our last communication
- states with entities that have used the Pediatric Care Coordination Curriculum as a resource to implement care coordination workforce capacity building

+ = states engaged in statewide implementation, some partnering with State Title V programs

Funded by US Health Resources and Services Administration, Maternal and Child Health Bureau, In partnership with American Academy of Pediatrics National Center Medical Home Implementation
Resources

CHQC: http://www.masschildhealthquality.org/


MA CHIPRA/NICHQ Medical Home Initiative

Best practices from MA PCMH Learning Collaborative participants: medicalhome.nichq.org/solutions/spreading-medical-home-transformation
References


- **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/


- **AHRQ Care Coordination Atlas** (McDonald Nov 2010, June 2014) and companion document Care Coordination Accountability Measures for Primary Care (McDonald Jan 2012).


- **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