

INSTITUTE FOR HEALTHCARE IMPROVEMENT
SUMMARY REPORT: 90-DAY PROJECT

Optimal Primary Care

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I. Research and Development Team:

- Leader: Lindsay Martin
- Colleague (Helper): Jacky McLeod, Marie Schall

II. Intent: Explore the different models of primary care both within the United States and internationally and define a model for delivering optimal primary care.

III. Background:

The US ranks 31st among nations on life expectancy, 36th on infant mortality, 28th on male healthy life expectancy, and 29th on female healthy life expectancy, despite expenditures on health being nearly double those of the next most costly nation.[1] The mismatch between the focus on acute episodic care and high technology and an aging population with increasing chronic care needs is no longer sustainable, due to spiraling costs of health care.

A strong primary care system and practice characteristics such as patient registries, continuity, coordination, and community orientation were associated with improved population health. States and counties with more primary care physicians show more efficient use of care leading to lower overall health care spending.[2] Regular sources of care and continuous care with the same physician over time has been associated with better health outcomes and lower total costs.[3-5] Almost two-thirds of care outcomes were significantly improved in cases where patients had a strong and ongoing relationship with a primary care doctor.[6] Health care settings that offer patients a regular source of care, enhanced access to physicians, and timely, well-organized care can have the potential to eliminate disparities in terms of access to quality care among racial and ethnic minorities. [7]

Gap within IHI

IHI is expanding its portfolio of work related to the outpatient setting. There have been several requests from funders for research in testing in this arena, such as the California Health Care Foundation (CHCF) and the Commonwealth Fund. In addition, the Triple Aim has a significant focus on the outpatient setting. Given these requests, it is necessary to identify or create an optimal model of primary care that will better serve patients and reduce costs to the system. Most of IHI's past work on primary care has focused on the outpatient primary care office practice setting.

IV. Description of Work to Date:

The following health care organizations were researched and interviews conducted to better understand how each organization delivers primary care:

- Jonkoping County, Sweden
 - Interviews included: Ann Christine and Hans Granefalt – Primary Care Area Managers
- NHS England
 - Interviews included: Sir Brian Jarman and Jacky McLeod
- Medical Home (Pediatric Special Needs in Minnesota)
 - Interviews included: Jane Taylor
- Denmark Health System
- Bellin Health (specifically Bellin's Primary Care Platform)
 - Interviews included: Pete Knox
- South Central Foundation
- Ideal Micropractices
 - Interviews included: Gordon Moore and John Wasson

In addition interviews were conducted with individuals known for their expertise in primary care including Sir Brian Jarman, Dr. Michael Barry, and John Wasson.

V. Results of the 90-Day Scan:

All of the organizations that were explored contained the common element of either creating a system of health care or being part of a system of health care. This element of 'systemness' was essential to the success of the optimal delivery of primary care. Common themes across the sites were distilled. Five overarching components of a system and twelve components related to the delivery of primary care were identified.

Five System Components:

- Defined population;
- Defined budget;
- Providers share a common management system to meet a common set of strategic goals and there are provider incentives to practice as a system;
- Common communication mechanism within the system to facilitate coordination; and
- System designed to act for the individual.

Twelve Components of Primary Care Delivery:

- Agreed upon patient/provider relationship
- Planned and appropriate access to care 24/7/365
- Coordination at first point the patient contacts the system
- Home care, if needed, is an option for the delivery of primary care
- Group practices are helpful in delivering care (with the exception of Ideal Micropractices)

- Multidisciplinary care teams are essential
- Community partnership participate in the delivery of in health promotion and other additional social services
- Patient is part of the care team
- Patient experience is routinely measured and acted upon
- Primary care is not delivered by specialists (i.e. comprehensive care approach)
- Evidence-based care is delivered
- Provider continuity

The creation of a system that contained the above listed elements was different for each of the systems explored. Appendix A contains a matrix that describes how each system enacted the components described above.

An optimal model of primary care must include recognition of and interaction with other components of the care system. Most past efforts focused on the optimizing primary care without including the other parts of the health care system. For a patient their health and health care may include specialist care, hospital care, and primary care. It is the interaction of and coordination of all parts of a system that help to create an optimal model of primary care.

Figure 1 depicts a system of health care. A population of individuals is represented by the purple box – each individual accesses the health system as it is appropriate for their needs. Interactions between individuals and the care system are depicted by the straight lines. Flow of knowledge is also depicted along the same straight lines.

There are three necessary components of any interactions between an individual and an optimal health care system:

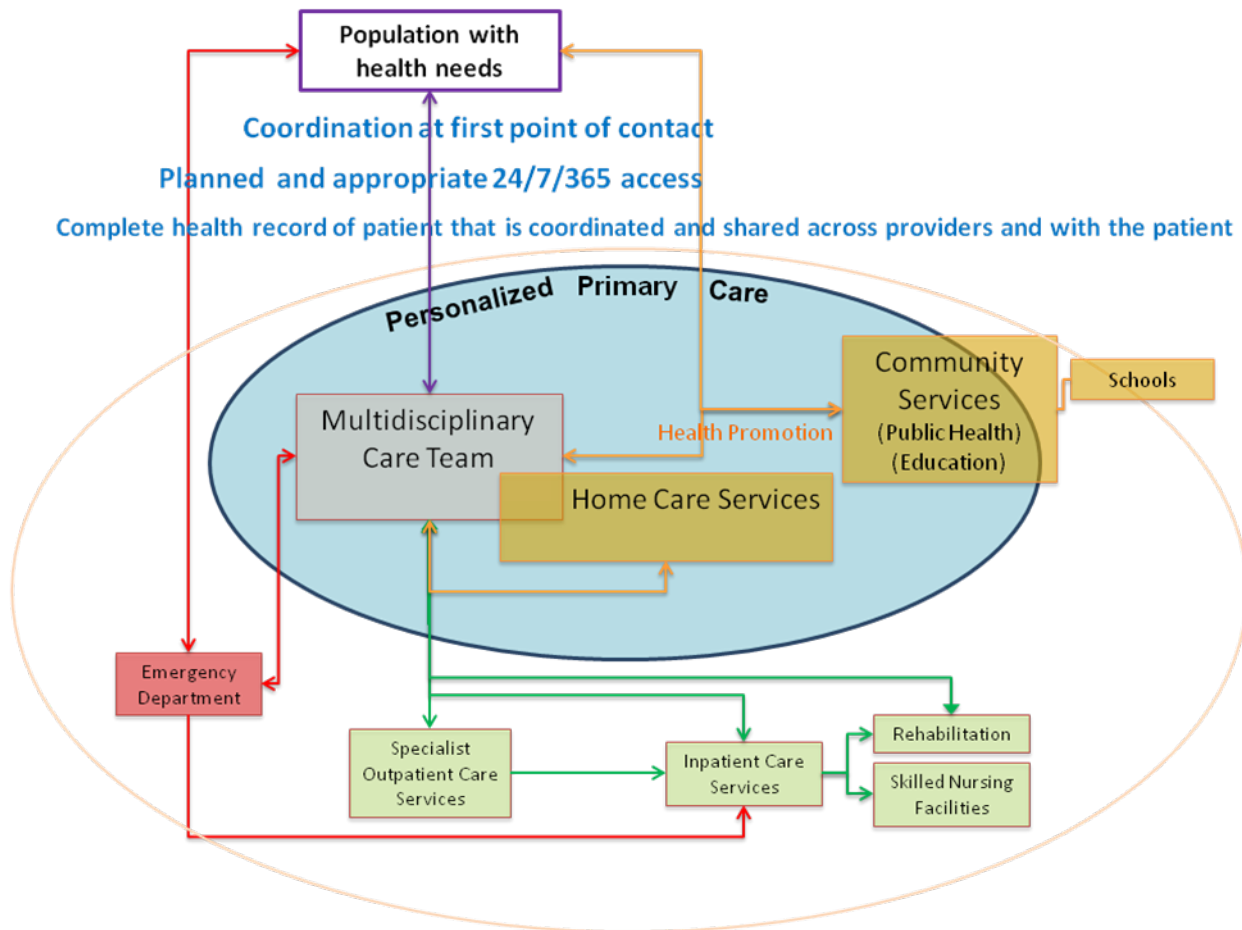
1. Coordination at the first point of contact: Regardless of the manner in which a patient enters the health care system, his/her care should be coordinated to allow for the best treatment possible.
2. Planned and appropriate 24/7/365 access: Individuals must be able to have their health needs addressed in an appropriate manner regards of the time or the day.
3. Complete health record of patient that is coordinated and shared across providers and with the patient: A complete health record (regardless of the form it takes) is necessary to provide appropriate care and to eliminate unnecessary care (such as repeated tests or procedures due to lack of information).

The ideal health care system is composed of several parts:

- Emergency Care (depicted in the red box) – Individuals must be able to access care for emergency situations.
- Specialist/Inpatient Care (depicted in the green boxes) – Includes specialist outpatient services, inpatient care services, rehabilitation, and skilled nursing facilities.
- Personalize Primary Care (depicted in the large blue shaded oval) includes:
 - Multidisciplinary Care Team

- Home Care Services
- Community Services
 - Community services fall both within and outside of personalized primary care.

Figure 1: System of Health Care



To further explore the primary care aspects of the system of health care, Figure 2 shows an expanded version of the personalized primary care oval. There are three necessary components of the relationship that creates personalized primary care within a system context:

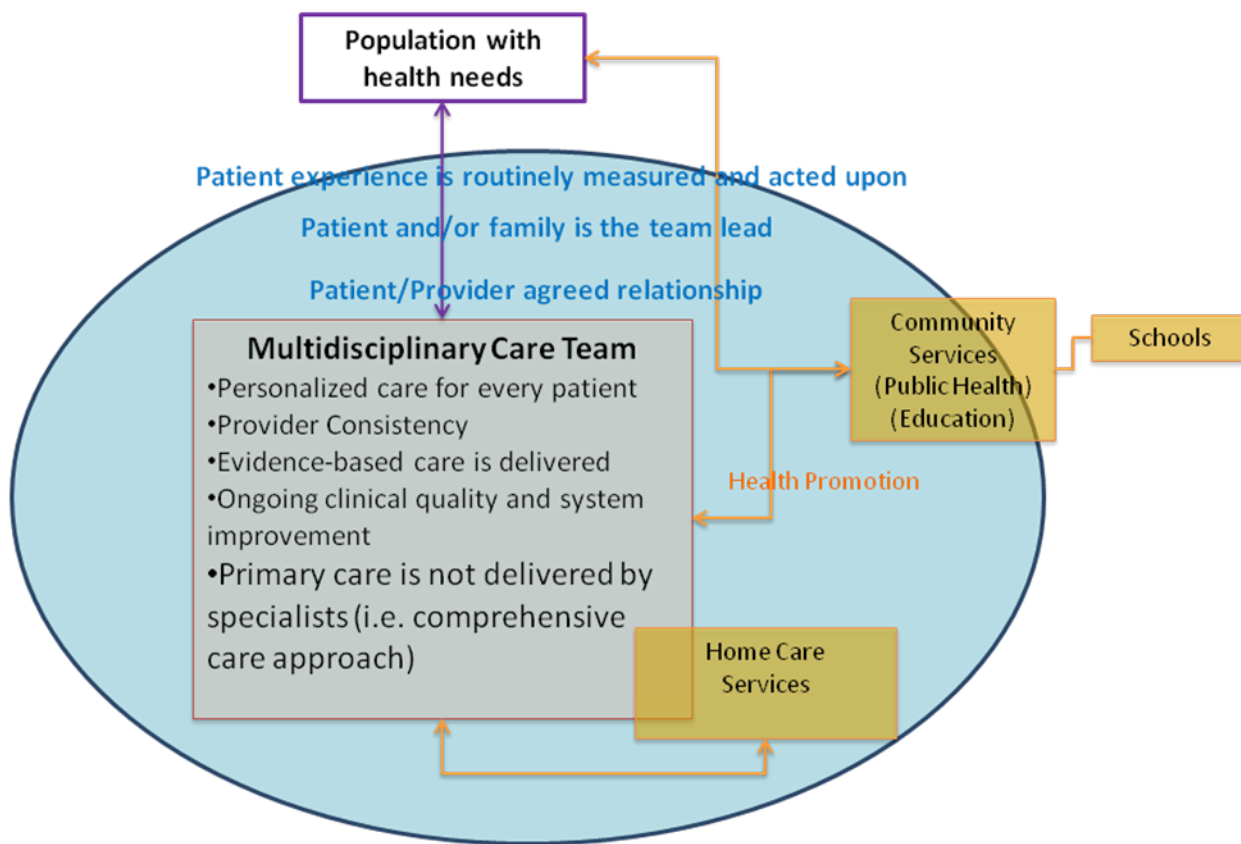
1. Patient experience is routinely measured and acted upon;
2. The patient and/or the family is the lead of the multidisciplinary care team; and
3. The patient and the multidisciplinary care team have an agreed upon relationship.

The multidisciplinary care team is the central feature of the personalized primary care. By placing the patient as the team lead, the patient has the ability to inform the composition of the team. The multidisciplinary team may take many forms depending on both the availability of resources and

the health requirements of the patient. In some cases the team may consist of a patient, a family doctor, a nurse, a medical assistant, a mental health provider and a front desk staff member. In others the team may be a patient, a nurse, a community health provider, a religious leader, and a family member. The model is built to be generic to allow for appropriate customization. Regardless of the team composition the following items are essential to delivering personalized primary care:

- Provider consistency
- Evidence-based care is delivered
- Ongoing clinical quality and system improvement
- Primary care is not delivered by specialist (there is a comprehensive care approach)

Figure 2: Personalized Primary Care



The patient passes through the different parts of the system when it is appropriate for their health needs. The central feature of the health care system is personalized primary care. Ideally most care can be delivered by this oval. Depending on the patient's needs, the different parts of the system make be larger/smaller. Joanne Lynn and colleagues divided a population into segments based on their health needs.[8] The segments are as follows:

- Healthy

- Maternal and infant
- Acutely ill mostly curable
- Chronic condition, normal function
- Stable, significant disability
- Short period of decline near death
- Organ system failure and long, dwindling course

By looking at individuals who fall into the different segments it is possible to visualize how the model changes based on health needs. Four case studies from a primary care practice in England were used to test the model and determine interactions with the system (Table 1). The health needs of the following four individuals were reviewed from December 2006 – December 2007:

- Healthy - 38 year old male, fit and well
- Chronic illness stable, normal function - 32 year old female, single-parent with limited social support, living with HIV and suffering from periods of depression
- Stable, significant disability - 76 year old male, widower, lives alone, suffers from chronic generalised osteoarthritis and chronic depression
- Short period of decline near death - 77 year old married man with cancer that spread rapidly

Table 1: Health services utilized by four patients in a primary care practice in England

Care System Component Population Segments	Acute care	Chronic care	Multidisciplinary Care Team				Home Care Services	Specialist Outpatient Care Services	Inpatient Care Services	Emergency Department
			Telephone	Email	Office Visit	Home Visit				
Segment 1: Healthy	0	1	0	0	0	0	0	1	0	0
Segment 3: Chronic illness stable, normal function	11	14	0	0	23 (12 mental health provider)	0	0	1		1
Segment 4: Stable, significant disability	6	12	8	0	0	2	5	3	0	0
Segment 5: Short period of decline near death	8	10	0	0	7	0	4	6	1	0

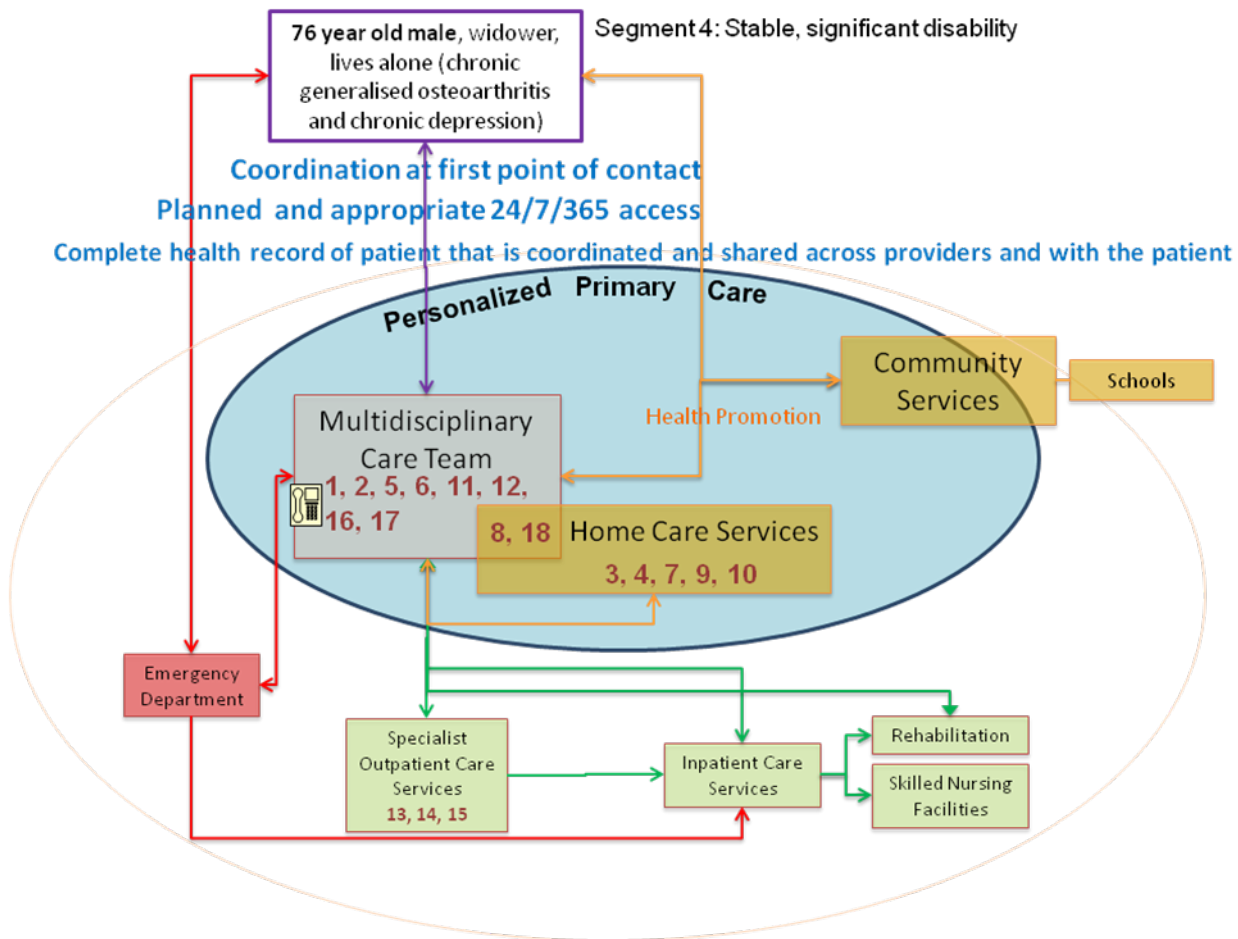
Table 2 and Figure 3 further explore the health needs of one of those individuals (76 year old male, widower, lives alone, suffers from chronic generalised osteoarthritis and chronic depression) over the course of the year. He had a total of 18 interactions with the health system. Ten of those interactions were his primary care team. Because of his osteoarthritis, this individual has a difficult time leaving his home; therefore eight of the interactions he had with his primary care team were

on the phone and two of them were visits from a member of his care team in his home. He also received home care services from a community nursing service five times. These visits were coordinated with his care team. In addition he had three visits to a special falls clinic with the hospitals for evaluation and mitigation of problems with falls.

Table 2: Health interactions of 76-year old individual with the UK health system from December 2006 – December 2007

Interaction	Date	Location	Care Team Provider	Need presented
1	15.1.2007	Telephone	Doctor	Acute clinical
2	27.3.2007	Telephone	Doctor	Chronic clinical
3	28.3.2007	Home Visit	Nurse	Chronic clinical
4	24.4.2007	Home Visit	Nurse	Chronic clinical
5	5.6.2007	Telephone	Administration	Ancillary
6	27.6.2007	Telephone	Doctor	Chronic clinical
7	11.7.2007	Home Visit	Nurse	Chronic clinical
8	18.7.2007	Home Visit	Doctor	Acute clinical
9	2.8.2007	Home Visit	Nurse	Screening
10	24.8.07	Home Visit	Chiropodist	Chronic clinical
11	20.9.2007	Telephone	Doctor	Acute clinical
12	9.10.2007	Telephone	Doctor	Ancillary
13	17.9.07	Hospital	Doctor	Chronic clinical
14	25.10.07	Hospital	Doctor	Chronic clinical
15	29.10.07	Hospital	Doctor	Chronic clinical
16	29.11.2007	Telephone	Doctor	Acute clinical
17	18.12.2007	Telephone	Doctor	Acute clinical
18	21.12.2007	Home Visit	Doctor	Acute clinical

Figure 3: Health interactions of 76-year old male depicted on Health System Model (numbers represented the interactions listed in Table 2)



IT Implications – A common communication mechanism within the system to facilitate coordination is a key component of the system. While this communication mechanism is frequently thought of as an electronic medical record many organizations are putting it into place without significant technology increases. For example, in the Medical Home Model we examined, parents keep a binder that contains all of their child’s health interactions. In addition, specialists are given evaluation forms to fax back to the primary care team to facilitated knowledge transfer between providers.

Business Case Implications – Optimal primary care should result in reduced use of inappropriate use of emergency departments, specialist outpatient services, and inpatient services. As stated previously, regular source of care and continuous care with the same physician over time has been associated with better health outcomes and lower total costs.[3-5]

VI. Open Questions:

- Can creating a system of primary care reduce inappropriate access to the system and drive down costs?
- How do disparate organizations for a system (without being owned by the same entity)?

- What are the key levers in the system to drive down costs, increase patient experience, and enhance the health of the population?
 - Are they the same levers for each component?
- How can public services in the US be integrated into the delivery of health care services?

VII. Conclusion:

Delivering optimal primary care necessitates that primary care is integrated into a larger system of health care services. Without creating a system, an individual's care cannot be sufficiently coordinated to make it optimal.

VIII: Appendices:

1. World Health Statistical Information System. 2006 [cited 2007; Available from: <http://www.who.int/whosis/whostat2006/en/>.
2. Baicker K and Chandra A, *Medicare spending, the physician workforce, and beneficiaries' quality of care*. Health Affairs 2004. **Suppl Web Exclusives**: p. W184-97.
3. Starfield B, S.L., Macinko J, *Contribution of primary care to health systems and health*. The Milbank Quarterly, 2005. **83**(3): p. 457-502.
4. Starfield B and Shi L, *The medical home, access to care, and insurance: a review of evidence*. Pediatrics, 2004. **113**(supplement): p. 1493-1498.
5. Shi L, et al., *The relationship between primary care, income inequality, and mortality in the United States, 1980-1995*. J Am Board Fam Pract, 2003. **16**(5): p. 412-422.
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7. Beal A et al. *Closing the Divide: How Medical Homes Promote Equity in Health Care*. Commonwealth Fund 2006 HealthCare Quality Survey 2006 [cited.
8. Lynn J, S.B., Bell K, Jencks SF, Kambic RT,, *Population Segments*. Milbank Quarterly.