Good Neighbors: How Will the Patient-Centered Medical Home Relate to the Rest of the Health-Care Delivery System?

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Recent policy focus on models of the patient-centered medical home raises questions about how medical home practices will relate to the rest of the health-care delivery system. This paper presents a conceptual framework of how patients and clinicians might interact in a medical neighborhood; outlines key features of a neighborhood and incentives for medical neighbors to participate in care coordination; identifies the policy considerations in designing neighborhoods; and puts forth a research agenda to support the development and evaluation of medical neighborhoods.

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While current models for the Patient-Centered Medical Home (PCMH) do not depict the medical home physician and practice working in isolation^{1,2}, how to most effectively establish relationships between the PCMH and its “neighbors” is uncertain. The current ideal for the PCMH may set unrealistic expectations, given how care is currently organized and financed—that the PCMH: (1) functions as the hub of care coordination and is recognized as such by all other providers; (2) has complete access to information on the priorities and actions of patients and other providers; (3) can effectively influence decision-making by patients and other providers in order to coordinate care; and (4) can be confident that his/her understanding of a patient’s best interests is reasonably aligned with those of other clinicians and indeed of patients themselves.

In reality, patients and other clinicians may not agree that there is any single effective hub for comprehensive care coordination, and other providers may have motivations not aligned with PCMH ideals. Currently, care patterns are highly fragmented, and physicians are often unaware about all of the care that patients receive.³ Clinicians outside the medical home may have a poor understanding of what comprises good coordination, and for this and other reasons (such as lack of reimbursement and compatible information systems), may not engage adequately with the medical home to improve coordination. Patients and all clinicians are also hobbled by the paucity of accessible, accurate, and objective data on care outcomes and the contributions of specific clinicians and services to those outcomes as well as lack of a uniform electronic medical record. Given current time pressures on most clinicians,⁴ and reimbursement pressures on those who deliver primarily cognitive services,⁵ few clinicians are likely to invest substantial effort or resources to improving care coordination without expecting to be paid for it or unless

they are under regulations that tie desired coordination activities to other types of incentives.

The challenge for policymakers is to craft interventions that simultaneously acknowledge the realities of health-care markets and build upon their strengths to promote improved care quality and reduced costs. One potential model is to explicitly articulate the expected contributions of other providers—clinicians outside of but interacting with the medical home—to care coordination. From the perspective of patients and insurers, such an extended “medical neighborhood” could be jointly held responsible for the care outcomes of a given population of patients.

This paper presents a conceptual framework of how patients and clinicians might interact in a medical neighborhood; outlines key features of a neighborhood and different types of incentives for medical neighbors to participate in care coordination; identifies the key policy considerations in designing medical neighborhoods; and puts forth a research agenda to support the development and evaluation of medical neighborhoods.

CONCEPTUAL FRAMEWORK

In a sense, the medical neighborhood concept attempts to bridge (1) the PCMH model of concentrated coordination responsibility on a primary care team within a single practice with (2) that of large integrated delivery systems that include hundreds of clinicians, multiple facilities, and that function as a single accountable entity jointly responsible for comprehensive care delivery within their boundaries for a given patient. The best existing examples of commercial integrated systems (non-VA or Department of Defense) are staff/group model health plans such as Kaiser Permanente that deliver comprehensive care for a specified patient panel in return for a fixed premium. Because integrated delivery systems do not exist in most markets, medical neighborhoods may offer communities an avenue for improving integration of care delivery on a smaller scale and possibly, in a more patient-centered way. Moreover, even existing integrated delivery systems may fall short of the care coordination ideal, for services delivered both within and outside their boundaries, if their patients do not have an identifiable medical home clinician within the system to help them navigate care processes and synthesize information from disparate sources. Integrated delivery systems may thus also improve internal processes for coordination based on the medical neighborhood model.

The collective patients affiliated with each medical home are at the center of the neighborhood, figuratively and literally driving decision-making through their expressed preferences and shared decision-making. Patients would also be expected to accept certain responsibilities as the primary agent in their own care, including clearly identifying the clinicians they consider their

primary providers, and being consistent in those decisions when they communicate with their providers and insurers. Patients would select their medical home, and then the PCMH would, in concert with the patient, identify peers who would serve as “neighbors” and partners in care. Mutual acknowledgement of care relationships and explicit articulation of each clinician’s role will help align the expectations of all involved and clarify lines of accountability.

A task as complex as care coordination requires sets of overlapping expectations and responsibilities among different actors. The primary care model as described by Starfield and the Institute of Medicine^{6,7} emphasizes the role of the primary care clinician as part of a practice team—to provide first-contact, longitudinal, and whole-person care; to “triage” patients and arrange for services from other providers as they require; and to coordinate the patient’s overall health care—but is less explicit about patient (and caregiver) and neighbor responsibilities. Table 1 delineates the coordination activities within the medical home and illustrates how the medical home must rely upon active participation from patients and neighbors to achieve coordinated care. Where the same or similar tasks are shared by more than one actor, the bolded item indicates where the greatest responsibility falls.

Two primary themes emerge from this conceptual framework: that of *Reciprocity of responsibilities* and that of the importance of *Reliability* in an effective neighborhood. Reciprocity of responsi-

bilities acknowledges that care coordination is an inherently human activity requiring personal interactions, some of which will be symmetric (a medical home and medical neighbor are each responsible for telling the other when they make a change to ongoing therapy) and some of which will be asymmetric (every clinician is responsible for eliciting a patient’s care preferences and patients are responsible for communicating those preferences in a complete and honest manner). Reciprocity implies that the coordination effort exerted by one actor may not be effective in the absence of the reciprocal effort by another actor. For example, the PCMH may re-engineer practice workflows to provide first-contact and longitudinal care, but if an informed patient insists on seeking first-contact care in an emergency department or “doctor shopping,” the medical home’s efforts to improve access will be for naught.

Reliability of the neighborhood in achieving coordinated care means first acknowledging that time, energy, and resources are limited, making it risky to depend on any single actor to perform all necessary coordination tasks. In the patient safety field, shared responsibilities—such as multiple clinicians checking on the identification of a presumed surgical patient before operating—help prevent adverse events, albeit with increased effort and associated costs.⁸ Similarly, spreading the responsibility across the PCMH and neighbors for coordination tasks could help minimize the degree to which those tasks “fall through the cracks” of care. Neither reciproc-

Table 1. Responsibilities of Medical Homes, Patients, and Medical Neighbors

Medical home	Patient	Medical neighbor
<ul style="list-style-type: none"> Provides first-contact, longitudinal, and whole-person care Gathers information on patient’s priorities and preferences on a continuous basis Ensures that patients and caregivers understand care options Engages in shared decision-making with patients, caregivers, neighbors on broad care options and in order to develop a longer term care plan Arranges for services from neighbors Summarizes and transmits clinical and other patient information to neighbors before patient’s arrival for neighbor services Receives and synthesizes clinical and other patient information from neighbors. Tells neighbors and patient when transmitted information is insufficient Directly communicates with patient and neighbors about the rationales for clinical recommendations Tracks the occurrence and results of referrals and treatments and institutes processes for ensuring their completion Communicate their assessment of care quality, including coordination actions by neighbors (may be based on data from other parties such as insurers), to patients and neighbors Engage in quality improvement with patients and neighbors 	<ul style="list-style-type: none"> Seeks first-contact, longitudinal, and whole person care from medical home Explains priorities and preferences completely and honestly, and informs all clinicians if/when they change Engages caregivers in learning about care options and alerts clinicians when they don’t understand information on care options Engages in shared decision-making with medical home and neighbors on particular care options and in order to develop a longer term care plan Tells medical home whether they actually received services from neighbors and when they self-refer for care from other providers Summarizes and transmits clinical and other patient information to neighbors and MH before or at point of care Tells medical home and neighbors when transmitted information is insufficient Alerts medical home and neighbors when they don’t understand the rationales for clinical recommendations Tracks the occurrence and results of referrals and treatments Communicate their assessment of the quality of care to medical homes and neighbors 	<ul style="list-style-type: none"> Redirects patients seeking first-contact, longitudinal, whole-person care to MH Gathers information on patient’s priorities and preferences on a continuous basis Ensures that patients and caregivers understand care options Engages in shared decision-making with patients, caregivers, and medical home on care options specific to neighbor services, and to develop a longer term care plan Coordinates with medical home to arrange for services from other neighbors and encourages patients to follow-up with medical home Receives and synthesizes clinical and other patient information from medical home. Tells medical home and patient when transmitted information is insufficient Summarizes and transmits clinical and other patient information to medical home before patient’s arrival for medical home follow-up Directly communicates with patient and medical home about the rationales for clinical recommendations Tracks the occurrence and results of referrals and treatments and institutes processes for ensuring their completion Communicate their assessment of the quality of care, including quality of coordination actions by medical homes, to patients and medical homes Engage in systematic quality improvement with patients and medical home

ity of coordination tasks nor processes that ensure reliability of the neighborhood undermines the central role that the medical home plays (for example, although both the PCMH and neighbor are responsible for eliciting patients' care preferences, the PCMH bears the primary responsibility), but rather they make clear the critical inter-dependencies between actors.

Compatible electronic information systems that are shared by all members of the neighborhood would greatly facilitate communication⁹ and are an important component for success. It is important that such systems support all critical coordination tasks, particularly those involving shared decision-making; most current systems do not¹⁰. In addition, the desired timing of many actions in Table 1 will likely vary across care situations and be dependent on community standards.

FEATURES OF MEDICAL NEIGHBORHOODS

General Considerations

While the number of potential permutations of neighborhoods as they evolve to local conditions are legion, we can meaningfully narrow them down to a limited set of parameters and options, keeping in mind five key assumptions. First, neighborhoods are networks of peers connected to a given PCMH, inclusive of all the neighbors who treat patients affiliated with that PCMH. Each patient has their own cluster of providers within this neighborhood, but the PCMH is responsible for establishing common underlying infrastructure to "connect" the neighborhood, in order to reap any potential efficiencies of scale.

Second, no single type of delivery system or medical neighborhood is likely to be appropriate for all communities. On the other hand, it is reasonable to expect that delivery systems can evolve in response to the right incentives (such as payment or public reporting of performance) and other policy signals (such as patient expectations).

Third, the primary care specialist and his or her practice team would shoulder the greatest responsibility for care coordination. But for some patients at some point in their care, a subspecialist who is willing and sufficiently trained as a generalist to assume the full responsibilities of the medical home may serve as the primary provider. For example, oncologists often provide most of the care coordination for patients with active cancer, in effect acting as the patient's medical home.

Fourth, neighbors would not all make equal contributions to care coordination or have equivalent qualifications (e.g., in terms of resources and practice processes devoted to coordination). Incentive structures could distinguish the varying levels of coordination services delivered by neighbors.

Fifth, in the short term, current fee-for-service payment structures will likely remain intact. This is a realistic assumption based on health reform proposals from Congress¹¹ and broad trends in private insurance markets.¹² However, over the long term, insurers may come to rely on "bundled" payments for groups of related services, either on a per-episode basis or on a full capitation basis, which might alter the nature of relationships among medical homes, neighbors, and insurers. Neighborhood models should thus be adaptable to bundled payment approaches.

Lastly, the goal of patient-centered care implies that medical neighborhoods would avoid as much as possible placing limitations on patients' choice of providers. That is, patients would not

be "locked-in" to their choice of medical home physician, and the medical home would not function as a gatekeeper. Rather, a mutual voluntary agreement, akin to those being proposed in current medical home demonstrations,¹³ would enable an ongoing patient-clinician relationship at the medical home.

However, medical homes would have limited ability to affect care outcomes if they had no discretion over the size and composition of their neighborhood. In formally constructed neighborhoods (e.g., those that require written "service agreements" or "care coordination agreements" between providers), this might imply that providers not selected into a neighborhood would not be eligible for care coordination incentives, but neither would they be exposed to regulations governing neighbors. Medical homes might opt to construct more informal neighborhoods or maintain a "nested neighborhood" comprised of a core group of neighbors governed by formal agreements and other neighbors with whom they expect to have fewer interactions. In any case, neighborhoods are unlikely to become very restrictive, as some types of subspecialists already have full patient panels, and medical homes have an incentive to maintain reasonably large neighborhoods in order to ensure timely access to care for patients.

Composition of Medical Neighborhoods

Among features of neighborhoods, the most concrete relate to their composition.

- Their *size* may range widely depending on local practice styles or population needs, and patient preferences, but could be measured and compared on a standardized basis, such as the number of neighbors per 100 patients served by a medical home.
- Their *specialty mix* could be measured in similar terms and/or as the relative preponderance of different specialties (e.g., proceduralists vs. those who provide largely cognitive services). Some medical homes may choose not to include as neighbors those subspecialists that they need only rarely (e.g., neurosurgeons).
- Although medical home initiatives have focused on physicians, there is no a priori reason why neighborhoods cannot also include institutional providers and non-medical providers. *Facilities* such as hospitals or nursing homes, organizations such as home health agencies, and non-medical providers such as social service counselors could function as neighbors.
- Lastly, the *geographic reach* of a neighborhood may be important to some patients. For example, "snowbird" patients who routinely move between two different states in a given year could reasonably expect their PCMH in one state to consider their providers in the other state as neighbors, with the disadvantage that coordination may be particularly challenging for providers working far apart (e.g., because of lack of compatible information systems across regions).

Entry into Neighborhoods

How providers become recognized as neighbors is another feature with multiple dimensions. During the era of tightly managed care, insurance companies defined provider "networks." Closed networks (such as in staff or group-model health maintenance organizations) are the most restrictive,

while open networks, now the dominant model in commercial health insurance, allow broader choice, but are usually accompanied by incentives for patients to stay within network. At the other extreme, some fee-for-service systems (such as in Medicare) place no restrictions on the providers that patients or clinicians can choose to work with. The medical neighborhood model seeks to *redirect the decision-making regarding neighbor selection from insurers to medical home clinicians considering their patients' preferences*. Because this paradigm shift toward a “bottom up” growth of neighborhoods around a PCMH has few precedents, there are several potentially contentious aspects of the process.

- How does one become a neighbor? This could vary from arrangements where any provider can self-designate as a neighbor, to the PCMH inviting specific peers to be neighbors, to an assumption by medical homes and insurers that all providers are neighbors by default (with the attendant responsibilities) if they treat a patient under care of that medical home. The “nested” neighborhood model described above could serve as a hybrid approach.
- Is neighborhood membership *prospective or retrospective*? Do insurers and medical homes identify neighbors at the beginning of a program or “performance measurement period”, or do so after the fact? Timing of designation has implications for the ability of medical homes and neighbors to establish formal expectations of one another, to align those expectations with patients' perceptions of care relationships, and to work toward specific care goals.
- Can neighbors belong to more than one PCMH: is neighbor designation *overlapping or non-overlapping*? A given subspecialist may exclusively function as a neighbor to one medical home or to several. While overlapping neighborhoods have intuitive appeal, they may become less appropriate as the size of the medical home “unit” grows. That is, a PCMH could be defined as a single primary care specialist or practice, or as a large group of primary care clinicians and practices, as in an integrated delivery system. A market dominated by very large medical homes may neither need nor want to accommodate overlapping neighborhoods.

Formal Relationships Between Medical Homes and Neighbors

Formal contractual relationships will likely accompany neighbor designation.

- Insurers need to establish contracts with neighbors in order to appropriately pay them for coordination services or meeting performance targets. Such contracts can be subsumed in insurer contracts with medical homes (with insurers delegating enforcement of the contract to the PCMH) or stand as separate, direct agreements with neighbors. Part of any insurer contract is likely to include a formal set of qualification criteria that neighbors would have to meet and/or expectations for their participation in care coordination.
- Medical homes need to establish contracts with neighbors in order for each to align with the other's expectations of their working relationships. “Service agreements” or “care coordination agreements” that explicitly lay out responsibilities (e.g., for timeliness of communication, ensuring access for patients, and specific formats for information

transfer) of medical homes and neighbors comprise one important layer of accountability. While insurers may promulgate standardized versions of such agreements for medical homes to adopt, it is likely that many medical homes and neighbors will want to customize agreements to their particular community context. Some agreements between the PCMH and neighbors may be written and formal (particularly for actions that are linked to payment), whereas others may be more informal.

- Patients need to participate with medical homes in identifying neighbors through their expressed care preferences.

Patient Recognition of Medical Homes and Neighborhoods

The degree to which patients participate in defining neighborhoods can also vary with implications for the burden that falls on patients and how effective neighborhoods are at coordinating care. Patients might not be informed at all about the composition of a neighborhood, particularly if neighbor designation is done retrospectively. Patients might voluntarily identify, in concert with the PCMH, those other providers that they wish to be recognized as neighbors either before or after they seek care. Or insurers might expect patients to inform them when patients seek care from a provider who is not in the neighborhood (a “soft lock-in”).

Mechanisms for Accountability

Lastly, neighborhoods can be assessed based on the number and strength of mechanisms for accountability that they adopt. These could be positive, in the form of additional payment, increased patient volume, or the reputational gain of public reporting of “neighbor” status, or they could be negative, in the form of withheld payments, decreased patient volume, or the reputational loss of *not* being recognized as a neighbor. Ultimately, poorly performing neighbors could be excluded from neighborhoods.

For a PCMH neighborhood to succeed, the incentives must be properly aligned. Such incentives for care coordination could influence how insurers and providers opt to structure neighborhoods, how medical homes and neighbors interact, how effective neighborhoods are at coordination, and the financial and political sustainability of the model. The reciprocities and shared responsibilities of a successful neighborhood require substantial effort by neighbors to align their expectations with those of patients and medical homes, and to effectively perform coordination tasks. This may be particularly important in communities where medical homes have limited market leverage over other providers or where insurers allow patients to self-refer to subspecialists. If neighborhoods are not gate-keeping models, it might be unrealistic to expect medical homes to effectively engage neighbors without offering incentives. A combination of positive and negative incentives might be most effective in reinforcing desired actions by neighbors.

Incentive systems ideally would also reflect the relative contributions of different neighbors to care coordination. For example, in the nested model mentioned above, “core” neighbors who share a large volume of patients (such as endocrinologists treating diabetic patients) with the PCMH might receive a different designation in public reporting and/or receive larger payment incentives than other neighbors who engage with the PCMH infrequently (such as radiation oncologists). Similarly,

neighbors who provide the types of services that require more intensive coordination efforts (such as a neurologist co-managing a patient with a complex constellation of symptoms) could be distinguished from those who deliver more standardized services that demand less coordination effort (such as an electrophysiologist conducting a one-time diagnostic test). Medical homes and insurers could decide to create incentives that hold different neighbors accountable for different care outcomes (clinical quality, patient experiences, and/or costs of care). Incentives could also be tied to how well a neighbor has performed in care coordination activities (such as through assessments of the quality of consultation notes).

However, in the case of financial incentives, it would be unrealistic to expect payment systems that “take from (medical home) Paul to pay (neighbor) Peter” in a zero-sum fashion to adequately compensate medical homes. Insurers would be wise to create incentives for neighbors from other sources, such as savings from the avoidance of unnecessary care or re-valuing of services that are relatively well-reimbursed at present.

A RESEARCH AGENDA ON MEDICAL NEIGHBORHOODS

Considering how the features of neighborhoods might vary—across communities and time as programs evolve—helps to delineate key research questions on which features most influence key outcomes of interest. Broadly speaking, these outcomes include not only (1) the quality and costs of care delivered by neighborhoods, but also (2) referral patterns, (3) patients’ choice of providers and access to care, (4) providers’ and patients’ perceptions of care relationships, (5) the ability to conduct meaningful performance measurement at the level of neighborhoods, and (6) the long-term sustainability of neighborhood programs, which in part depends on how generalizable a given model is across different communities, how burdensome it is for providers and insurers to implement, and whether insurers and providers can both recoup investment and operating costs.

For example, specific research questions might include:

- What are the experiences of medical homes and neighbors in establishing service agreements, coordination activities, and their practices’ financial performance?
- Are some types of markets more conducive to the formation of neighborhoods than others? What kinds of neighborhoods are more easily established in markets with certain characteristics, such as low or high supply of subspecialists, or rural location?
- What existing neighborhoods (aside from integrated delivery systems) could serve as case studies?
- What factors do medical homes and patients prioritize when selecting neighbors and why? What are patients’ preferences regarding the composition of and processes in neighborhoods?
- How do patients navigate neighborhoods? What is the actual flow of patients from one member clinician to another? Who is responsible for referrals?
- What types of coordination activities are most and least easily accomplished, from the respective perspectives of patients, medical homes, and neighbors?
- What are the “best practices” among neighborhoods, particularly those related to the construction of service agreements and contracts, information transfer, and shared decision-making?
- How, if at all, do neighborhoods change over time and why? And how, if at all, do those changes affect care outcomes and patient perceptions of care?
- Does a “soft lock-in” for patients improve outcomes relative to allowing patients to voluntarily identify their medical homes and neighbors?

As one element of the “next generation” of the evolving medical home model, neighborhoods extend efforts to transform practice beyond the primary care setting to the larger delivery system. Pursuit of such ambitions will likely rely on iterative assessments and modifications as providers, patients, and insurers learn from their experiences and negotiate their multiple goals. Sound research focused on the comparative effectiveness of different neighborhood features for quality improvement and cost containment will be a critical support in that process.

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