



Minnesota Health Care Home Care Coordination Cost Study

**Lacey Hartman, Elizabeth Lukanen, and Christina Worrall
State Health Access Data Assistance Center (SHADAC)**

Minnesota Health Care Home Learning Days

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About a Nurse



“Look, nurses, administrators and doctors are getting along. If they can do it, then so can we.”

Study Purpose and Background

Purpose

- Quantify the cost of care coordination in the context of the HCH program
- Inform the state
 - Administration of the program (e.g., technical assistance)
 - Future payment and reimbursement policy
 - Future discussions with Medicaid and other payers

Direction, Timeline and Funding

- Co-directed by the Minnesota Departments of Human Services and Health
- SHADAC at the University of Minnesota was contracted to conduct the study
- Data collection occurred from April 2017 through October 2017
- Part of the State Innovation Model (SIM) cooperative agreement awarded to Minnesota by The Center for Medicare and Medicaid Innovation

Acknowledgements

Thank you for the many contributions made by:

- Project leads at the Minnesota Departments of Health and Human Services
- Director of the Minnesota Health Care Homes (HCH) Program
- HCH Nurse Planners
- HCH Advisory Committee Members
- Staff at all of the clinic sites who shared their time and insights related to care coordination activities at their clinics

This evaluation is part of a \$45 million State Innovation Model (SIM) cooperative agreement, awarded to the Minnesota Department of Human Services in 2013 by The Center for Medicare and Medicaid Innovation. Administered by the Minnesota Departments of Health and Human Services, the funding was used to implement the Minnesota Accountable Health Model framework. Evaluation results are not endorsed by the federal government and do not reflect the views of the federal government. The federal evaluation may yield different results from the state's internal evaluation. While the federal evaluation may be informed in part by data provided by the state, the federal evaluation is independent of the state evaluation.

Research Questions

- What are key contextual factors of participating provider sites?
- What activities make up HCH care coordination at each site?
- What type and mix of staff conduct these activities?
- How much time is spent delivering these services?
- What is the estimated cost of providing care coordination?
- What drives variation in HCH care coordination costs/resource intensity?
- From a clinic staff perspective, what aspects of HCH care coordination have the greatest impact on patients and provide the greatest value?

Methods and Focus

Informed by Literature Review

- Examined peer-reviewed and grey literature evaluating the cost of care coordination for clinics
- Review informed the study's methodological approach and criteria for site selection
- Four key studies emerged
 1. *The Cost of Sustaining a Patient-Centered Medical Home: Experience from Two States*, **Magill, et al., 2016**: Measures the direct personnel costs to deliver PCMH functions as defined by NCQA
 2. *The Cost to Successfully Apply for Level 3 Medical Home Recognition*, **Halladay, et al., 2016**: Measures the application costs in terms of personnel time (and non-personnel costs) to gain PCMH certification as defined by NCQA
 3. *Cost of Transformation among Primary Care Practices Participating in a Medical Home Pilot*, **Martsof, Kandrack, Gabbay, & Friedberg, 2015**: Measures the start-up and ongoing costs attributed to PCMH as defined by NCQA
 4. *Providing a Medical Home: The Cost of Care Coordination Services in a Community-Based, General Pediatric Practice*, **Antonelli & Antonelli, 2004**: Measures the cost of unreimbursable care coordination services for children with special health care needs (CSHCN)

Methodology

Case study approach

- Acknowledges site variability
- Highlights important contextual factors
- Includes key informant interviews
- Informs future, more generalizable data collection

Activity-based costing

- Compiles the unit cost of an activity over a specific period of time using an initial list of “ingredients”
- Allows for calculation of “PMPM” cost of care coordination as well as staff hours and dollars per month by staff type and care coordination activity area

Focus

- Focused on recurring care coordination activities in the context of Minnesota's HCH program
- Recruitment of HCH-certified primary care clinics, representing:
 - A mix of urban/rural settings, clinic types, and sizes
 - Diversity in approach to HCH care coordination
- Limited to care coordination for adults
- Not including other costs related to the overall HCH certification process
- Exclusion of EHR costs unrelated to direct care coordination

Limitations

- Case study findings are not necessarily representative of all HCH clinic experiences
- Summarizing across individual case studies is difficult
 - Data are self-reported, reflecting specific models in place at each clinic and staff interpretations of how the models are operationalized
 - Study findings are not to be used to determine reimbursement rates but rather to provide additional context to the ongoing discussion about modifying and improving reimbursement for HCH services.

Definition of Care Coordination

Nine Activity Areas that Define Care Coordination

- Identify Patients for Care Coordination and Secure Consent to Participate
- Assess Patient and Develop Care Plan
- Maintain Care Plan and Related Documentation
- Organize and Share Information with the Care Team
- Provide Care Coordination Services to Patient
- Support Patient Self-Care Management
- Facilitate Transitions
- Engage Relevant Community Resources
- Train Care Team Members on Care Coordination

Data Collection Tool Example

HCH Care Coordination (CC) Activities Staff Mapping

Activity Area 1: Identify Patients for Care Coordination and Secure Consent to Participate

Activities	Staff										
	Pop Health Mgr	Care Mgr	Dept Mgr	RNs/LPNs	MA	PCP /NP	Psychologist	Quality	IT/EHR	Clerical	Other position(s)
1. Routine scanning of charts. Conduct systematic chart review to identify people who might need CC.											
2. Informal referral. Identify patients for CC during informal interactions between patients and clinic staff.											
3. Run tiering or other algorithm. Apply electronic health record (EHR) algorithm or tier assignment methodology to identify patients who may benefit from CC.											
4. Other approaches to identifying patients for CC. Conduct medical record database searches (as a supplement or alternative to algorithm approach) using trigger criteria, such as total cost of care, frequent ER visits.											
5. Reach out to targeted patients, explain care coordination, and obtain consent.											
6. Document acceptance and refusals.											
7. Follow up with refusals. Conduct routine follow-up with people who refuse care coordination to try to gain consent to provide the CC services.											

Study Sites

Characteristic	Site A	Site B	Site C	Site D	Site E	Site F
Clinic Description (Department Studied)	Multispecialty clinic	Family medicine clinic	Primary care (Internal Medicine)	Primary care, community clinic	FQHC	Primary care clinic
IHP Participation	No	Yes	Yes	No	Yes	No
HCH Panel Size	28,800	17,900	6,300	22,900	8,900	9,100
Number of Patients Actively Care Coordinated	100	170	80	340	50	60
HCH Certification	2014	2011	2013	2010	2015	2015
Certified Providers	24 (MD/NP/CNM)	10 (MD/NP)	6 (MD/NP/PA)	10 (MD/NP/PA)	7 (MD/NP)	9 (MD/PA)
Care Coordinator Credentials (FTEs)	RN (2.7 FTE)	LPN (1.7 FTE)	RN (.9 FTE)	RN and LICSW (2 FTE)	Non-medical (1 FTE)	RN (1 FTE)
HCH Region	West Central	Central	South Central	Metro	Metro	Northeast
Urbanicity	Rural	Rural	Urban	Urban	Urban	Urban
Bills for HCH	Yes	No	Yes	No	Yes	Yes

Overall Results



KEEP
CALM
AND
LET THE PATIENT
CARE COORDINATOR
HANDLE IT

Key Findings

- Clinics appreciated the flexibility to tailor HCH standards according to clinic and patient needs
- Clinics described their whole panel as being “part of the HCH” and reported spending time across the whole panel to identify potential candidates for care coordination.
- Clinics focused care coordination activities on the higher-need segment of their panels.
- Care coordination staffing models varied, but core care team staff included Care Coordinators (with a mix of both clinical and non-clinical credentials), providers, and nurses.

Key Findings (Cont'd.)

- There were common approaches to care coordination activities across case study sites.
- Mental health diagnoses and/or multiple chronic diseases appear to drive care coordination costs, as do a wide variety of non-clinical patient characteristics.
- There was considerable variation in care coordination costs across the sites, due primarily to the number of hours devoted to care coordination and the credentials and wages of staff performing care coordination activities
- Care coordination was valued by both providers and patients and improved efficiency of care delivery while likely saving costs and resources.

Specific Results: Care Coordination Staffing

Staff Providing HCH Care Coordination Services in a Typical Month

Staff Category	Site A	Site B	Site C	Site D	Site E	Site F
Care Coordinator	X	X	X	X	X	X
<i>CC Credentials</i>	<i>RN</i>	<i>LPN</i>	<i>RN</i>	<i>RN and LICSW</i>	<i>Non-medical</i>	<i>RN</i>
Provider (MD/NP/CNM/PA)	X	X	X	X	X	X
Nurse	X	X	X	X	X	X
Social Worker	X	X	X	n/a	n/a	n/a
Medical Assistant	n/a	n/a	n/a	n/a	X	n/a
HCH/CCC Supervisor	X	X	X	X	X	X
Clerical	X	X	n/a	X	X	X
Management	X	n/a	X	X	n/a	n/a
Other	X	X	X	X	X	X

Care Coordination Staffing Models

- Staffing models, workflows, and processes are designed by providers and clinics to meet HCH standards while also addressing the needs of their unique patient populations.
- Care coordinator caseloads for identified adult population ranged from approximately 40 to 170.
- Credentials of Care Coordinators varied across clinics in the study as well as clinics in the same system.
- Innovation: Site A uses unique approach to combat burnout among Care Coordinators
 - Three RN Care Coordinators
 - Each split time between HCH care coordination and duties related to Medicare wellness and medication refills
 - Intense mental health and social needs of their care coordinated patients drove the need for this staffing arrangement

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Minimizing Care Coordinator Burnout

“[Our] patients are chronic and have a lot of different mental health issues...and there was high burnout [among care coordinators]. We wanted them to take on other things so it wasn't just care coordination.”

”

Specific Results: Staff Time Spent on Care Coordination and Common Approaches

Care Coordination Hours in a Typical Month Distributed by Care Coordination Activity

Care Coordination Activity Area	Site A	Site B	Site C	Site D	Site E
Identifying Patients for Care Coordination and Securing Consent (Category 1)	3%	8%	3%	10%	6%
Patient Assessment and Care Plan Development and Documentation (Categories 2 and 3)	4%	21%	3%	27%	17%
Direct Services and Engagement with the Patient (Categories 5, 6, and 7)	53%	52%	56%	51%	64%
Care Team Communications and Training (Categories 4 and 9)	10%	10%	20%	10%	10%
Engage Relevant Community Resources (Category 8)	31%	8%	17%	3%	3%

Common Approaches to Care Coordination Activities

- Patient Identification: Provider-driven referral to care coordination services
 - Across sites, relatively little time is spent on this activity.
 - Patients targeted are not necessarily those with the most complex medical needs.
 - Despite capacity to use data and analytics to identify patients, most clinics rely on staff referral.
- Care Planning: Not as valuable as expected
 - Clinical goals and outcomes did not necessarily resonate well with patients.



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Patient Identification

“When I look at who we’ve got care managed and who I might choose based off a payer report or a different algorithm...they pretty much match up...Even though our method isn’t very sophisticated, I think we’re managing the patients that we should be managing just by having kind of a poor man strategy, like [the] provider saying I think they need to be managed.”

”

Common Approaches to Care Coordination Activities (Cont'd.)

- Team-Based Care and Communication: Team-based approach to care coordination
 - Transformation depends on demonstrating the value of care coordination to providers
 - “Embedding” care coordinators at the nursing stations was described as useful to team-building
 - Care team communication is typically informal and supported by the EHR
 - Care coordination programs can be standardized in systems, but they must be flexible enough to meet the demands of specific clinics

Common Approaches to Care Coordination Activities (Cont'd.)

- Direct Services: Integrating care coordination into pre-defined clinic workflows
 - Care coordination supports, but does not supplant, the standard clinic workflow
 - Does not disrupt these systems; provides extra communication and follow-up for care coordinated patients
 - Across sites, this is where the majority of care coordination hours are spent
 - Relationship-building
 - Medication management
 - Supporting patient self-care management

Common Approaches to Care Coordination Activities (Cont'd.)

- Billing: four clinics billed for HCH but it was seen as an ongoing challenge
 - Time-consuming and complicated process
 - Many insurers do not pay for variety of reasons (e.g., company is out-of-state)
 - One clinic only attempts to “enroll and bill” patients who need longer-term care coordination support.
 - One clinic considers HCH care coordination as part of its broader population health goals and would prefer to provide the service to all patients

Specific Results: Care Coordination Costs

HCH Care Coordinated Costs in a Typical Month

Cost Characteristics	Site A	Site B	Site C	Site D	Site E
HCH Panel Size	28,900 patients	17,900 patients	6,300 patients	22,900 patients	8,900 patients
Number of Patients Actively Care Coordinated	100 patients	170 patients	80 patients	340 patients	50 patients
MDH HCH Patient Activity Tiering	Primarily 1s and 2s	Primarily 3s and 4s	Primarily 4s	Not Available	Primarily 1s and 2s
Cost of Care Coordination	\$353,500	\$17,000	\$68,800	\$20,000	\$31,500
Cost of Care Coordination per HCH Panel Patient (<i>rounded</i>)	\$12	\$1	\$11	\$1	\$4

HCH Care Coordination Hours in a Typical Month, by Staff Category

Staff Category	Site A	Site B	Site C	Site D	Site E
Care Coordinator	432	176	148	327	154
Provider (MD/NP/CNM/PA)	1,997	100	476	20	190
Nurse	1,285	133	384	5	317
CHW	-	52	-	-	-
Social Worker	35	5	72	-	-
Medical Assistant	-	-	-	-	75
HCH/CCC Supervisor	160	-	44	-	19
Clerical	1,285	4	1	3	134
Other	347	6	27	21	203
Total	5,541	476	1,152	376	1,092

Specific Results: Interview Findings on Care Coordination Cost Drivers and Value

Perception of Care Coordination Cost Drivers

- Both clinical and non-clinical issues drive the need for more intensive care coordination
 - Mental health diagnoses
 - Driver of no-shows, calls not returned, lack of follow-through on care plans
 - Time spent trying to find affordable mental health services for patients
 - Multiple diagnoses and/or multiple chronic diseases
 - Have to coordinate multiple departments, specialists and “huge” number of external care providers beyond the clinic
 - Socioeconomic status and non-medical barriers to care (i.e., social determinants)
 - Language barriers, homelessness or poor housing, food insecurity, lack of transportation, financial barriers, low education/literacy, and lack of social supports



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Need Driven by both Clinical and Non-Clinical Issues

“Every person’s situation is unique, and care coordination takes each person’s history into account. Complex medical conditions are often combined with complex social issues. If you can’t afford food, you don’t care what kind of food you are eating. If you can’t get to the pharmacy, you don’t take your meds.”

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Perceptions of Care Coordination Value

- Improved care that is more patient-centered and holistic
 - Shift from “appointment-based” care to accountable care
 - More personal engagement
- Team-based approach helps providers do their job more efficiently and effectively, which improves access to care.
 - Allows providers to see more patients while still meeting the needs of patients who need extra attention.
 - Providers more likely to ask patients probing questions about non-medical issues if they know there will be someone with answers

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Team-based Approach

“...in my world, getting [the Care Coordinator] involved will give [my nurse] and I the opportunity to go and take care of other patients while meeting the needs of the original patient...It’s efficiency, it’s good care. [The Care Coordinator] has tucked in the loose ends, and to me that’s tremendous. That is tremendous use of a multidisciplinary team.”

“You don’t want to ask a question and not have a solution for somebody...the Care Coordinators...are an avenue for [providers] to get an answer.”

”

Perceptions of Care Coordination Value (Cont'd.)

- Provider satisfaction
- Patient outcomes
 - Improved quality scores
 - Improved compliance with provider recommendations
- Cost savings
 - More appropriate utilization
 - Improvements in total cost of care (also attributable to broader transitions to value-based purchasing)
 - Fewer ED visits, readmissions, etc.
 - Reduction in provider time spent on non-clinical issues



“She’ll be fine. She’s so used to taking care of everyone else, someone actually taking care of her put her in temporary shock.”

“

Patient and Provider Satisfaction

“People don’t care how much you know until they know how much you care.”

“With care coordination, I am more fulfilled in what I can do for my patient.”

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Further Discussion

- How do clinics that you work with compare to study sites?
- What surprised you about study results?
- Do you measure the costs and benefits of HCH care coordination?
 - Importance of monitoring investments in care coordination at the clinic and activity level
- How can we improve our methods of measuring the impact of care coordination?

Future Considerations

- Continued research focused on care coordination could include:
 - Identification of promising practices across clinic sites
 - Development of methods and data collection strategies that clinics and systems can undertake to quantify cost savings related to care coordination

About Us

Lacey Hartman, MPP

Senior Research Fellow
SHADAC

University of Minnesota

hartm042@umn.edu

612-625-0410

Elizabeth Lukanen, MPH

Deputy Director
SHADAC

University of Minnesota

elukanen@umn.edu

612-626-1537

Christina A. Worrall, MPP

Senior Research Fellow
SHADAC

University of Minnesota

cworrall@umn.edu

612-624-4934

