

## Designing a System for Clinical-Community Linkages at the Individual Level

Wave 41: October – December 2016

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### Intent and Aim

Given the extent to which health outcomes are determined by factors occurring outside of the health care delivery system, strong linkages between health care and community-based services are essential to improving outcomes for high need, high risk patients. Our assumption is that, if individuals were able to connect with all of the services for which they are eligible in a coordinated way, they would experience better health and quality of life. All organizations have boundaries of what they can and cannot do, and are often ill-equipped to meet needs outside of those boundaries even when they are aware of them. While the concept of clinical-community linkages has become increasingly prominent in discussions of health care's role in addressing the social determinants of health (e.g. Accountable Health Communities) and is almost universally included in frameworks and change packages to improve outcomes for complex and historically marginalized populations, the details of how to develop a system of care bridging clinical, community and public health services that coordinates services at the individual level are often vague. Without these details and an intentional plan or system in place to connect and coordinate all of these services for an individual, we continue to have a fragmented system of care, leading to a frequent gap between available services and utilization of those services.

The intent of this 90-day project is to examine existing models to better link individuals with clinical and community-based services to identify best practices, gaps, and barriers to implementation and spread. The aim of this project is to identify the foundational principles that are necessary to design an effective system of coordinated health care and community-based/social services that works for individuals in the community, along with practical action steps for how to operationalize this system at an individual level.

### Background

We define clinical-community linkages as partnerships formed between individuals, state and local government agencies, community-based organizations, clinicians, and other partners such as businesses, employers, and schools to ensure that people with or at high risk of poor health outcomes are seamlessly connected to community resources and support to prevent, delay, or manage chronic conditions. A literature scan reveals significant interest at the state and national levels in the concept of clinical-community linkages as part of efforts to improving outcomes for high risk, high cost patients.

Since 2009, AHRQ<sup>1</sup>, the National Academies of Science<sup>2</sup>, (formerly the IOM), USPSTF, and others<sup>3,4,5</sup> have released reports describing the need to improve the integration of clinical (generally primary care), public health, and community-based services, focusing on increasing uptake of clinical preventative services. Most of this work focuses squarely on the intersection of health care and community-based services, coordinating services between primary care practices, other health care providers, patients, families/caregivers, and social services, such as housing and supplemental nutrition assistance. There has been a lot of interest in integrating health and social services and improving cross-sector collaborations both within and outside of the health care sector, frequently focused on health care's role in these efforts.<sup>6,7</sup> Indeed, cross-sector collaboration is a key part of the Robert Wood Johnson Foundation's four-part Action Framework to build a Culture of Health<sup>8</sup>, and much has been written recently about strong examples of partnership-driven work to integrate health and social services to improve population health.<sup>9</sup> A recent study found significantly lower death rates from potentially preventable conditions among communities with multisector networks supporting population health activities (referred to in the paper as "comprehensive system capital"), with pathways extending beyond the boundaries of the health care system, including policy changes supporting improved health (e.g. smoking bans, increasing access to healthy food).<sup>10</sup>

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<sup>1</sup> AHRQ resources on clinical-community linkages: <http://www.ahrq.gov/professionals/prevention-chronic-care/improve/community/index.html>

<sup>2</sup> IOM (Institute of Medicine). 2012. Primary Care and Public Health: Exploring Integration to Improve Population Health. Washington, DC: The National Academies Press. Available from: <https://www.nationalacademies.org/hmd/Activities/PublicHealth/PrimaryCarePublicHealth.aspx>

<sup>3</sup> <http://www.astho.org/Programs/Access/Primary-Care-and-Public-Health-Integration/>

<sup>4</sup> Association of State and Territorial Health Officials. Community-clinical linkages to improve hypertension identification, management, and control. Issue Brief. 2015.

<sup>5</sup> Ockene JK, Edgerton EA, Teutsch SM, Marion LN, Miller T, Genevro JL, Loveland-Cherry CJ, Fielding JE, Briss PA. Integrating evidence-based clinical and community strategies to improve health. American Journal of Preventative Medicine. 2007;32:244-252. Available from: <https://www.uspreventiveservicestaskforce.org/Page/Name/integrating-evidence-based-clinical-and-community-strategies-to-improve-health>

<sup>6</sup> Taylor L, Hyatt A, Sandel M. Defining the health care system's role in addressing social determinants and population health. November 17, 2016. Available from: <http://healthaffairs.org/blog/2016/11/17/defining-the-health-care-systems-role-in-addressing-social-determinants-and-population-health/#one>

<sup>7</sup> Frazee T, Lewis VA, Rodriguez HP, Fisher ES. Housing, transportation, and food: How ACOs seek to improve population health by addressing nonmedical needs of patients. Health Affairs. 2016;35(11):2109-2115

<sup>8</sup> [http://www.rwjf.org/en/culture-of-health/2015/11/measuring\\_what\\_matter.html](http://www.rwjf.org/en/culture-of-health/2015/11/measuring_what_matter.html)

<sup>9</sup> Towe VL, Leviton L, Chandra A, Sloan JC, Tait M, Orleans T. Cross-sector collaborations and partnerships: Essential ingredients to help shape health and well-being. Health Affairs. 2016;35(11):1964-1969.

<sup>10</sup> Mays GP, Mamaril CB, Timsina LR. Preventable death rates fell where communities expanded population health activities through multisector networks. Health Affairs. 2016;35(11):2005-2013.

Despite this proliferation of reports and clear (and increasing) interest from the field in this topic, there is limited evidence to support *specific approaches* to developing these linkages; a 2012 review by Porterfield and colleagues found that, while programs to increase the delivery of preventative services through linking primary care practices to community organizations sound promising, there is inconclusive evidence to support the effectiveness of these linkage programs at improving patient health outcomes.<sup>11</sup> Part of the reason for this is small sample size; there are relatively few studies examining the effectiveness of linkages themselves, and nearly all report some type of positive result. Another reason is a lack of rigorous evaluation of these programs; while some interventions showed evidence of changes in process measures or short-term outcome measures such as provider behavior, data on medium and long-term health outcomes were often not reported. This also points to the need for better metrics to assess the success of these programs. Finally, the types of interventions described in these reports are varied, ranging from referral mechanisms to resource sharing to community health workers. This limits our ability to assess and compare the effectiveness of linkage programs more broadly as the types of interventions deployed by these programs are heterogeneous and vary in terms of populations served, intensity of services, and resources used. For communities and states seeking to develop these programs, it is essential to understand what works and what does not.

## Methods

- Literature scan
  - Frameworks and conceptual models to guide the design of effective interventions
  - Identify different models and approaches being used around the country
  - Evidence of effectiveness of different approaches to clinical-community linkages
  - Tools and resources to support developing clinical-community linkages
- Expert interviews
  - Jenney Samuelson, Molly Dugan and Stephanie Hartsfield, Vermont Blueprint for Health and Support and Services at Homes (SaSH)
  - Judy Kell, Mercy Health Muskegon
  - Lauran Hardin, Camden Coalition (formerly at Trinity Health)
  - Laura Brennan, 100 Million Healthier Lives
- Identified themes/core elements of existing models, and gaps in existing interventions
- Vet and test change ideas with POINT team (beginning in January)

## Models and communities studied:

- Pathways Community Hub – Ohio; Muskegon, Michigan

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<sup>11</sup> Porterfield DS, Hinnant LW, Kane H, Horne J, McAleer K, Roussel A. Linkages between clinical practices and community organizations for prevention: A literature review and environmental scan. American Journal of Public Health. 2012;102(Suppl 3):S375-S382. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3478082/>

- Vermont Blueprint for Health
- Camden, New Jersey – Camden Coalition of Health Care Providers
- Maryland’s local health improvement coalitions
- Hennepin Health, Minneapolis, Minnesota
- Better Health, Lower Costs Collaborative teams

## Results

### *Common Elements among Existing Approaches for Community-Clinical Linkages*

Researchers have proposed numerous conceptual models for how to improve linkages between clinical services, community-based organizations, and other partners (see Appendix A); while these models can provide a useful framework, they alone are insufficient to guide the design and execution of a well-defined system for strong linkages within a particular community. An AHRQ report identifies different categories of clinical-community linkages, including: 1) referral processes; 2) medical practitioner training; 3) clinical partner referrals to health resources, and 4) clinical volunteering in community programs.<sup>12</sup> After exploring these conceptual models, we turned to identifying more defined models of clinical-community linkages, to identify best practices and core principles that underlie different approaches being used in communities around the U.S. These included: the Pathways Community Hub model; Vermont Blueprint for Health; Maryland’s local health improvement coalitions, and the Camden Coalition in Camden, New Jersey (see Appendix B for brief descriptions of these models).

Existing models rely heavily on community health workers (CHWs) to serve as the coordinator. This role could have other names, such as community health liaison, lay health advisor, promotora, and others. This often makes sense as identification, engagement and activation, and navigation of health care and social services are all good, evidence-based roles for a CHW. However, as we describe elsewhere, many programs use CHWs as a one-size-fits-all solution for a heterogeneous set of issues for which they are not equally well-suited, so programs need to intentionally consider the benefits and drawbacks of using CHWs depending on their desired role and tasks.<sup>13</sup> Additionally, as CHW interventions have proliferated, an individual may find themselves receiving regular phone calls and home visits from multiple CHWs who are focused on different health conditions and employed by different entities (e.g. health plan, health system, community-based organization), who do not communicate, let alone coordinate, with one another. This is inefficient, creates confusion and wastes time for the individual, and risks duplication of services.

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<sup>12</sup> [https://innovations.ahrq.gov/sites/default/files/reports/Linkages\\_Report\\_0.pdf](https://innovations.ahrq.gov/sites/default/files/reports/Linkages_Report_0.pdf)

<sup>13</sup> Laderman M, Mate K. Community health workers for patients with medical and behavioral health needs – challenges and opportunities. *Healthcare*. 2015;4(3):145-147.

In addition to CHWs, community health teams (also called community coordination teams, community health action teams, and community networks, among others) are a common strategy. A 2013 Commonwealth Fund report reviewed community health team programs in eight states. The goal of these community health teams is to expand the capacity of primary care practices to serve as medical homes for Medicaid beneficiaries through sharing resources and coordinating services. At the time the report was published, early data suggest that the community health team model can be successful, particularly in reducing per capita costs, but the programs were too new to report definitive quality, cost, and patient experience data. Each state program included a strategy to engage community stakeholders; explicit expectations for the community health teams; a clear payment model; and an evaluation strategy. Additionally, the authors identified seven core features of the state programs: 1) multidisciplinary care teams that coordinate services, promote self-management, and help manage medications; 2) regular face to face contact between patients and care team members; 3) mechanisms to share patient information; 4) focus on whole-person care for high-risk patients; 5) focus on care transitions; 6) connections to community-based services; and 7) enhanced reimbursement for primary care practices.<sup>14</sup> Note that many of these programs are state-based, allowing integrated funding streams (Medicaid) to support delivery of coordinated services.

Another essential element is an integrator – a coordinating entity- at a community or state level.<sup>15</sup> This integrator is responsible for ensuring coordination and communication across services by engaging partners, recommending policy and practice changes, promoting information exchange, and analyzing data. In the Pathways Community Hub model, this is the role of the HUB. At the state level this could be one agency, an inter-agency task force, or other organization, such as the Blueprint for Health’s operational leadership team in Vermont. At the community level, this could be David Kindig and colleagues’ concept of a “health outcomes trust”, a “local entity that receives financial incentives to coordinate services across organizations to address the social determinants of health.”<sup>16</sup> This function could also be served by a community-based ACO, the new Accountable Health Communities, both of whom have responsibility for delivering and paying for a range of medical and non-medical services to improve health, or the Prevention Institute’s concept of a community-centered health home, that

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<sup>14</sup> Takach M, Buxbaum J. Care management for Medicaid enrollees through community health teams. The Commonwealth Fund. May 2013. Available from: [http://www.commonwealthfund.org/~media/files/publications/fund-report/2013/may/1690\\_takach\\_care\\_mgmt\\_medicare\\_enrollees\\_community\\_hlt\\_teams\\_520.pdf](http://www.commonwealthfund.org/~media/files/publications/fund-report/2013/may/1690_takach_care_mgmt_medicare_enrollees_community_hlt_teams_520.pdf)

<sup>15</sup> Integrator role and functions in population health improvement initiatives. Nemours. 2012. Available from: [http://www.improvingpopulationhealth.org/Integrator%20role%20and%20functions\\_FINAL.pdf](http://www.improvingpopulationhealth.org/Integrator%20role%20and%20functions_FINAL.pdf)

<sup>16</sup> Magnan S, Fisher E, Kindig D, Isham G, Wood D, Eustis M, Backstrom C, Leitz S. Achieving accountability for health and health care. Minnesota Medicine. November 2012. Available from: [https://www.icsi.org/\\_asset/qj7tk6/Commentary---Magnan.pdf](https://www.icsi.org/_asset/qj7tk6/Commentary---Magnan.pdf)

coordinates collaborative health improvement efforts across a community.<sup>17,18</sup> Note that there may be multiple, nested integrators depending on each community's structures and processes for this work.

### *Gaps in Existing Approaches*

While there are some promising results and strategies to overcome common barriers to seamless linkages between clinical and community-based services, there is still a long way to go. We identified some gaps in existing approaches. These include:

- Programs can be siloed; they often focus on a specific disease or behavior (e.g. diabetes, obesity, physical activity, smoking cessation) and not on all of the services needed by a particular individual or a population.
- Strong focus on health care; less focus on the services delivered by community-based organizations.
- Apply programmatic activities too broadly across a large population rather than designing services for a particular population.
- Focus on improving existing programs or on strengthening linkages between programs that may not be optimal, when many communities need a new system designed specifically for the population in need of services.
- Some models require strong fidelity to their approach, but often cannot be easily replicated in different communities given myriad differences between individuals, populations, and the communities themselves; existing models need to be tailored and adapted to local community context in order to be successful.
- Can end up creating a parallel process in a community that does not benefit the individual
- Put too much burden on one role, e.g. the PCP, to do most of the work
- Assume that making referrals alone constitutes a successful linkage to services
- Don't address the root causes of the system failure, e.g. structural determinants of health
- Even with programs in place, there is often duplication of services among the various organizations trying to serve these individuals
- Do not include the individuals themselves in designing new systems or improving existing ones
- Lack of an integrator of services

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<sup>17</sup> Cantor J, Cohen L, Mikkelsen L, Panares R, Srikantharajah J, Voldovinos E. Bridging the gap between health services and community prevention. The Prevention Institute. 2011. Available from: [https://www.preventioninstitute.org/sites/default/files/publications/HE\\_Cmtty-centered%20health%20homes\\_032311.pdf](https://www.preventioninstitute.org/sites/default/files/publications/HE_Cmtty-centered%20health%20homes_032311.pdf)

<sup>18</sup> McGinnis T, Crawford M, Somers SA. A state policy framework for integrating health and social services. Commonwealth Fund. 2014. Available from: [http://www.commonwealthfund.org/~media/files/publications/issue-brief/2014/jul/1757\\_mcginnis\\_state\\_policy\\_framework\\_ib.pdf](http://www.commonwealthfund.org/~media/files/publications/issue-brief/2014/jul/1757_mcginnis_state_policy_framework_ib.pdf)

In addition to these gaps, there are several *barriers and challenges* noted by these models:

Barrier	Detail
Payment barriers	Most approaches noted challenges in obtaining sustainable funding and ongoing resources to support work
Lack of cohesion among partners	Many described difficulties in developing a shared mission and vision with all partners, including sharing resources and acting as one entity rather than single issue organizations, and challenges in bringing together the cultures of different service providers. Developing formalized memoranda of understanding has helped define roles and responsibilities in Vermont.
Technological barriers	Data can be both an asset and a barrier. Challenges include getting around proprietary electronic records, concerns about HIPPA and privacy, and data systems not being caught up to where the programs are with their ideas and
Buy-in from health care providers	Some health care providers to not yet understand the value of addressing the social determinants of health and in bringing in community-based services, e.g. housing, to improve outcomes for their patients.

### *High Level Principles for an Integrated System of Clinical and Community-Based Services*

Based on our review of these models, identification of gaps and barriers, API's work with IHI on production system design, and on the work of Pennie Foster-Fishman, who developed the Above and Below the Line (ABLE) Change Framework, which applies theories of complex system change to community change<sup>19</sup>, we identified high level principles that should inform design for communities seeking to improve clinical-community linkages.

1. *Identification of a common goal.* Members of the community are involved in defining the problem and needs the system is trying to address, and the system is co-designed with individuals with lived experience. "These are individuals who, like patients/family members, have experienced the outcome or topic (e.g., poverty, homelessness, incarceration), and therefore hold "lived experience" about it".<sup>20</sup> All partners share a mission and vision, including sharing resources and acting as one entity rather than single issue organizations. Partners should

<sup>19</sup> Foster-Fishman PG, Watson ER. The ABLe change framework: A conceptual and methodological tool for promoting systems change. *American Journal of Community Psychology*. 2012;49(3-4):503-516.

<sup>20</sup> Marianne McPherson and Lived Experience. In: *The SAGE Encyclopedia of Social Science Research Methods*. 2455 Teller Road, Thousand Oaks California 91320 United States of America: Sage Publications, Inc.; 2004. <http://methods.sagepub.com/reference/the-sage-encyclopedia-of-social-science-research-methods/n504.xml>. Accessed October 7, 2016.



include service providers (e.g. health care, public health); institutions (e.g. business, policymakers, funders); community-based organizations; and community members for whose benefit the changes are being designed.

2. Identify champions at clinical and community organizations and clearly define their importance and roles in moving this work forward.
3. *Adapt and tailor “off the shelf” models.* Some models require strong fidelity to their approach, but often cannot be easily replicated in different communities given myriad differences between individuals, populations, and the communities themselves. Thus, if selecting an “off the shelf” model, it needs to be tailored and adapted to local community context in order to be successful.
4. *Do not create a parallel process.* Some approaches can inadvertently create a parallel process in a community that does not link back with other parts of the system and does not benefit the individual.
5. *Design for the margins.* Design a system around those who are most disadvantaged, and Provide intensive services only to those who will benefit from intensive services.
6. *Design the system to reflect the needs of those for it is designed to benefit.* Along with content and process expertise, the system design must include the individuals who need the services and who are experiencing poor health outcomes.
7. When possible, identify and address root causes and structural determinants of health.
8. Do not put too much burden on one role, e.g. the PCP, to do most of the work.
9. Work to end duplication of services between the various organizations trying to serve these individuals.
10. Think carefully about who / what entity can be an integrator of services.
11. Consider payment models and payment systems from the beginning.
12. *Data Systems.* Consider the data system needs to support this work, including HIPPA and privacy issues and how the different systems will connect and communicate.
13. One entity leads coordination of services, with linkages to wraparound services provide by different community entities.

#### *Nine action steps to improve clinical-community linkages<sup>21</sup>*

We started this project with a de facto framework from the state of Michigan, which included eleven steps to improving clinical-community linkages for a particular population of interest. After reviewing these other models, we found that the Michigan framework incorporates many of the common themes from other models, and adheres closely to the four primary components of IHI’s Better Health, Lower Costs (BHLC) change package: 1) Identify population; 2) identify individual most at risk; 3) engage the individual to design services; and 4) design care. The operationalization of these steps will look different based on the assets and needs of each community, and are intended to provide guidance but not be too prescriptive given that this work involves complex, adaptive systems change. Below are nine steps to improve clinical-community linkages, modifying the Michigan work.

1. Define the target population(s).

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<sup>21</sup> Note: execution of these action steps is predicated on a baseline level of improvement capability within the community to guide testing and implementation of the changes.



- Focus on the person, not the disease or behavior. Be careful not to focus on disease or behavior but the person
  - Target populations that need more intensive services – who is not doing well? Where are there equity gaps?
2. Define a proactive targeting and outreach strategy to identify, engage, and recruit the target population(s) into the clinical- community linkage initiative, focusing on identifying individuals who may need services before a crisis occurs. Be sure that the linkages are comprehensive and not just limited to health care.
  3. Develop a screening tool and/or process for the individual's social determinants and health-related risk factors and goals, for referral-source entities to use with target population(s). The tool should be standardized to the greatest extent possible. Develop a process to assess on an ongoing basis as part of the care/case management process.
  4. Develop a standardized, shared, community-wide referral process to include processes prescribing referrals from the provider/practice setting (e.g., shared email/records, fax machine, call-in, etc.). Develop a referral tracking system, to include tracking and monitoring the initiation, follow-up, and outcomes of referrals to social service and other community agencies.
  5. Design a report for providers and payers, including the intake date of a referral, assignment to accountable entity, needs identified in ongoing assessments, referrals made to community organizations, the status of those referrals, and the success or failure of those attempted connections to community organizations and resources.
  6. Develop a plan for centralizing intake and data storage for report generation.
  7. Develop communication protocols for sharing the reports with payers, providers, and other relevant parties.
  8. Develop a plan for analyzing screening, assessment, referral, tracking, and outcome reports; including a plan for team-based review of the reports where healthcare providers and community organizations work together with patients, if applicable. Reports should be used for course corrections and to drive continuous process improvement.
  9. Develop a plan for incorporating analysis and reports into governance and decision-making processes.

*Foundational Elements to Support Nine Action Steps:*

- Coordinator role at the individual level, e.g. a community health worker, care coordinator, community care team
- Integrator role at the community/state level, e.g. health outcome trust, inter-agency task force to provide infrastructure support for coordination
- Aligned leadership at a community level that bridges disciplines and programs; clarifies roles and ensures accountability; develops and supports appropriate incentives; and has capacity to manage change
- Centralized data repository that captures all needed data, can be accessed by all stakeholders, and can generate reports that show changes in the data over time and are used to identify areas for improvement

- Plan for analyzing screening, assessment, referral, tracking, and outcome reports; including a plan for team-based review of the reports where healthcare providers and community organizations work together with patients, if applicable
- Analysis and reports are incorporated into governance and decision-making processes
- Data-driven feedback and learning mechanisms, and regular communication protocols developed
- Financing/payment system is sustainable and aligned with approach
- Policy support, e.g. smoke-free laws, incentivizing potential employers and grocers selling healthy food to the community

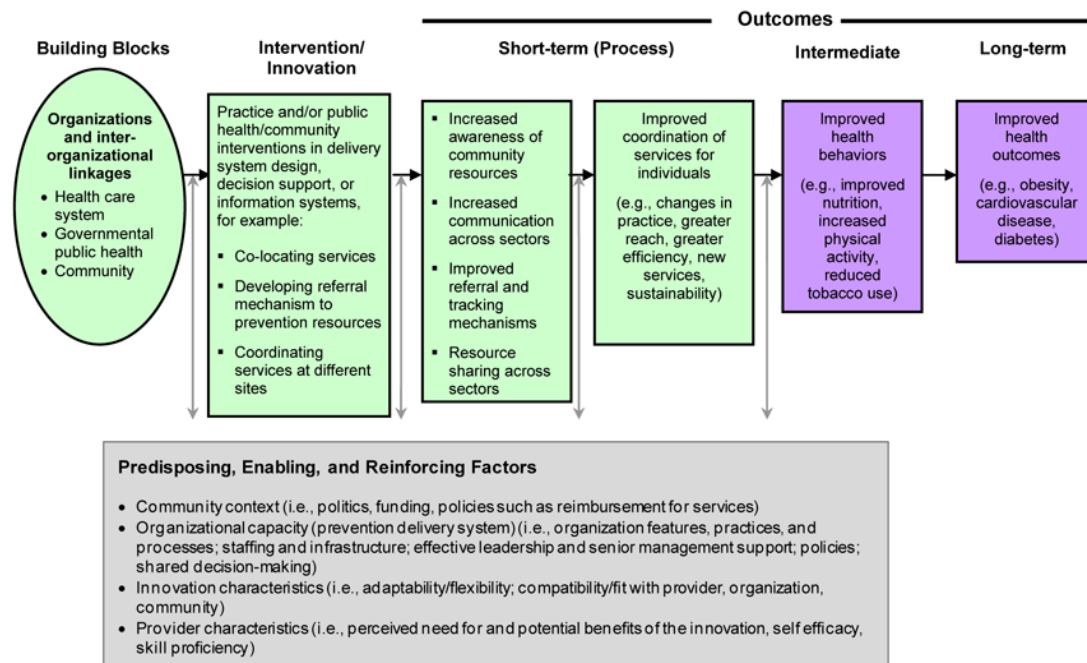
### **Conclusions and Recommendations**

This 90-day project examined existing models to improve clinical-community linkages and, based on an understanding of what works, barriers and challenges and gaps in these various approaches, derived 1) a set of high level principles to design an integrated system of clinical and community-based services; 2) nine action steps to improve clinical-community linkages; and 3) foundational elements to support the execution of these nine action steps. The goal of this work was to help guide communities who are seeking to operationalize the often nebulous concept of “better connect individuals with health care and social services” within their communities. As part of this work, we searched for tools and resources to support testing of these action steps. The results of this search highlighted the paucity of publically available resources; while some health systems do have tools that they have developed, many are proprietary and thus cannot be shared. The most commonly available tools are social determinants screening tools, of which three are promising: from Kaiser Permanente, HealthLeads, and Health Begins (see separate files). As interest in improving clinical-community linkages increases, we can hopefully expect a proliferation of approaches and tools to support this work. Currently, however, it will be up to communities to design many of these action steps without many supportive resources. The next steps for this project will be testing elements of the framework and action steps within the POINT work in Northeast Wisconsin.

## Appendix A: Conceptual Models for Clinical-Community Linkages

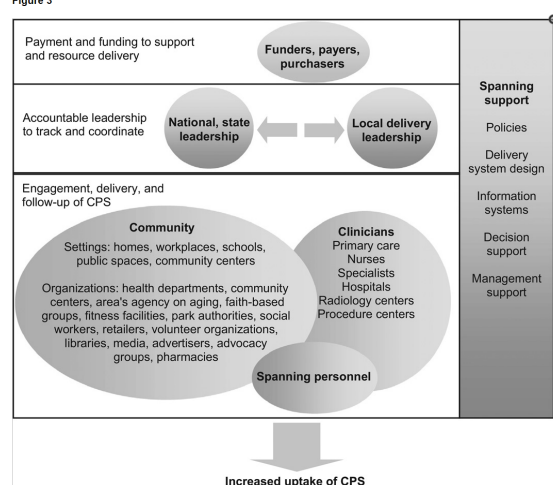
AHRQ's proposed model for linking clinical practices and community organizations

Figure 1-1. Linking Clinical Practices and Community Organizations for Prevention: Proposed Model



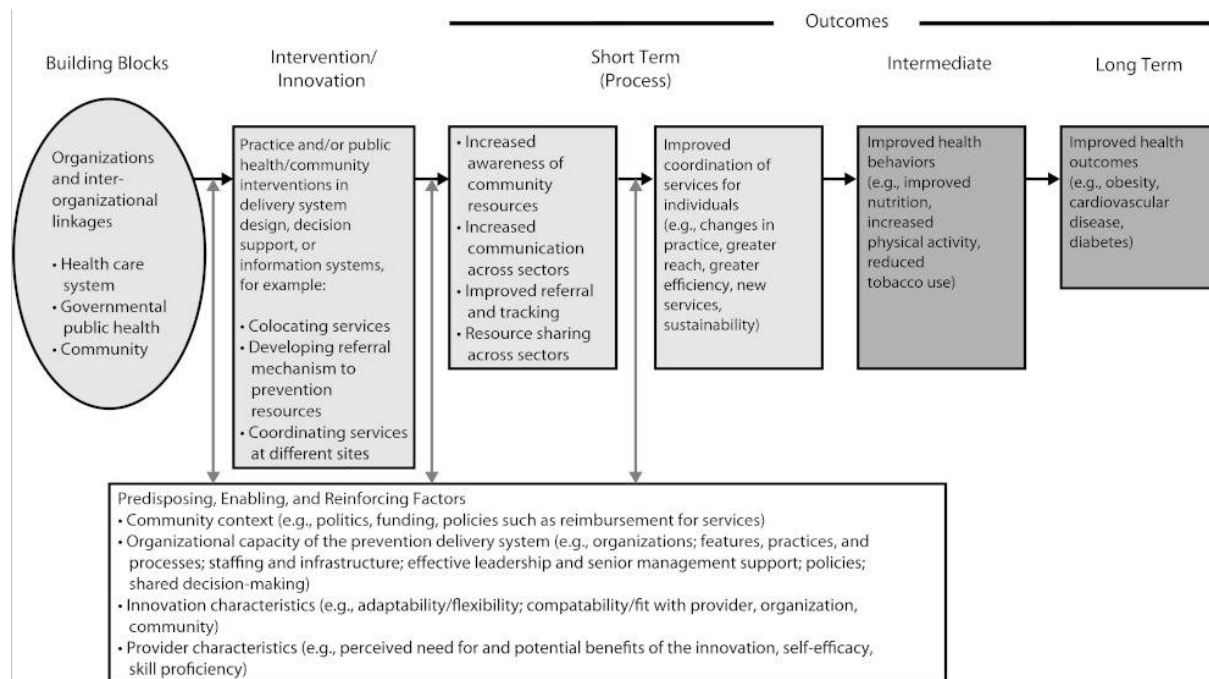
## Framework for Integrating Clinical and Community Delivery Systems to Improve Clinical Preventative Services (CPS) from Krist et al. 2015<sup>22</sup>

Figure 3

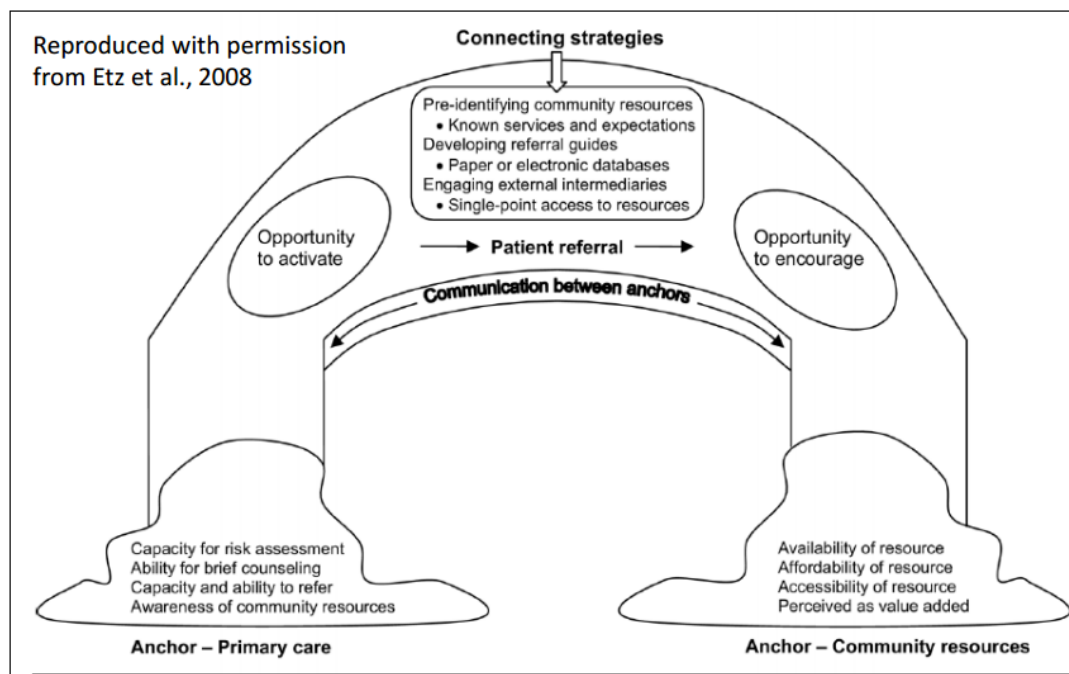


<sup>22</sup> Krist AH, Shenson D, Woolf SH, Bradley C, Liaw WR, Rothenmich SF, Slonim A, Benson W, Anderson LA. Clinical and community delivery systems for preventative care. American Journal of Preventative Medicine. 2013;45(4):508-516. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4544711/>

Proposed model for linkages between clinical practices and community organizations for prevention –  
From Porterfield et al. 2012



Elements of models to bridge primary care with community resources from Etz et al. 2008<sup>23</sup>



<sup>23</sup> Etz, R., Cohen, D., Woolf, S., et al. (2008). Bridging primary care practices and communities to promote healthy behaviors. *American Journal of Preventive Medicine* 35(5S), S390-S397

## Appendix B: Descriptions of existing models for improving clinical-community linkages

### *Vermont Blueprint for Health<sup>24</sup>*

Vermont's Blueprint for Health, Vermont's health care reform law that was enacted in 2006, have community health teams (CHTs) who work with primary care providers to assess patients' needs, coordinate community-based services, and provide multi-disciplinary care. All citizens in the state are eligible to participate. The composition of each CHT is determined locally, based on an initial identification of gaps in service; the CHT helps to re-organize services to fill those gaps and is designed with input from health care and social service providers that can include representatives from different agencies such as housing, Area Agencies on Aging, home health primary care practices, and others. There are significant commonalities across communities in what roles constitute a core CHT, including a nurse care coordinator, mental health social workers, and common shared staff such as CHWs and health coaches, diabetes educators, and nutrition specialists. Vermont also recently started an integrated care management community learning collaborative to support individuals with complex needs with team-based care that provides wraparound services to meet patient-identified goals and address root causes of health and social problems. The CHT comes together with the individual to identify the individual's most pressing needs (can be health and/or social) and forms a joint, shared care plan across multiple agencies and organizations. A health information exchange facilitates information and data-sharing. Agencies such as SASH are CHT "extenders" for certain populations such as Medicare-eligible patients with unstable housing situations or licensed addiction clinicians. These resources are shared; there is a system level team and a team doing direct treatment for the panel of complex patients in the community. Costs are shared among Medicaid and commercial payers and a capitated payment is given to each team to support their population to allow for flexibility to meet each individual/community's needs. See Appendix C for a brief case study showing how one patient benefited from Vermont Blueprint and SASH's wraparound services.

### *Pathways Community Hub Model<sup>25</sup>*

The Pathways Community Hub Model was developed to comprehensively identify and reduce risk and to build an infrastructure for communities to use resources more effectively to address these risks and improve outcomes. The model seeks to reduce the duplication of services that frequently come with a new emphasis on care coordination in many communities, when an individual or family could have multiple care coordinators working on specific issues without communicating or collaborating. The model works to link different care coordination agencies operating in one community together and track outcomes across the region but does not themselves provide care coordination services and remain a neutral entity. The three overarching principles of the Pathways Community Hub model are: 1) find; 2) treat; 3) measure. In a community with a HUB, the first step is the initial checklist, which is a

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<sup>24</sup> Bielaszka-DuVernay C. Vermont's blueprint for medical homes, community health teams, and better health at lower cost. *Health Affairs*. 2011;30(3):383-386.

<sup>25</sup> Pathways Community HUB Manual: A Guide to Identify and Address Risk Factors, Reduce Costs, and Improve Outcomes. Rockville, MD: Agency for Healthcare Research and Quality (AHRQ); January 2016. AHRQ Publication No. 15(16)-0070-EF. Replaces AHRQ Publication No. 09(10)-0088. Available from: <https://innovations.ahrq.gov/sites/default/files/Guides/CommunityHubManual.pdf>

comprehensive risk assessment that identifies social factors that are preventing good health outcomes, such as access to health care, housing, employment, safety, education, etc. The HUB staff reviews the information to determine what other services may already be provided to the individual, and identifies which care coordination agency is best suited to that particular individual or family. A referral is sent to the agency, and a community-based care coordinator is assigned; this person could be a CHW, a social worker, a nurse, or other role, depending on the individuals' risk factors. During a home visit, the CHW completes the process to enroll the individual in the HUB, which occurs after an intake form and initial checklist are completed by the CHW and the individual. These risks are then translated into assigned Pathways. Pathways are standardized tools, one per risk factor. The program currently has 20 unique Pathways, each of which ends in a measurable outcome; a Pathway is closed when that outcome is achieved. If an outcome is not achieved, the Pathway is closed as "finished incomplete" and learning from why the Pathway could not be completed is recorded and used to build an understanding of what is and is not working within a community. Payment is tied to completed Pathways, and multiple funders are essential to a sustainable HUB. The creators of the model found a significant reduction in low birth weight babies born to women with high-risk pregnancies, with a low birth weight rate (6.1%) among program participants of over half that of non-participants (13%). The success with low birth weight rate reductions has been replicated in other communities in Ohio.<sup>26</sup>

#### *Community Care of North Carolina – Community Health Networks*

Community Care of North Carolina (CCNC) developed 14 community health networks through a partnership between primary care providers, hospitals, health departments, departments of social services, and Medicaid. Each network has their own steering/management committee and operational infrastructure (e.g. full time program director, team of case managers). A statewide infrastructure coordinates and supports all of the networks and aligns funding. The community health network links each patient to a medical home, which includes team members from community partners in addition to health care and public health. The network gives practices access to a team of case managers who provide wraparound services and work with all patients in the network; case managers may be shared across multiple small practices. Case managers and health care providers share treatment plans and regularly communicate. Lessons learned from the development included: starting small and identifying best practices from pilots; strong physician leadership from the outset; strong state office of rural health; and it was created during a financial (Medicaid) crisis. CCNC has improved the quality of care with reductions in hospitalization rates, ED visits, and diabetes and asthma management. They have also saved the state of North Carolina a significant amount of money, with an estimated \$161 million in annual savings.<sup>27</sup>

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<sup>26</sup> Redding S, Conrey E, Porter K, Paulson J, Hughes K, Redding M. Pathways community care coordination in low birth weight prevention. *Maternal and Child Health Journal*. 2015;19(3):643-650.

<sup>27</sup> Steiner BD, Denham AC, Ashkin E, Newton WP, Wroth T, Dobson LA. Community care of North Carolina: Improving care through community health networks. *Annals of Family Medicine*. 2008;6(4):361-367.



### *Hennepin Health*

The goal of Hennepin Health, a safety net ACO in Minneapolis, is to fully integrate patients' medical, behavioral, and social service needs through a partnership between a hospital system, FQHC, county department of health and human services, and a county-run health plan. The target population is a particularly disadvantaged sub-population of Medicaid beneficiaries. In their model, CHWs or care coordinators do initial outreach and engagement of the individual. The individual is then assigned to a multi-disciplinary care team that includes a physician or NP, one or more care coordinators who can have different specialties (e.g. nurse, behavioral health specialist, human service specialist), a pharmacist, a CHW, and others as needed. The model is funded through a capitated per member per month rate paid by Medicaid to the county health plan and depend on the patient's age and gender. The savings generated from the program and from voluntary partner withholds (based on utilization targets and amount of risk the partner takes on) are put in a shared savings pool. Care coordination staff are based out of different locations, not just health care, to ensure regular engagement with patients who are not always visiting clinical settings. The program focuses on improvements across systems that will result in improved services for patients, identifying how to improve efficiencies and collaboration across systems to prevent patients from falling through the cracks.<sup>28</sup> Early data showed a shift in care from inpatient to outpatient settings; ED visits decreased 9.1 percent between 2012 and 2013 while outpatient visits increased 3.3 percent.<sup>29</sup>

### *Maryland – Local Health Improvement Coalitions and Community-Integrated Medical Homes*

Local health improvement coalitions (LHICs) are groups of local health departments, hospitals, physicians, community organizations, and other local agencies such as business, faith-based organizations, schools, and other social service providers, who receive funding to improve population health in their local area. Each of the 18 coalitions sets specific goals and plans for local health improvement, e.g. reducing specific health disparities; improving specific health behaviors and outcomes such as reducing obesity and improving birth outcomes; increasing access to health care; and reducing ED visits. The capacity of these LHICs is now being supplemented by Community Integrated Medical Homes (funded through CMMI as a SIM grant), which link primary care and community health services to support high risk patients through use of care managers, CHWs, and shared data.

### *Trinity Health*

Trinity Health's model is focused on a deep root cause analysis of what is happening with the patient and linking resources across the continuum, regardless if they are in a different or competing system. They have strong relationships in the community around different patient and community issues, and use data constantly to build a business case by linking characteristics of high cost, complex individuals with data around costs and financial impacts from other parts of the system including schools, jails, and law

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<sup>28</sup> Center for Health Care Strategies. Profiles in Innovation: Jennifer DeCubellis. May 2013. Available from: <http://www.chcs.org/media/DeCubellisJ.pdf>

<sup>29</sup> Sandberg SF, Erikson C, Owen R, Vickery KD, Shimotsu ST, Linzer M, Garrett NA, Johnsrud KA, Soderlund DM, DeCubellis J. Hennepin health: A safety-net accountable care organization for the expanded Medicaid population. *Health Affairs*. 2014;33(11):1975-1984.



enforcement. Their goal is to make the system work for the individual based on existing relationships and services they are already receiving, rather than navigating the patient through a broken system.

The initial evaluation is done by a nurse and a program manager, the latter of whom facilitates the relationship and is responsible for overall process improvements. Other staff facilitate the direct intervention and participate in shared rounds. Their purpose is not to become a new care coordination service; they are the first link to people who already are delivering the service. Through cross-continuum conferences, team members develop a shared plan of care that is linked with evidence-based treatment recommendations, and a decision is made about who the key connection will be with the patient in implementing the plan of care. The team integrates its notes in the electronic health record, which is linked back out to the team. Because they do not a resource themselves – they are a connector – they do not run into the caseload issues that many other programs face. Once they identify the problem and the needed services, individual access the resources that are already out there. Therefore, they can continue to add new individuals without maxing out their nurses and program managers.

Barriers are primarily financial, with health systems often reluctant to change the status quo when they are making a lot of income on high frequency patients. Investment in ongoing resources to build trust and collaboration is also a challenge. The second primary barrier is getting multiple stakeholders together to set shared values and collaborate

#### **Appendix C: Case Study of Patient Served by Vermont Blueprint for Health and SASH**

Mary is a woman in her mid-50s who has a long history of interacting with and being discharged from social service agencies. Because she was involved in criminal justice system and could be disruptive, many agencies would not work with her. Mary was living in substandard housing and not getting any services, but she would regular present to the hospital for respiratory issues. Because she was identified as being a high ED utilizer, she was handed off to the community health team (CHT) and integrated community care management team in her community. A person from the CHT was identified as a lead care coordinator to facilitate the care team. The care coordinator sat down with Mary and Camden Cards to identify top priorities. This is not an assessment; the cards list health outcomes and social factors such as housing and relationships. Mary ranked finding housing and trying to rekindle the relationship she had with her family as her top priorities, so that is where they started. The housing provider would not accept an application from her until she had a wraparound team around her, and if she was rude and threatening to other residents, there would be a wraparound response from the team. With that, the housing provider allowed her to move into a better housing situation, and the CHT identified a fund that could get her a new mattress and furniture. She then rekindled a relationship with her daughter and considered seeking mental health treatment because of her respiratory issues, she was exacerbating an underlying mental health condition. With team-based support and a common shared care plan working on what she want to work on – housing, not stabilizing health conditions – they were able to improve health condition without a health care intervention; her ED utilization went down and she didn't have any hospitalizations.