Introduction

This paper builds on the discussion of payment models presented in Payment Models to Support Patient-Centered Medical Home Transformation in the Safety Net, and explores the impact of patient/family social, behavioral, and environmental factors on the financial viability of safety net practices.

Policymakers should be aware that primary care payment models that do not adequately account for patient social, behavioral, and environmental factors, which require extra provider/staff time and practice resources to address, in addition to health factors, may put both providers and patients at a disadvantage. This is especially true in safety net practices that serve a high proportion of uninsured, underinsured, or Medicaid enrollees. This paper presents ideas about how policymakers and payers can improve primary care payment models to better support Patient-centered Medical Home (PCMH) transformation in the safety net. For more information on the PCMH Model of Care, please refer to the Safety Net Medical Home Initiative website.

Social, Behavioral, and Environmental Factors

Safety net practices serve a disproportionate share of low-income and other vulnerable patients. Some safety net practices, for example FQHCs, explicitly seek to reduce health disparities by providing health care to vulnerable and underserved patients who would not otherwise have access to primary care. Low-income patients are more likely than other patients to experience some of what are known as “social, behavioral, or environmental factors” or “psychosocial factors,”...
for example homelessness (refer to Figure 1 for additional examples). These factors may complicate the identification, assessment, or treatment of health problems, and some factors, for example food insecurity or unstable housing, may magnify or exacerbate health problems (e.g., diabetes) making those conditions more resource- and time-intensive to treat.

Compared to middle- or high-income adults, low-income adults are more likely to experience poor health and are less likely to have access to healthcare services due to lack of insurance and other barriers.

- 19% of poor adults describe their general health as being fair or poor.
- 14% poor adults have fair or poor mental health.
- 45% of poor adults are uninsured.
- 50% of all privately-insured poor adults and over 60% of poor adults covered by Medicaid have been diagnosed or treated for a chronic condition.²

Why is it important to account for social, behavioral, and environmental factors in primary care payment models?

- Safety net providers care for a high proportion of vulnerable patients who take more provider/staff time and practice resources to treat than do other patient populations.
- Providers who care for vulnerable populations may be at a significant disadvantage in terms of personal and practice revenue when their payment is based on or adjusted for health outcomes because vulnerable populations generally have poorer health outcomes than other populations.
- Over time, practices may avoid providing care for vulnerable patients because payment will be too low to cover their actual costs, further limiting patient access and potentially increasing health disparities.

Glossary:

- **Enabling services** are non-clinical services provided to patients who promote and support the delivery of healthcare and facilitate access to quality patient care (e.g., transportation, translation services).

- **Environmental factor** is a physical, chemical, or biological experience or exposure (e.g., homelessness) that increases a person’s risk for illness or disease.

- **Population health** is the collective health outcomes of a group of individuals, including the distribution of such outcomes within the group. Population health aims to improve the health of an entire population including reducing health inequities among population groups.

- **Social factor** is a variable associated with an increased risk of illness related to social, economic, cultural, or political experiences or exposures.

- **Vulnerable populations** are groups or sub-groups that are not well-integrated into the healthcare system because of ethnic, cultural, economic, geographic, or health characteristics and are at risk for poor health outcomes or health disparities. Commonly cited examples of vulnerable populations include: racial and ethnic minorities, the rural and urban poor, undocumented immigrants, and people with disabilities or multiple chronic conditions.

The reduction of health disparities is a key goal of several Federal and state initiatives, including Healthy People 2020 and the National Prevention Strategy. Refer to the National Partnership for Action to End Health Disparities for more information.
Patient-Centered Care in the “Safety Net”

Community Health Centers (in this paper abbreviated to “health centers”) are a foundational piece of the American healthcare system. They offer comprehensive primary and preventive care services, without regard to a patient’s ability to pay. They provide care for 20 million patients in rural and urban communities, and for the uninsured, underinsured, and insured alike. Federally Qualified Health Centers (FQHCs), which receive Federal funding, as well as FQHC look-alikes, serve communities and populations that are medically underserved; this includes populations whose socio-economic means or health outcomes indicate a lack of access to primary care. In 2007, 5% of FQHC patients were migrant or seasonal farmworkers, 5% were homeless, and half of patients were members of racial and ethnic minority groups. The majority (74%) of health center patients are uninsured or enrolled in Medicaid. Some private practices, free clinics, and hospital outpatient facilities also serve patients without regard to their ability to pay. These practices, too, are considered to be “safety net practices”. For the purposes of this paper, a “safety net practice” is any practice that serves patients without regard to their ability to pay and whose patient population is predominately uninsured, underinsured, or Medicaid-eligible.

Enabling services are “non-clinical services that aim to increase access to health care, and to improve health outcomes” and include services such as case management, health education, and interpretive services. FQHCs are mandated to provide a core set of health and social services, which include case management and other enabling services such as outreach, transportation, and translation services. The FQHC payment system provides a higher payment to reflect this broad range of services, their patients’ inability to pay, and an adjustment for the higher prevalence of illness in their catchment population. In safety net practices without FQHC designation, enabling services are usually non-billable or non-reimbursable services, often funded through grants or by third parties. Even for FQHCs, reimbursement for enabling services is low and many health centers must absorb expenses associated with the provision of these services or shift costs to other program areas. A 2005 report from the Government Accountability Office (GAO) found that neither the Medicaid Prospective Payment System (PPS) rate nor federal health center grants reimburse the full cost of patient care in FQHCs.

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### Figure 1: Examples of Social, Behavioral, and Environmental Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Prevalence Estimate</th>
<th>Examples of Impact on Practice</th>
<th>Examples of Impact on Patient Health Outcomes</th>
</tr>
</thead>
</table>
| Limited English Proficiency  | An estimated 29% of all health center patients have limited English proficiency.  
|                               |                                                                                     | Adds between 5 and 30 minutes to a visit (average 15 minutes).  
|                               |                                                                                     | Providers/care teams spend twice as long caring for patients with limited English proficiency compared to those without.  
|                               |                                                                                     | Patients with language barriers are less likely than others to have a usual source of medical care; they receive preventive services at reduced rates; and they have an increased risk of non-adherence to medication. |
| Limited Health Literacy       | An estimated 25% of all American adults have extremely limited literacy skills.  
|                               |                                                                                     | Patients with limited literacy have less knowledge about health and healthcare, poorer general health status, and a lower utilization of health resources compared to literate patients.  
|                               |                                                                                     | Patients with limited literacy have poorer health outcomes, and enter the healthcare system when they are sicker.  
|                               |                                                                                     | Patients with low literacy are:  
|                               |                                                                                     | • 1.5 to 3 times the odds of experiencing a poor health outcome.  
|                               |                                                                                     | • 1.5 times the odds of being hospitalized.  
|                               |                                                                                     | • Diabetic patients are more than 2 times more likely to report retinopathy and cerebrovascular disease.  
| Homeless                      | An estimated 5% of FQHC patients, or over 3.5 million people in the US.  
|                               |                                                                                     | Transitory patients are difficult to track making care coordination, proactive preventive care, and referral management difficult and time-consuming.  
|                               |                                                                                     | • The age-adjusted mortality rate is 2-3.5 times higher for homeless people than that of the general population.  
|                               |                                                                                     | • Homeless people are more likely to be untreated for common medical problems.  
|                               |                                                                                     | • Homeless women have 12 times the odds of having poor mental health.  
| Migrant and Seasonal          | An estimated 5% of FQHC patient, with estimates from 3-5 million people in the US.  
| Farmworker Status             |                                                                                     | Transitory patients are difficult to track making care coordination, proactive preventive care, and referral management difficult and time-consuming.  
|                               |                                                                                     | Migrant and seasonal farmworkers have:  
|                               |                                                                                     | • A decreased life expectancy of 49 years, compared with the national average of 75 years.  
|                               |                                                                                     | • 6 times the odds of having tuberculosis than the general population.  
|                               |                                                                                     | • Increased traumatic injuries (e.g., fractures, strains), joint and tissue irritation, and accelerated joint degeneration.  

### Paying for the Medical Home

<table>
<thead>
<tr>
<th>Factor</th>
<th>Prevalence Estimate</th>
<th>Examples of Impact on Practice</th>
<th>Examples of Impact on Patient Health Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stress</strong></td>
<td>Variable.</td>
<td>Patients exposed to chronic stress, particularly in childhood, may reduce immune response, and</td>
<td>• Stress from low childhood socioeconomic status is associated with poorer health as an adult.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>damage other body systems or organs later in life.</td>
<td>• During childhood and adolescence, stress is associated with poorer mental and physical</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>health, including obesity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Adult chronic stress is associated with compromised health, particularly cardiovascular</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>disease and diabetes.</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>8%-30% of poor or</td>
<td>Examples:</td>
<td>Patients with transportation barriers are</td>
</tr>
<tr>
<td>Barriers</td>
<td>vulnerable cohorts report transportation barriers.</td>
<td>• Demonstrated barrier to receiving prenatal care.</td>
<td>• More likely to present with more acute or advanced illness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Demonstrated barrier to pediatric preventive care visits.</td>
<td>• 1.45 times more likely to delay seeking medical care.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Patients with driver’s licenses had 2.29 times more health care visits for chronic care and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.92 times more visits for regular examinations than those who did not in a rural setting.</td>
</tr>
</tbody>
</table>


Primary Care Practice Challenges

Safety net practices that care for socially complex populations face significant challenges, including: increased patient acuity, limited patient engagement, and limited specialty support. All of these challenges require additional provider/staff time and resource commitments. Yet in the current reimbursement environment, practices are not adequately paid for this additional time and therefore are disadvantaged in terms of revenue. This disadvantage has implications for practice viability, provider recruitment and retention, and, potentially, patient access.

- **Increased Patient Acuity.** Research has shown that low socio-economic status (SES) increases both the risk and severity of disease among individual patients; and, irrespective of disease status, increases the complexity of a provider's patient panel.\(^5\)\(^-\)\(^8\) Other research has shown that low-income patients have higher rates of underlying primary risk factors, including lifestyle factors such as obesity, and lower rates of secondary prevention (e.g., screening) than economically advantaged patients. Low-income patients may present with additional risk factors and/or more advanced disease, making their care more resource intensive.

- **Limited patient engagement.** Compared to their more economically-advantaged peers, patients with limited health literacy or economic/social instability are more difficult to engage in health promotion and chronic disease management.\(^9\)

- **Limited access to specialty care.** Patients with intermittent or no insurance, and those who are underinsured, often lack access to specialty services. Primary care practices may be required to treat these patients without benefit of referral to specialty care, or spend extra unreimbursed time to coordinate free or reduced-cost care for the patient.

- **Limited enabling support.** Patients with social, behavioral, or environmental factors often require enabling services (e.g., transportation, translator services) in order to effectively use available health services. Enabling services have been shown to improve access, health, and outcomes.\(^10\)\(^,\)\(^11\) Examples include:
  - Case management
    - Improves access to care for substance abusers.\(^12\)
    - Improves access to care for those with chronic disease.\(^13\)
  - Interpretive services
    - Increases timeliness of care for children in Medicaid managed care.\(^14\)
    - Increases satisfaction among Spanish-speaking patients for physician and hospital care, and are associated with reducing emergency room visits.\(^15\)
  - Health education
    - Improves diabetes outcomes among minorities.\(^16\)-\(^18\)
    - Improves cardiovascular disease outcomes among minorities.\(^19\)

Despite their value, enabling services are not adequately financed;\(^3\) and in some safety net practices, they are not available. Providers without access to enabling services may struggle to effectively engage their patients.

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Researchers and policymakers need to understand that there are these special circumstances and situations we are dealing with, with the patients who we are taking care of… The people we are working with have really hard lives.

—Ted Amann, RN, Director of Healthcare and Central City Concern: Improvement of Old Town Clinic.

A Complex Case: Quality for Those in Need

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Primary care payment reform has gained traction at federal and state levels and also among private payers. Nationwide, there are scores of primary care payment demonstrations and pilots testing different methods of paying for PCMH services. Policymakers contemplating health system reforms—particularly primary care payment reforms—should carefully consider how payment incentives and disincentives might impact vulnerable patient populations.

Pay for Performance

Pay-for-performance (P4P) is a well-recognized strategy for aligning provider and facility payment with desired outcomes. P4P programs can be used by payers and purchasers to reward quality in a number of different domains, but most performance incentive programs are designed to reward quality in specific clinical areas, for example, increasing the proportion of plan enrollees who are fully immunized.

Evaluation data from P4P and other payment programs show that population health status and overall disease burden affects practice revenue when physician payment is determined by (or adjusted for) improved patient health outcomes. In fact, early evaluation data showed that in payment programs in which providers were financially rewarded for improving patient health status or achieving specific health benchmarks, practices that served healthier populations fared better financially than did those that served high-risk, disease-burdened populations. Similarly, economic modeling shows that providers who care for vulnerable populations are at a significant disadvantage in terms of personal and practice revenue when payment is based on or adjusted for health outcomes.

Concerned that providers could be perversely incented to limit access to high-risk, chronically-ill populations and “cherry-pick” healthier patients or populations, some payers developed mechanisms to adjust for clinical complexity in their payment algorithms. Adjusting for medical complexity was an important first step in advancing payment models to better meet the realities of primary care, but it is insufficient to address the needs of safety net practices serving predominately high-risk, chronically-ill, or otherwise vulnerable populations.

The potential “payment gap” that safety net practices could experience under payment systems that do not adequately account for social, behavioral, and environmental factors, may, over time, discourage these practices from caring for vulnerable populations as payment will be too low to cover their actual costs, thus threatening their financial viability. This unintended consequence of payment modeling could further limit patient access and, potentially, widen health disparities.

P4P incentives and other value-based payment models, if not properly adjusted to account for social and environmental factors in addition to health factors, may actually widen existing health disparities, by disincenting providers to care for vulnerable populations.
Like payment models that do not adequately account for social, behavioral, and environmental factors, reporting systems that do not disclose or adjust patient population characteristics may disadvantage practices that care for vulnerable populations.\textsuperscript{24–27} 

P4P and other types of advanced payment models typically rely on clinical and/or claims data to measure physician or facility quality of care. In all payment models that include clinical quality thresholds or benchmarks, health outcome goals should be based on recognized and evidence-based standards (e.g., HEDIS), and all practice types should be held accountable for helping all patients reach these goals. To lower goals for safety net practices could promote, instead of diminish, health disparities. However, practices that serve predominately high-risk, complex, and chronically-ill patients may very well have a more difficult time achieving certain health outcome goals compared to practices that serve healthier and more economically-advantaged patients. Payers should ensure that their clinical quality data capture systems and ranking Protocols (if relevant) compare like practice types and like patient populations (an ‘apples to apples’ comparison). If clinical quality data is made publically available, it is doubly important that practice type and patient type differences be made transparent.

Unfair comparisons that lead to ranking inequities negatively impact practice revenue by limiting the practice’s ability to qualify for enhanced payment, quality bonuses, and in some systems, lowered rankings may reduce base payments.
In 2008, Minnesota’s Department of Human Services and Department of Health launched a payment program to support the implementation of “health care homes” throughout the state. The state developed its multi-payer payment system around a complexity-stratified per-member per-month (PMPM) care coordination payment to support practices that care for complex patients. The authorizing legislation that created the initiative required that the payment vary by patient complexity, and specifically charged the agencies with exploring the inclusion of psychosocial factors that extend beyond medical issues. The resulting tiered payment system adjusts practice payments based on a number of patient characteristics and demographic variables:

1. Medical complexity (defined as the number of major chronic conditions across defined groups, e.g., endocrine, respiratory).
2. Supplemental Factors
   a. Language barriers (social factor).
   b. Serious and persistent mental illness (SPMI) (behavioral factor).

Minnesota used a stakeholder group consensus process to identify methods of adjusting provider payments. Provider representatives, particularly those from practices that serve vulnerable populations, were keenly interested in including some adjustments for social factors. Stakeholders sought to identify social and environmental factors thought to increase patient complexity and thus increase the time a provider/practice must spend coordinating patient care. The panel identified 26 such factors, and then sorted and prioritized each based on three criteria:

1. Validity in predicting an individual’s need for care coordination.
2. Administrative feasibility of collection; ‘knowable’ at the clinic level.
3. Objectivity and reliability of documentation.

Stakeholder work groups also sought to quantify the additive time associated with increasing patient complexity and reviewed existing literature and provider reports to estimate the number of additional minutes of care per patient per appointment. For example, a patient with one to three chronic condition groups was thought to require an additional 15 minutes of between-visit staff time per month for care coordination services.

As a first step toward including supplemental complexity factors that extend beyond medical complexity, Minnesota selected two indicators which scored highly on each of the three criteria above: primary language other than English (a proxy for low health literacy and need for translation services) and serious and persistent mental illness (SPMI) — which is also included as a portion of medical complexity, but intentionally considered separately as a supplemental factor given the impact of SPMI diagnoses on the spectrum of care delivery and coordination service needs. If present, these complexity modifiers trigger an additional 15% PMPM payment (refer to Figure 2, on page 10).

Minnesota’s experience highlights one of the many challenges in developing payment models that adequately address social, behavioral, and environmental factors: Payers and purchasers want independently verifiable data and most data on factors such as stress or homelessness come from either providers or patients and are not easy to verify with quick turnaround. Further, scant experiential data exist on the additional time required to care for socially complex patients.

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i. The domains considered were: ethnicity, citizenship status, primary language, metro/rural residence, marital status/family structure, functional status, social support, housing, transportation, food security, income/poverty, employment/education, violence, readiness to change/engage in care, mental health/behavioral health, physical activity, poor nutrition/obesity, tobacco use, alcohol use, other illicit drug use, health insurance status, health system integration and relationships, physical environment, and access to communication tools.
Figure 2: Minnesota “Health Care Homes” Payment Model

<table>
<thead>
<tr>
<th>Patient Complexity Tier</th>
<th>Number of Chronic Condition Groups (e.g. endocrine, cardiovascular)</th>
<th>Medicaid Fee-for-Service Payment</th>
<th>Estimated Average Minutes of “Extra” Work per Member per Month</th>
<th>Complexity Modifiers for Social, Behavioral, and Environmental Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+15%</td>
</tr>
<tr>
<td>1</td>
<td>1-3</td>
<td>$10.14</td>
<td>15</td>
<td>+15%</td>
</tr>
<tr>
<td>2</td>
<td>4-6</td>
<td>$20.27</td>
<td>30</td>
<td>+15%</td>
</tr>
<tr>
<td>3</td>
<td>7-9</td>
<td>$40.54</td>
<td>60</td>
<td>+15%</td>
</tr>
<tr>
<td>4</td>
<td>10+</td>
<td>$60.81</td>
<td>90</td>
<td>+15%</td>
</tr>
</tbody>
</table>

Opportunities and Recommendations

The studies presented in this paper suggest that practice payment programs (e.g., incentives, P4P) should be adjusted for social, behavioral, and environmental factors in addition to medical complexity in order to avoid disadvantaging practices that care for vulnerable populations. More research is needed in order to determine an appropriate relative weight for social, behavioral, and environmental factors in emerging payment models. The studies presented in this paper also suggest that reporting systems intended to measure provider and practice quality of care (and pay on these metrics) should select appropriate thresholds and benchmarks and, ideally, use peer-matching to ensure an ‘apples to apples’ comparison so as not to disadvantage providers who care for vulnerable populations. This will require policymakers to identify or develop meaningful measures, and for payers and practices to begin collecting data on social, behavioral, and environmental factors and actual service use.

Many payers and providers are advocating for movement toward a global payment model, or another type of payment model that rewards providers for value over volume and recognizes the time and resources that are required to provide proactive preventive and chronic disease care for patients. As these payment models evolve, it is imperative that social, behavioral, and environmental factors be considered.

ii. While the administrative structure in Minnesota’s payment model is consistent across participating payers (e.g. patient complexity factors and tiers, procedure codes, and billing frequency), the actual per-member per-month payment amounts are negotiated privately outside of the Medicaid and Medicare populations.
Policymakers and payers should consider the following as they research and assess the potential impact of payment models on practices that serve vulnerable populations:

1. **Service time.** Complex patients require additional time to assess, monitor, and treat. Payment systems should acknowledge and facilitate this by providing practices with enhanced payment for high-value care delivered to complex patients.

2. **The value of enabling services.** As payment models continue to evolve towards value-based purchasing and bundled payments, payers should be mindful of the additional enabling services which are necessary for improving the health of vulnerable populations and find ways to support and encourage these services. FQHCs receive enhanced payment, in part to facilitate enabling services, but this payment does not reflect the actual cost of caring for vulnerable patients, and these payments have long lagged behind inflation. Private practices that see vulnerable patients do not typically receive any payment for offering enabling services.

3. **Adoption of a functional measure of social and environmental risk or “social deprivation.”** The United States does not have a universal measure of social, behavioral, or environmental factors, which makes it difficult to understand or compare risks or outcomes across populations. The United Kingdom has developed indices of “social deprivation” that may provide a useful model for consideration.

4. **Refocus measurement.** If payment is tied to outcome measures, it is important to select measures for which the practice has a moderate to high-degree of control; and, more importantly, to use reasonable and fair comparisons when developing thresholds and benchmarks. Practices have a high degree of control over process measures, for example, frequency of A1c testing for diabetic patients; but practices have much less control over outcome measures, for example A1c percentages, as these outcomes are affected by a number of factors (a patient’s lifestyle choices, availability of medication, compliance, etc). Clinical outcome goals should be based on recognized and evidence-based standards, and all practices should be held accountable for helping all patients reach these goals. However, practices that serve predominately high-risk, complex, and vulnerable patients should be compared to similar practice types and payment thresholds set accordingly.

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**Conclusion**

Safety net practices have historically implemented innovative programs to promote improved health outcomes for vulnerable populations. For example, many FQHCs participated in the health disparities collaboratives, and others regularly provide social services, including health insurance eligibility screening, legal aid, housing services, education programs, or food. Yet most of these programs are grant-funded, which makes their long-term sustainability unclear. For PCMH transformation to be sustainable in the safety net, payers will need to find a way to appropriately reimburse practices that care for vulnerable populations. Much work remains in identifying and testing payment models that appropriately account for social, behavioral, and environmental factors, but policymakers and payers should be aware of the potential impact of incentives on practice financial viability, patient access, and health disparities, and take these into consideration as they design new and improved ways to pay for primary care.

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iii. The United Kingdom has four separate indices one for England, Northern Ireland, Scotland and Wales and encompass domains such as income, employment, health, education, barriers to housing and services, proximity to services, geographic access, housing, living environment, physical environment and crime. The UK indices are used to help target policies and funding as well as improve the quality of life of disadvantaged communities.
Additional Resources


MGMA Center for Research. Health Center Enabling Services: A validation study of the methodology used to assign a coding structure and relative value units to currently non-billable services. Englewood, CO: MGMA Center for Research; 2000.


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23. Chien AT, Chin MH, Davis AM, Casalino LP. Pay for performance, public reporting, and racial disparities in health care: how are programs being designed? *Med Care Res Rev.* 2007;64(Suppl. 5):283S–304S.


The objective of the Safety Net Medical Home Initiative is to develop and demonstrate a replicable and sustainable implementation model to transform primary care safety net practices into patient-centered medical homes with benchmark performance in quality, efficiency, and patient experience. The Initiative is administered by Qualis Health and conducted in partnership with the MacColl Center for Health Care Innovation at the Group Health Research Institute. Five regions were selected for participation (Colorado, Idaho, Massachusetts, Oregon and Pittsburgh), representing 65 safety net practices across the U.S. For more information about the Safety Net Medical Home Initiative, refer to: www.safetynetmedicalhome.org.