Mayo Clinic Rochester
Employee Community Health
Community Health Worker Program
Overview and Evaluation

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Acknowledgement

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Outline

- Description of the program
- Current state of program
- Evaluation model
- Qualitative results
- Quantitative results
- Lessons learned

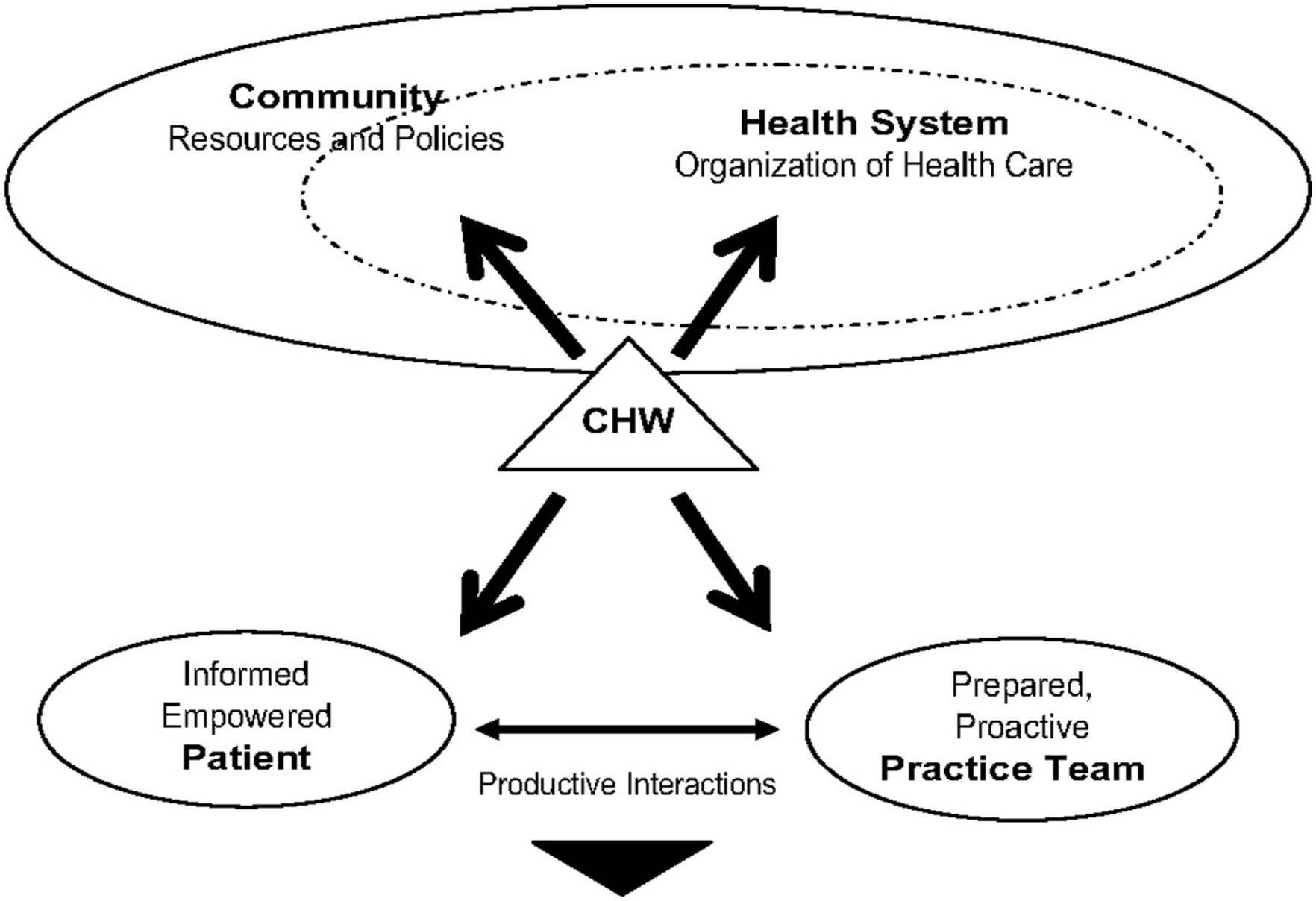
The ECH-CHW Program

- In 2012, a CHW program was implemented at ECH through collaboration with Intercultural Mutual Assistance Association (IMAA) http://imaa.net/about/mission-overview/
- IMAA is a local service organization with more than 30 year history of service to immigrant and refugee populations in Rochester, MN through case management, housing, employment, and victim services
- CHWs are employed by IMAA and trained by Mayo Clinic to care for a subset of medically complex adult ECH patients, who are being care under the Medical Home including patients enrolled in nurse-led Care Coordination and Integrated Behavioral Health programs.

ECH Program outcomes
2012- 2017

- 1117 patients served- 3273 visits
- 9 CHW ‘s - 6.O FTE for ECH patients
- Serving all patients – Adult/ Peds /IBH
- Serving multiple sites in Rochester (5)
- Co-supervision – Jean Gunderson
- ECH/Mayo staff participating in CHW training
- Referral process and visits documented in EMR

Integration of the Community Health Worker Model Into the Chronic Care Model.



Andrea Cherrington et al. The Diabetes Educator 2008;34:824-833

CHW Best Practices

Key elements for success include:

1. having the program be informed by its users
2. full integration into care teams
3. targeting definable and important aspects of multifactorial interventions
4. robust and well-defined processes in hiring, training and supervision of CHW
5. evaluation of programs and interventions

Kapheim and Campbell, 2014. Sinai Urban Health Institute (SUHI)

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Theoretical framework: Realist evaluation

- Realist evaluation is a member of a family of theory-based evaluation approaches which begin by clarifying the 'programme theory': the **mechanisms** that are likely to operate, the **contexts** in which they might operate and the **outcomes** that will be observed if they operate as expected
- Realist impact evaluation is most appropriate for evaluating:
  - new initiatives or programs that seem to work but where 'how and for whom' is not yet understood
  - programs that have previously demonstrated mixed patterns of outcomes
  - programs that will be scaled up, to understand how to adapt the intervention to new contexts

Theoretical framework: Realist evaluation

- Realist evaluation assumes that programs do not operate exactly the same, in all contexts and for all people:
  - While the basic components of the CHW program are known, and preliminary outcomes data is available, this approach allow one to answer questions such as "**how or why does this program work, for whom, under which circumstances"**
    - This is a critical step in anticipation of expanding the program to other populations
- These findings can be used to:
  1. refine program theory and
  2. identify appropriate evaluation measures

Specific aims

#1. Determine the relative efficacy of component CHW services:

- Through qualitative methods and an evaluative approach, elicit the experience of the main stakeholders within the existing CHW program to identify elements that led to relative successes or failures for different patients

- This will be done by conducting focus groups and in-depth interviews with patients, CHWs, care coordinators and primary care providers who have used the ECH-CHW program

Specific aims

#2. Extend CHW services to patients with diabetes and social, linguistic, and economic vulnerability

- The qualitative data obtained will be used to refine the existing CHW program framework and extend services to patients with LEP and on Medicaid who have diabetes

- The efficacy of this intervention expansion will be evaluated through practice-based tools that identify diabetes-related process and outcome measures

Timeline and Steps

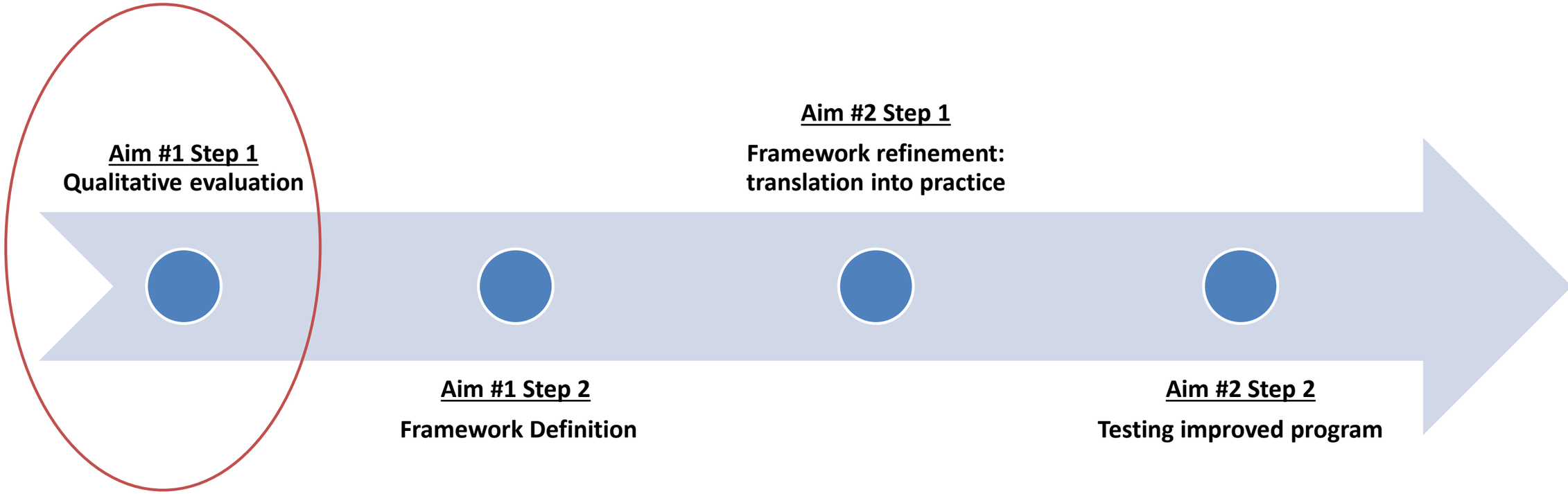
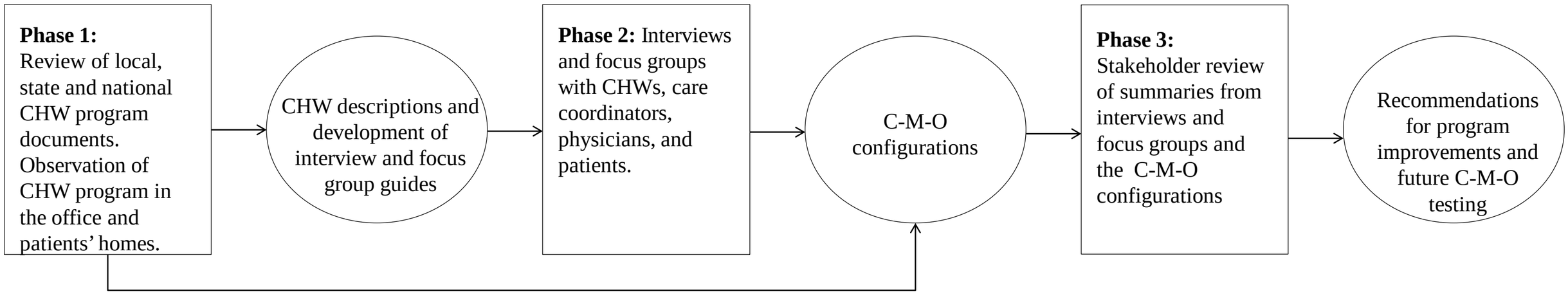


Figure 1. Data collection and analysis phases



*Abbr: CHW = Community Health Worker; C-M-O = Context-Mechanism-Outcome

CHW Program Evaluation

I. Qualitative evaluation

Realist evaluation:

- Assumes that programs do not operate exactly the same, in all contexts and for all people
- A member of a family of theory-based evaluation approaches which begin by clarifying the ‘program theory’: the **mechanisms** that are likely to operate, the **contexts** in which they might operate and the **outcomes** that will be observed if they operate as expected
- Allows one to answer questions such as **“how or why does this program work, for whom, under which circumstances”**

How?

CHWs	Patients	RN Care Coordinators	Providers
• 3 • In-depth interviews • Non-participant observations (16 hours)	• 28 • Focus group discussions (3) • In-depth interviews (4)	• 8 • In-depth interviews	• 3 • In-depth interviews

Using an evaluative approach, the interview and focus group discussion guides were formulated to elicit experience with program, mechanics of perceived utility, challenges and opportunities for improvement

CHW	• Experience of interacting with patients, care coordinators, other clinic staff, and community resources, trying to identify both facilitating and challenging factors; adequacy of training as it relates to job demands
Patients	• Elicit care experience, perceived utility, and opportunities for improvement
Care coordinators and providers	• Overall experience with the program, utility, best practices for care team integration, challenges and possible solutions

Original framework

The various CHW roles

Navigator or liaison: Helping patients navigate the health care system and being a liaison for health care appointments and communication

Outreach and social support: Helping patients access community resources

Advocacy:
Advocating for community needs

Health educator and individual capacity building: Providing and reinforcing basic health education regarding health prevention and management of chronic disease

Member of health care team:
Gathering client self-reported health related data

Health education and individual capacity building: Monitoring and reinforcing movement towards goals and self-management

Community health workers:
CHWs have community and health care knowledge and they serve as liaisons to community and health care services, teach and build capacity, act as advocates, and provide social support. They are also members of the community and they build trust through cultural competence, communication, and an understanding of poverty.

Initial hypothesized program theory:
CHWs come from the communities they serve, which builds trust. This trusting relationship enables the CHWs to be effective links between their own communities and systems of care. CHWs provide access to services, improve the quality and cultural competence of care, create an effective system of chronic disease management, and increase the health knowledge and self-sufficiency of under-served populations in order to reduce health disparities.

Context

MICRO LEVEL

MACRO LEVEL

MESO LEVEL

- Institutional arrangements, infrastructure (including EMR access)
- Process of sharing documentation
- Organizational norms
- Institutional champions/leadership
- Stakeholder beliefs and norms (including community), esp. related to chronic disease, cultural competency, social determinants of health, and socioeconomic status
- CHW training and capacity, as well as turnover and absenteeism
- Relationships and role clarity between CHWs, care coordinators, and clinicians
- Program enrollment policies and incentives for participation
- Political support and facilitators or barriers related to program finance (the "health system")
- Availability/history/relationships of community support services

Mechanism

WHY THE PROGRAM WORKS – INDIVIDUALS' RESOURCESS AND REASONING

- Empowered and compassionate CHWs and clients and trusting relationships with the health care system
- Capabilities related to communicating and navigating the system (attending appointments, negotiating insurance, paying bills)
- Support, mobilize resources (transportation and language services), and problem-solve logistics
- Addressing norms and beliefs and bridging the client and health systems so clients receive culturally competent care
- Building teamwork of CHWs, care coordinators, and clinicians – positive interactions with clients
- CHW credibility in health care system and feelings of belonging in the community
- Ability of CHWs to mobilize resources
- Understand barriers to access, building knowledge of services, and empowering and supporting clients when service needs are not met
- Being a spokesperson/advocate for clients
- CHW credibility in the community
- Identifying individual and community service needs and then articulating and advocating for those needs
- CHWs with range of health knowledge
- Client educational preferences and motivation to learn
- Providing culturally appropriate health information to clients and providers
- Credibility of CHWs as having first-hand knowledge of managing a chronic illness
- Identifying individual strengths
- Investment in an on-going relationship
- Understanding preferences and motivating

Outcome

MEASURABLE FOR SUBGROUPS

- Increased access to primary care
- Cost savings (reduced emergency use and readmissions, and increased appointment follow-through)
- Chronic disease prevention
- Chronic disease control
- Increased patient satisfaction and increased compliance
- Reduced health disparities and improved patient-centered care or quality care
- Cultural mediation and improved provider-patient communication
- Increased self-sufficiency and quality of life
- Increased access to basic needs
- Increased knowledge of community services
- Increased community capacity
- Increased health knowledge (e.g. self-reported diabetes knowledge) and self-efficacy
- Health behavior change
- Increased attendance at wellness visits
- Increased health data collection for EMR
- Adherence to goals
- Cost savings
- Chronic disease control

Revised framework

Community health workers:
CHWs have vast knowledge of community health and social service resources, and they help patients navigate systems, including insurance. They operate as an extension of the health care team, going into patients' homes to understand their needs, providing personal and social support, reinforcing health education provided by clinic providers, and sharing relevant patient information with clinical providers.

Revised program theory:
CHWs serve as a bridge that connects patients, providers, and community resources. CHWs are able to go into patient homes to understand contextual issues that may impact health. They reinforce health education given by care coordinators, and they share information about patients with care coordinators that could impact care planning. CHWs help patients navigate and gain access to a wide variety of health and social services in the community. These services are perceived as social support by patients, who may otherwise feel unable to manage.

The various CHW roles

Health care navigator or liaison: Helping patients navigate the health care system and being a liaison for health care appointments and communication

Rules and systems navigator: Helping patients navigate insurance or social service systems, rules, and paperwork

Outreach and social support: Helping patients identify and access community resources

Advocacy:
Advocating for community needs

Health educator and individual capacity building: Providing and reinforcing basic health education regarding health prevention and management of chronic disease

Member of health care team: Gathering client self-reported health related data

Health education and individual capacity building: Monitoring and reinforcing movement towards goals and self-management

Context

MICRO LEVEL

MACRO LEVEL

MESO LEVEL

CHWS that are able to get out into the home. Able to spend time walking people through things instead of just pointing them to a resource.

CHWs that are embedded in the community and aware of everything available for patients.

Clinical pressures that limit time for interactions. Providers who are frustrated when they can't help patients get healthy.

Care coordinators and providers who feel disconnected from the community but appreciate the social determinants of health.

Access to health insurance.

Administrative clinic staff who can keep up the pace of referral paperwork.

CHWs who have vast stores of community resource knowledge and efficient ways of making that available to other CHWs.

CHWs who are outgoing and compassionate.

Limited resources – going to people who need it most.

Assessments that are shared and helpful to CHWs and clinical staff.

Community resources that have strict rules or publish old information.

CHW turnover and piecemeal budgets.

Other people also helping, e.g. social workers.

Interpreter shortages.

Mechanism

WHY THE PROGRAM WORKS – INDIVIDUALS' RESOURCESS AND REASONING

Providing hope that there is someone to help/someone in your court.

CHWs with confidence make patients feel like "this is a person who can help me."

Helping people who are so overwhelmed that they feel stuck. Helping patients get organized/get a handle on things.

Working full-circle to make sure everyone is on the same page and that the outcome is clear.

Care coordinators, providers and patients know what is available to patients and can make connections between patient needs, available resources, and health impacts.

Relationship building: Building trusting CHW-patient relationships over time/over the course of several visits. Building CHW-care coordinator relationships that engender confidence and ability to work together for patients.

Feeling encouraged and increasing confidence. Helping patients see that they are making progress; helping patients set goals rather than just telling them to do it.

Efficient communication between CHWs and clinical staff – timely and helpful but not too burdensome – makes everyone feel informed about how to move patients forward.

Relieving patient worry so they can focus on things like health.

For some patients, increase trust or social integration.

Outcome

MEASURABLE FOR SUBGROUPS

Patients feel better or more hopeful/relieved.

Decreased patient stress and increase quality of life.

Removal of social barriers to health, e.g. access to healthy food for diabetics or clean air housing for people with asthma. Connections to other social service agencies and getting paperwork done correctly and on time. Identification of community assets like prescription drug programs or donations of durable medical equipment.

Reinforced educational messages/adherence/self-management.

Care plans that are informed by patient's social context (barriers and social support).

Staff satisfaction: Providers and care coordinators who feel like they're not at the end of the road with options.

Adherence to monitoring, e.g. blood pressures, which get reported back to clinical staff.

Reduced ER visits due to health, diet, activity, substance abuse.

Cost-effective delivery of health education and other services in the home (CHW vs RN).

II. Other outcomes (quantitative evaluation)

1. Health care utilization

Patient characteristics	**Total (N=452)**
Age years , Mean (SD)	48.5 (28.3)
Gender, F (%)	267 (59.1%)
Number of visits, Mean (SD)	3.8 (4.8)
Visit time (hours), Mean (SD)	6.9 (9.5)
Non-visit care time (hours), Mean (SD)	1.4 (2.5)
Duration in program (days), Mean (SD)	139.7 (122.9)

Adult patients

Outcome	Pre Rate	Post Rate	IRR* (95% CI)	p-value
Outpatient	7.09	6.10	0.86 (0.78, 0.95)	**0.0023**
Inpatient	0.66	0.54	0.82 (0.66, 1.04)	0.0944
Emergency	1.48	1.12	0.76 (0.63, 0.93)	**0.0100**

* IRR= Incidence Rate Ratio

Patients with High Charlson score (medical complexity)

Outcome	Pre Rate	Post Rate	IRR* (95% CI)	p-value
Outpatient	9.16	7.45	0.81 (0.72, 0.92)	**0.0021**
Inpatient	1.02	0.79	0.77 (0.59, 1.02)	0.0655
Emergency	1.99	1.50	0.75 (0.59, 0.96)	**0.0247**

* IRR= Incidence Rate Ratio

Other outcomes (chart review)

- **Categories of needs identified by care team and/or patients (n=218):**
  - Health Insurance navigation
  - Health system navigation
  - Non-Health system navigation
  - Health education and promotion
  - Psychosocial Support
- **Needs met majority of the time (n=218):**
  - fully met - 29.1%
  - partially met - 47.4%
  - not met - 5.1%
  - unable to determine - 8.4%

Lessons learned

- The importance of collaboration
- The importance of a framework
- The value of comprehensive data
- The importance of the long term plan
- Understanding the data that is important to your stakeholders

Questions

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