International Check
Conceptual framework and Comparative assessment exercise

Work Package: 11

S. Calciolari, L. González, N. Goodwin, V. Stein

www.projectintegrate.eu
Agenda

- Introduction to WP11: research objectives and approach
- Conceptual framework: dimensions and elements
- Reflection of the validity and usefulness of the framework:
  - Standardizing descriptions for comparative purposes
  - Support implementation
- Using frameworks to measure and promote integrated care
- Panel discussion: 3 expert panellists
Introduction: PI “International Check”

What are the relevant similarities/differences between integrated care initiatives?

- Can the identified similarities be reasonably generalized?
- Can variability between initiatives be reasonably explained in terms of specific aspects? (e.g., contextual factors).

Necessity to compare initiatives

Necessity to identify a standard set of relevant aspects describing any initiative of care integration

Necessity to select criteria for a purposive sampling
Methodological steps (1/2)

1. Comprehensive, literature review focused on conceptual frameworks or relevant aspects explaining integrated care

- Five structured iterations to agree on a synthetic list of 40 items/elements
  - grouping (dimensions)
  - merging (elements)
  - wording (elements)

2. Development & validation of a new conceptual framework to generate standardized descriptions of initiatives

- More than 700 abstracts analyzed
- 175 aspects codified from 18 selected articles/documents

- Expert survey to validate the list
  - clarity (elements)
  - wording (elements)
  - relevance (elements)
  - missing aspects
Key Dimensions and Elements of Integrated Care Initiatives (framework)

- **Person-centered care** – engaging and empowering people in their health and wellbeing (7 elements)
- **Clinical integration** – care and services that are organized and coordinated around people’s needs (7)
- **Professional integration** – partnerships that enable professionals to work together – e.g. in teams and networks (5)
- **Organizational integration** – joint working between organizations that supports professional/clinical integration (5)
- **Systemic integration** - care systems provide an enabling platform for integrated care at an organizational, professional and clinical level (e.g. alignment of governance and financing) (6)
- **Functional integration** – the capacity to communicate data and information across partners of an integrated delivery system (4)
- **Normative integration** – shared vision, norms and values (6)
## Example

### Dimension 1: Person-Centered Care

<table>
<thead>
<tr>
<th>Code</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Health literacy: Service users and care professionals work together to obtain and understand basic health information needed to make appropriate health decisions</td>
</tr>
<tr>
<td>1.2</td>
<td>Supported self-care: Service users are empowered to self-manage the symptoms, treatments, physical, social, emotional, and behavioural consequences of living with long-term conditions</td>
</tr>
<tr>
<td>1.3</td>
<td>Carer support: Caregivers are supported in a way that builds their capacity of caring and managing the burden of their care relationship</td>
</tr>
<tr>
<td>1.4</td>
<td>Shared decision-making: Service users are actively involved in decisions about their care and treatment options</td>
</tr>
<tr>
<td>1.5</td>
<td>Shared care planning: Service users are actively involved in establishing a holistic care plan</td>
</tr>
<tr>
<td>1.6</td>
<td>Feedback: Service users are supported to give regular feedback on quality and continuity of care received</td>
</tr>
<tr>
<td>1.7</td>
<td>Health data access: Service users have access to their own health care records</td>
</tr>
</tbody>
</table>
Reflection on the validity and usefulness of the framework
Methodological steps (2/2)

Selection of a **purposive sample of integrated care initiatives** (« case sites »)

- **16 case-site types defined:**
  - Tax-/Insurance- based
  - Primary care/Hospital-led
  - Disease/Condition (4)

- **25 contacts invited to join a survey**

Use of the framework to describe and compare the « case sites »

Use of the framework to analyze the case studies of PI phase one

*Three « organizational raids » conducted in Berlin, Barcelona and Stockholm in Jan-Mar 2016*
## Standardizing descriptions to govern heterogeneity (comparative perspective)

<table>
<thead>
<tr>
<th>Target population</th>
<th>Organizational raid (0)</th>
<th>Most similar (1) (same two features)</th>
<th>Partly different (2) (vary funding)</th>
<th>Partly different (3) (vary care setting)</th>
<th>Most different (4) (vary both features)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geriatric conditions (G)</td>
<td>Hospital Charité - Insurance-based - Hospital-led</td>
<td>- Insurance-based - Hospital-led</td>
<td>- Tax-based - Hospital-led</td>
<td>- Insurance-based - Primary care led</td>
<td>- Tax-based - Primary care led</td>
</tr>
<tr>
<td>COPD (C)</td>
<td>Hospital Clinic Barcelona - Tax-based - Hospital-led</td>
<td>- Tax-based - Hospital-led</td>
<td>- Insurance-based - Hospital-led</td>
<td>- Tax-based - Primary care led</td>
<td>- Insurance-based - Primary care led</td>
</tr>
<tr>
<td>Diabetes (D)</td>
<td>Dutch Care Groups - Insurance-based - Primary care led</td>
<td>- Insurance-based - Primary care led</td>
<td>- Tax-based - Primary care led</td>
<td>- Insurance-based - Hospital-led</td>
<td>- Tax-based - Hospital-led</td>
</tr>
<tr>
<td>Mental health (M)</td>
<td>TioHundra AB - Tax-based - Primary care led</td>
<td>- Tax-based - Primary care led</td>
<td>- Insurance-based - Primary care led</td>
<td>- Tax-based - Hospital-led</td>
<td>- Insurance-based - Hospital-led</td>
</tr>
</tbody>
</table>

**Care integration**
Analysis of context-dependence

Similarity/Difference features (Xs): financing, leading care setting, disease/condition

Outcome measure (Ys): framework dimensions (not “system”)

Most different case sites
   – With similar outcome measures => context-independent aspects

Most similar case sites, except for one feature
   – with different outcome measures => context-dependent aspects
Analysis of interdependence between dimensions

- **Influential factors (Xs):** framework dimensions 2-6
- **Influenced factors (Ys):** selected framework dimensions (person-centered care and normative integration)

**Relationship analysis of:**
(1) Xs ↔ Ys and (2) Xs, Ys:
Supporting self-assessment and quality improvement to support implementation

The framework is intended to be a means both to support the design and implementation of integrated care programmes and to compare or benchmark initiatives.

We undertook 3 ‘organisational raids’ with case sites in Barcelona, Berlin & Norrtalje to test out the framework with multi-disciplinary teams of managers and professionals.

Further feedback from those with experience of deploying integrated care initiatives is being sought.
Supporting self-assessment and quality improvement to support implementation

Key observations on the validity of the framework included:

- There was agreement that the framework elements had relevance, BUT some elements were seen as more important across the different case contexts and at the different developmental stage of initiatives.

- Further explanation of both the meaning and justification of dimensions and elements was often needed.

- There was greater agreement and engagement with dimensions at the micro- and meso-level – less with factors related to organisation and system dimensions.
Supporting self-assessment and quality improvement to support implementation

Key feedback on the usefulness of the framework included:

- Managers and professionals wanted to understand the ‘how’ of deployments of different framework elements rather than just the ‘what’, indicating the need for implementation guidance.

- The framework was, however, considered as a useful tool for self-reflection amongst groups of professionals and decision-makers, a process requiring facilitation rather than being a paper-based exercise.

- The framework should not be considered as a ‘tick-box’ exercise, but as a tool for engaging partners in care to have discussions on the progress, priorities and future actions of their joint initiatives.
Guest Intervention

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

Dr Richard Antonelli
Medical Director of Integrated Care
Boston Children’s Hospital / Harvard Medical School
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
One Family’s Care Map

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

Promoting learning | Developing guidance | Sharing ideas
# Framework for High Performing Pediatric CC

<table>
<thead>
<tr>
<th>Care Coordination Competencies:</th>
<th>Care Coordination Functions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Develops partnerships</td>
<td>1. Provide separate visits &amp; CC interactions</td>
</tr>
<tr>
<td>2. Proficient communicator</td>
<td>2. Manage continuous communications</td>
</tr>
<tr>
<td>3. Uses assessments for intervention</td>
<td>3. Complete/analyze assessments</td>
</tr>
<tr>
<td>4. Facile in care planning skills (PFC)</td>
<td>4. Develop care plans (with family)</td>
</tr>
<tr>
<td>5. Integrates all resource knowledge</td>
<td>5. Manage/track tests, referrals, &amp; outcomes</td>
</tr>
<tr>
<td>6. Possesses goal/outcome orientation</td>
<td>6. Coach patient/family skills learning</td>
</tr>
<tr>
<td>7. Approach is adaptable &amp; flexible</td>
<td>7. Integrate critical care information</td>
</tr>
<tr>
<td>8. Desires continuous learning</td>
<td>8. Support/facilitate all care transitions</td>
</tr>
<tr>
<td>9. Applies solid team/building skills</td>
<td>9. Facilitate PFC team meetings</td>
</tr>
<tr>
<td>10. Adept with information technology</td>
<td>10. Use health information technology for CC</td>
</tr>
</tbody>
</table>

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 + the patient’s specialists. PCP care team support care coordination with 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.
Matching Services to Complexity

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

**Children with complex needs**
- Neurodevelopmental (Autism, etc.)
- Behavioral/Psychiatric
- Hematology/ Oncology
  - Sickle cell
  - Hemophilia
- Technology dependent
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
Authentic Outcome Measure of Patient/Family Experience
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

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

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

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

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

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

CTMs knew about advice from other CTMs
- 19.6 (2nd Top-Box) - 19.2 (Top-Box)
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 (e.g., limited number of consults, continued co-management, etc.)

- Care planning across team members
"Quadruple Aim"

Primary Care Provider Experience with High Quality Handoffs

Subspecialist sufficiently addressed the concerns and questions that I and/or my care team raised prior to the patient's visit to the subspecialist.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Number of Responses

Subspecialist clearly communicated to me the information that I needed to know about the patient's treatment plan.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Number of Responses

My team was able to efficiently incorporate the information provided from the subspecialist into the patient's plan of care.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Number of Responses

This handoff was valuable for improving the patient's care.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Number of Responses
Closing the Loop: Consultation Orders

Performance on Consult Orders

Communication of Consult Notes to PCP and Ordering Provider

Promoting learning | Developing guidance | Sharing ideas
Measure What Matters

Care Coordination Measurement Tool (CCMT)

• Captures Value of CC activities—For Both QI and Business Planning
  – Supports efforts of all disciplines doing CC
  – Identify Gaps and Redundancies in Care (e.g., vulnerable and underserved populations)
  – Rationalization of workforce education and deployment—functioning at “top of license or scope”
  – 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)
  – Community Health Workers
  – Social Workers
  – Primary Care
  – Subspecialty Care (behavioral, surgical, medical)
  – Home Care
  – Families

### Medical Home Care Coordination Measurement Tool

<table>
<thead>
<tr>
<th>Date</th>
<th>Patient Code And Age</th>
<th>Patient Level</th>
<th>Focus</th>
<th>Care Coordination Needs</th>
<th>Activity Code(s)</th>
<th>Outcome(s)</th>
<th>Time Spent*</th>
<th>Staff</th>
<th>Clinical Comp.</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
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</tr>
</tbody>
</table>

#### Patient Level

- **I** Non-CSHCN, Without Complicating Family or Social Issues
- **II** Non-CSCHN, With Complicating Family or Social Issues
- **III** CSCHN, Without Complicating Family or Social Issues
- **IV** CSCHN, With Complicating Family or Social Issues

#### Focus of Encounter (choose ONE)

1. Mental Health
2. Developmental / Behavioral
3. Educational / School
4. Legal / Judicial
5. Growth / Nutrition
6. Referral Management
7. Clinical / Medical Management
8. Social Services (ie. housing, food, clothing, ins., taxes)

#### Care Coordination Needs (choose all that apply)

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

#### Time Spent

- 1 - less than 5 minutes
- 2 - 5 to 9 minutes
- 3 - 10 to 19 minutes
- 4 - 20 to 29 minutes
- 5 - 30 to 39 minutes
- 6 - 40 to 49 minutes
- 7 - 50 minutes and greater*

*(Please NOTE actual time if greater than 50)

#### Staff

| RN, LPN, MD, NP, PA, MA, SW, Cler |

#### Clinical Competence

- C= Clinical Competence required
- NC= Clinical Competence not Required

#### Activity to Fulfill Needs (choose all that apply)

1. Telephone discussion:
   a. Present e. Hospital/Clinic
   b. Parent-family f. Payor
   c. School g. Voc./training
   d. Agency h. Pharmacy
2. Electronic (E-Mail) Contact:
   a. Present E-Mail/Clinic
   b. Parent f. Payor
   c. School g. Voc./training
   d. Agency h. Pharmacy
3. Contact with Consultant
   a. Telephone c. Letter
   b. Meeting d. E-Mail
4. Form Processing: (eg. school, camp, or complex record release)
5. Confer with Primary Care Physician
6. Written Report to Agency: (eg. SSJ)
7. Written Communication
   a. E-Mail
   b. Letter
8. Chart Review
9. Patient-focused Research
10. Contact with Home Care Personnel
    a. Telephone c. Letter
    b. Meeting d. E-Mail
11. Develop / Modify Written Care Plan
12. Meeting/Case 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, diapers, 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 a grant HRSA-03-MCHB-25A-AB

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Boston Children’s Hospital

Promoting learning | Developing guidance | Sharing ideas
Data represents care coordination encounters for patients with enteral tubes.

216 encounters were recorded by RNs over a 4 week period.
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.

This curriculum was developed to provide guidance for the care of children.
Contact

Richard.antonelli@childrens.harvard.edu

Medical Director of Integrated Care
Boston Children’s Hospital/ Harvard Medical School
300 Longwood Avenue
Boston, MA  02115
Panel Discussion

Moderator: Stefano Calciolari

Expert Panellists:

Richard Antonelli
Boston Children’s Hospital, Harvard Medical School, (Boston, USA)

James Gillespie
Menzies Centre for Health Policy, University of Sydney (Sydney, Australia)

Nuria Toro
World Health Organization Services Org. and Clinical Int. U. (Geneva, Switzerland)
Breakfast workshop

Why: Further validating the framework (version 2.0), share ideas about its use to promote integrated care.

When: Tuesday, 7:30 – 8:45 am

Where: Room B123
This project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 305821.