Evaluation of Healthy San Francisco

Final Report

August 25, 2011

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Policy Research

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Contract Number:
67296632/BPHC10000088

Mathematica Reference Number:
06632

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ACKNOWLEDGMENTS

We thank Tangerine Brigham and Lindsey Angelats at the San Francisco Department of Public Health (SFDPH) for their timely responses and contributions throughout the preparation of this report. We also thank Jackie Haslam of the SFDPH for providing Healthy San Francisco (HSF) enrollment and Health Access Questionnaire (HAQ) data. Nina Maruyama of the San Francisco Health Plan (SFHP) and Rafael Gomez, formerly of SFHP, were instrumental in getting us access to encounter data for HSF enrollees; Roger Excell supplied the data and answered many of our questions; Kimberly Higgins Mays and Stanley Tan provided critical information about how to handle several key coding issues. Louise Hand and Jonathan Teague of the Office of Statewide Health Planning and Development (OSHPD) provided data on inpatient and emergency room discharges in California. The provider survey benefited from the assistance of individuals at each of the HSF medical homes who both supplied us with names and contact information of their health care providers and encouraged individual providers to participate in the survey. Members of HSF's Evaluation Committee, Advisory Committee, and Provider Work Group made important contributions at various junctures of this project and many participated in the site visits and the provider survey.

Within Mathematica, Gregory Bee, Kevin Bradway, and Gerald Skurski supplied programming support, working with multiple versions of eight different data sets and producing valued descriptive and analytic tables; Danna Basson participated in the development of the focus group protocols and sample frame design; Jenna Libersky contributed to the HAQ and OSHPD analyses; Debra Lipson and Chris Trenholm gave valued input on each of the analyses; and Susie Moore provided excellent secretarial support. Diane Rittenhouse of the University of California-San Francisco served as a consultant on the medical homes report. Corey, Canapary, and Galanis Research (CCG) fielded the provider survey and conducted the focus groups.

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CONTENTS

Chapter IV (*Continued*)

TABLES

FIGURES

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EXECUTIVE SUMMARY

Healthy San Francisco (HSF) is a health care access program for uninsured adults ages 18 to 64 who reside in the City and County of San Francisco. It offers enrollment in a subsidized system of health care rather than covering the uninsured individual through a health insurance product. HSF provides many of its services through a network of established clinics in San Francisco that historically have served several different patient populations and neighborhoods.

The HSF program includes delivery system changes intended to improve both the quality of health care for HSF participants and efficiencies within the resource-constrained safety-net environment. HSF participants are required to choose one of the participating clinics as their point of first contact for all of their basic medical care. This approach of selecting and seeking care at a specific primary care medical home is expected to alter the experience for both the provider and the patient, change utilization patterns, and ultimately improve the quality of care and control costs by reducing non-emergent emergency department (ED) visits, potentially avoidable hospital admissions, system inefficiency, and redundancy.

1. Enrollment and Retention

Enrollment. The HSF program has now been operational for four years, and has attracted 95,580 unique enrollees from July 2007 through March 2011. HSF has enrolled an average of 2,100 new clients each month. As of March 2011, there were more than 54,500 enrollees in HSF. While almost all of the early enrollees were established patients within the San Francisco Department of Public Health (SFDPH) or the San Francisco Community Clinic Consortium (SFCCC) systems, many of the recent HSF enrollees have had no prior contact with their chosen medical home. Because the network of clinics participating in HSF has a broad reach across the City, the population of HSF enrollees is ethnically and linguistically diverse.

Retention. Many of the 95,580 individuals who enrolled in HSF have since exited the program, for a variety of reasons. Some obtained private or public coverage, others moved out of the City or otherwise became ineligible for the program, and others decided against renewal for unknown reasons. Data from a renewal outreach call initiative begun in 2010 by the HSF program indicate that more than one-fourth of individuals contacted during their renewal period had experienced a change in eligibility status, most often because they obtained insurance coverage or moved out of the County.

More than 85 percent of HSF enrollees remain in the program for at least 12 months, and half of all participants renew enrollment at the first opportunity. Another 16 percent re-enroll in the program after a gap, more than half of them within four months. Altogether, two-thirds of enrollees for whom we can observe renewal and re-enrollment decisions by March 2011 signaled the value they place on HSF enrollment by actively opting into the program for a second period.

Results from the focus groups shed light on the benefits many enrollees experience through participation in HSF. There was a general appreciation for the ability to obtain preventive care and to receive regular ongoing treatment for chronic health conditions. Most participants agreed that the providers were considerate and concerned with the participants' overall health, and some indicated that they were being treated with respect in the health care system for the first time. Both Spanish-

speaking and Chinese-speaking participants expressed gratitude for having a medical home that was culturally and linguistically appropriate.

We also gained insight from these focus groups into why some enrollees chose not to renew or re-enroll. Some individuals expressed frustration with what they view as limitations in the program, in some cases indicating a desire for more traditional health insurance coverage. Despite the fact that all participants are told at enrollment time that HSF is not an insurance product and that access is limited to a group of providers in the City and County of San Francisco, several respondents mentioned their desire for insurance coverage and for choice of providers outside of San Francisco as reasons for not renewing.

2. Access to and Utilization of Health Care Services

Access to Care. In general, HSF participants are very satisfied with their access to health care services. The majority of respondents to a survey conducted when they renewed enrollment in HSF at the 12-month mark, or who re-enrolled after a short gap (one to four months) in enrollment, said that it was not difficult for them to access the medical care they need. Among HSF participants who completed this survey both upon initial enrollment and again at renewal or re-enrollment, more than 40 percent reported that access was easier in the program than before they enrolled; one-third reported the same level of ease in accessing needed medical care in the 12 months prior to enrollment as in the first 12 months of enrollment.

Utilization of Primary Care and Preventive Services. Three out of four HSF enrollees had at least one physician visit within the first year of enrollment. For many enrollees, initial enrollment takes place when they seek care at one of the medical homes, so the fact that 20 percent have an encounter during the first week after enrolling is not surprising. However, almost all of those with an encounter the first week have additional visits during the year. Almost half of HSF participants received at least one recommended preventive service during the first 12 months of enrollment.

Changes in ED Use and Inpatient Hospital Admissions. HSF participants show declining use of the ED as their enrollment in the program continues. The decline in emergent ED visits (injuries; all visits leading to inpatient admission; and probable emergencies, such as heart attack symptoms, by the HSF population was similar to the decline in non-emergent ED visits.

High levels of emergent ED visits may be the result of poor primary care and chronic condition management but also may reflect a very sick panel of patients. High levels of non-emergent ED visits often occur due to barriers to obtaining routine care, but patients' willingness to go to clinics during office hours also plays a role. The decline in both rates suggests that the HSF medical home model and focus on chronic care management are having an impact on both the need for ED care and the use of the ED for non-emergent care. Bolstering this latter conclusion is the observation that non-emergent ED visits at San Francisco General Hospital (SFGH) by uninsured adults declined from 2007 to 2009, in contrast to a steady increase in the number of ED visits to SFGH made by the elderly, children, and insured non-elderly adults over this same time period and an increase in the average number of visits by uninsured adults at other public hospitals in California.

In addition, the launching of the HSF program is associated with an observed decrease in potentially avoidable hospitalizations made by uninsured adults in San Francisco. Beginning in 2007, the percentage of hospitalizations that were potentially avoidable among the uninsured at SFGH began to decline, while the percentage among insured adults at SFGH and both uninsured and insured adults in all other public hospitals in California remained steady.

3. Provider Satisfaction

The majority of HSF providers surveyed are satisfied with the program, and many noted they are pleased to be part of the program. Several providers interviewed during site visits emphasized that HSF participation aligns well with their mission as safety-net providers. Moreover, participating in HSF allows some of these clinics to better meet the care needs of uninsured patients. HSF also creates a system through which the uninsured can seek care throughout the HSF network of clinics.

Providers and other stakeholders interviewed perceive that the program has reduced duplication and improved efficiency, although it has also highlighted capacity constraints. While those constraints remain challenging, several responses—including greater use of team-based care, group visits, and other approaches, along with a sophisticated eReferral system—are important steps forward in addressing them. These experiences highlight important lessons on better organizing care delivery—particularly for those served by safety-net providers—for other communities, especially in light of the Medicaid expansions coming in 2014.

Several local, state, and national changes in the delivery and financing of health care have occurred in the last five years, all of which are felt by health care providers in San Francisco. The HSF program, through its efforts to expand access to care for uninsured adults and to improve the efficiency of the health care safety-net system of San Francisco, adds another layer of both pressure and relief to that system. For the majority of providers surveyed, the positive impacts of HSF on their ability to provide high quality care to this particular patient population outweigh the potential negative effects of increased patient care demands on their practice.

HSF has attracted a large portion of the low income uninsured working-age adults in San Francisco. For some participants, HSF is a stop-gap measure until they regain or obtain public or private insurance coverage. For others, especially those who have been without insurance for a long time and have no immediate prospects of obtaining coverage, HSF provides access to coordinated preventive and primary care services. HSF has also implemented chronic care management programs aimed at improving the health of these patients. In the focus groups, HSF participants, particularly those who have renewed or re-enrolled in the program, expressed appreciation both for the improved access to primary care and the reduction in uncertainty in meeting their health care needs because of this program. In general, providers expressed satisfaction with the HSF program and intended to continue participating. Most noticed either no change in access and utilization or improvements for those patients who had enrolled in the program and virtually all of them thought they were able to provide better, more coordinated care to their low-income uninsured patients. Our analyses suggest that the HSF program has led to increase use of primary care services in medical homes and decreases in ED visits and potentially avoidable hospitalizations.

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I. INTRODUCTION AND OVERVIEW

A. Background and Motivation of HSF

San Francisco has a long history of being at the vanguard of various social movements, including the community clinic movement of the late 1950s and 1960s, when many neighborhood clinics sprang up to provide free health care services to high-need populations. The San Francisco Department of Public Health (SFDPH) currently operates 16 clinics that serve various populations, including the uninsured. Additionally, the San Francisco Community Clinic Consortium (SFCCC) is composed of nine independent community health centers and clinics that had been established in underserved neighborhoods throughout the City between 1956 and 1992.

In 1998, San Francisco residents signaled strong public will to reduce the number of uninsured persons in the City by voting to "create a voluntary health care purchasing program to make affordable health care available to uninsured residents." The referendum, called Proposition J, passed with a 65 percent majority. In the years that immediately followed, under Mayor Willie Brown's administration, the City acted on that referendum by expanding health care coverage to several populations, including children (through the Healthy Kids program) and employees of City and County contractors, among others. Proposition J was a notable step toward ensuring universal access to care within the City, but the issue of the uninsured continued to be a public priority.

During his mayoral campaign in 2003, Gavin Newsom included in his platform provisions to improve access to health care for uninsured adults, and, in 2005, San Francisco City and County Supervisor Tom Ammiano introduced the Worker Health Care Security Ordinance (HCSO). The ordinance, requiring employers with at least 20 employees to make health care expenditures on behalf of their employees who worked at least 80 hours a month for a minimum of six months, brought into public discussion the important question of financial responsibility for providing care for the uninsured.

In February 2006, Mayor Newsom created the Universal Healthcare Council (UHC), composed of stakeholders from a variety of communities, including health care, consumer advocacy groups, labor, business, research, and others. The Mayor charged the UHC with "developing the parameters" of a program that would provide health care services to the City's uninsured adults. For the UHC, it became clear that providing health insurance for all of the City's uninsured would be too expensive, so the UHC explored providing access to health care services for the City's uninsured adults rather than providing health insurance. The UHC's stated vision was that "all San Franciscans have timely access to comprehensive health care services." The goals they laid out revolved around affordability, prevention and primary care, and facilitating consistent patient/provider relationships. The UHC recommended development and implementation of a San Francisco Health Access Program in its report released June 2006.

SFDPH leaders worked with the City supervisors and the Mayor's Office to broker a plan that would expand access to all uninsured adults, both working and unemployed. Supervisor Ammiano then incorporated the plan into his HCSO, which passed unanimously on July 18, 2006. By all accounts, the passing of the HCSO was a result of good timing, difficult negotiations, and political capital expended because of strong public and political will. The San Francisco Health Access

Program became the Healthy San Francisco (HSF) program and rolled out quickly thereafter—two pilot clinics were operating by July 2007.

1. Basic Design of HSF

HSF is a health care access program for uninsured adults ages 18 to 64 who reside in the City and County of San Francisco. Rather than cover the uninsured through a health insurance product, HSF offers enrollment in a subsidized system of health care. HSF provides many of its services through a network of established clinics in San Francisco that historically have served many different patient populations and neighborhoods. Participants with household incomes over 100 percent of the federal poverty level (FPL) pay a quarterly fee based on their income to participate in the program and a point-of-service (POS) fee for some doctor visits, prescriptions, and certain emergency department (ED) visits. Both of these fees vary by family income and household size; those with incomes below 100 percent of the FPL, the majority of HSF participants, pay no participant fees and may pay no POS fees (depending on the medical home). Income-related eligibility limits were phased in over time, starting with people with incomes below 100 percent of the FPL and gradually increasing to the current threshold of 500 percent of the FPL. While sliding fee scale programs based on a patient's income existed prior to HSF for both the SFDPH and SFCCC clinics, collection of cost sharing via patient billing was not routinely enforced in the SFDPH system and neither system required participation fees.

The HSF program provides primary care (including preventive and routine care), as well as specialty, hospital, and behavioral health care and prescription drugs. Dental, vision, acupuncture, and long-term care services are some of the services not included. People apply for HSF at participating clinics (SFDPH, SFCCC, Sister Mary Philippa, and others), at a central enrollment unit located at San Francisco General Hospital (SFGH), or the San Francisco Health Plan (SFHP).

The City leveraged several existing relationships to get HSF up and running under the compressed timeline between passage of the HCSO and its launch one year later. The SFHP is one of the managed care plans for Medi-Cal and Healthy Families populations in San Francisco, and in that role worked closely with SFDPH and SFCCC clinics prior to the implementation of HSF. SFDPH entered into a contract with SFHP to expand its operations to become the program's third party administrator (TPA), working as the intermediary between providers, participants, and the City to help implement the program.

The City also opted to make use of the One-e-App system, a commercially available web-based enrollment product that had been effective in enrolling participants into a range of local and state health and social service programs. HSF staff viewed this system as an affordable option with a good track record that could be adapted to meet their needs. The City made various modifications so the system could serve as the HSF program's official "system of record." The One-e-App software first screens applicants to rule out possible eligibility for other public insurance programs, including Medi-Cal, the State's Medicaid program. Staff known as Certified Application Assistors (CAA) handle the enrollment process and must undergo training and become certified by the state to handle Medi-Cal and Healthy Families application information. Applications for those who may be eligible for Medi-Cal or another public program are referred to the relevant agency responsible for determining final eligibility for that program. At the end of the enrollment year, HSF participants renew their eligibility by completing a re-enrollment interview, providing updated proof of income and residency status.

HSF first focused on improving coordination within the existing network of providers and creating one system of record for patients already visiting these clinics. Better coordination of resources was viewed as necessary to expand access to other uninsured populations and adequately meet anticipated demand. Relatively early in implementation, the program added other providers with a mission of caring for the uninsured, such as Sister Mary Philippa Health Center with St. Mary's Medical Center. Over time, more private providers joined the program as medical homes, including Chinese Community Health Care Association (CCHCA) with Chinese Hospital, Kaiser Permanente, Brown & Toland Physicians with California Pacific Medical Center (CMPC), and BAART Community HealthCare Programs. SFGH provides the bulk of the hospital care for HSF participants, although other hospitals—including CPMC, Chinese Hospital, St. Francis Memorial Hospital, St. Mary's Medical Center, Kaiser Permanente Medical Center, and the University of California at San Francisco (UCSF) Medical Center—participate in the program.

2. Approach to Medical Homes in HSF

A cornerstone of HSF is participants' selection of a medical home—that is, a place or provider, most typically a clinic—at the time of enrollment. HSF defines the medical home as the place where a participant goes for basic medical care, including routine and preventive care; acute care; and care for ongoing health problems, such as asthma or diabetes. The medical home is intended to serve as the usual source of care, although its providers may refer participants when needed to other providers in the HSF network. Participants may change medical homes at the time of renewal, which occurs every 12 months.[1] Although participants can select any medical home, most existing patients choose the one where they received care in the past.[2]

Medical homes are a key component of the HSF approach to providing access to care for uninsured City residents. The medical homes, in addition to serving as the frontlines of care delivery, collectively have helped improve the organization and efficiency of the San Francisco safety net, while encouraging providers and the community to focus on community health. As one HSF provider expressed, the HSF medical homes "have created a system of care as opposed to ad hoc care for people." HSF medical homes have aimed to create improvements at a systems level, including helping participants establish a usual source of care and a connection to primary care, strengthening care management and coordination of care, and using empanelment to better manage patient populations.

The HSF Network. More than 30 medical homes are included in the HSF network of providers (although not all may be accepting new participants at any given time). Most are part of either SFDPH or SFCCC. While many of these medical homes focus on the general population as their patient base, some focus on particular patient population groups—such as the Positive Health Program at SFGH, which provides primary and specialty care to HIV/AIDS patients; and the

[1] There are also a few circumstances under which participants can change medical homes at other times, such as inadvertently selecting the wrong medical home (which the participant typically discovers soon after enrollment), moving to a different neighborhood, an unproductive provider-patient relationship at the medical home, or developing a new health condition requiring ongoing care elsewhere.

[2] Medical homes are closed to new patients when they cannot provide an appointment within 60 days. Some of the newer providers accept only enrollees who have not participated in HSF before.

Castro Mission Health Center, whose target populations are Latinos and the gay, lesbian, bisexual, and transgendered communities. Others focus on providing care to women (Lyon-Martin Health Services and Silver Avenue Family Health Center), homeless persons (Tom Waddell Health Center), or young adults under age 24 (Cole Street Youth Clinic and Larkin Street Youth Clinic).

HSF medical homes vary in size, ranging from those with one or two full-time providers (or full-time equivalents) to those with more than 30 providers. While some HSF medical homes have fewer than 300 HSF participants, others have more than 3,000. Two clinics with more than 4,000 participants, the Family Health Center at SFGH and Castro Mission Health Center, are both part of the SFDPH. North East Medical Services (NEMS), which is part of the SFCCC, includes four clinics; the NEMS Chinatown clinic alone has more than 9,000 HSF participants, making it the HSF medical home with the largest enrollment.[3] See Table I.1 for more complete information on the characteristics of HSF's medical homes.

[3] NEMS Chinatown and Chinatown Public Health Center were the first clinics to accept HSF participants in July 2007.

Table I.1. Descriptions of HSF Medical Homes

Medical Home Category	Description	Number of Medical Homes	Names of Medical Homes in This Category	Number of Participants[a]
San Francisco General Hospital Clinics	Large primary care clinics at SFGH, affiliated with SFDPH, serving the Mission and Potrero Hill districts	2	Family Health Center General Medicine Clinic	7,017
All other SFDPH clinics	Mix of large, medium, and small clinics serving a variety of target populations in neighborhoods throughout San Francisco	14	Castro Mission Health Center Chinatown Public Health Center Cole Street Youth Clinic Curry Senior Center Housing and Urban Health Center Larkin Street Youth Clinic Maxine Hall Health Center Ocean Park Health Center Potrero Hill Health Center SFGH Positive Health Program SFGH Teen and Young Adult Health Center Silver Avenue Family Health Center Southeast Health Center Tom Waddell Health Center	17,652
Northeast Medical Services (NEMS)	One large clinic (NEMS Chinatown) and three small clinics affiliated with SFCCC, with particular expertise in working with Asian populations	4	NEMS Chinatown NEMS Portola NEMS Sunset NEMS Visitacion Valley	14,386
All other SFCCC clinics	Mix of large, medium, and small clinics serving a variety of target populations in neighborhoods throughout San Francisco	10	Glide Health Services Haight-Ashbury Free Clinic/Clayton and Haight-Ashbury Free Clinic/ Integrated Care Center Lyon-Martin Health Services Mission Neighborhood Health Center and Mission Neighborhood Health Center/Excelsior Native American Health Center South of Market Health Center and South of Market Senior Center St. Anthony Free Medical Clinic	10,036
Other Medical Homes	The newest additions to the HSF medical homes, includes small, medium, and large practices and clinics serving diverse populations throughout San Francisco	7	Chinese Community Health Care Association/Chinese Hospital Kaiser Permanente San Francisco Medical Center Sister Mary Philippa Health Center Brown & Toland Physicians and California Pacific Medical Center BAART Community HealthCare	5,395

Source: HSF Medical Home Directory (June 2011) and Mathematica analysis of encounter data (March 2011).

[a]Enrollment figures are as of March 2011.

B. The Effect of the Medical Home Approach on Health Care Organization and Delivery

The selection of a medical home has several potential effects on patients and providers.[4] Requiring a patient to choose a medical home is intended to provide a usual source of care that strengthens the connection to primary care. This approach potentially leads to increased care management and coordination, and improved patient and population management, ultimately resulting in improved quality of care, greater patient satisfaction, and increased efficiency. The primary care medical home approach also may increase provider satisfaction by allowing providers to understand better the population for whom they are responsible and potentially making patients and providers feel more connected to one another.

Figure I.1 provides a logic model of how the HSF program—including its cornerstone of requiring participants to select a medical home—may lead to improved access to care and care coordination for participants and increased satisfaction for providers. Ultimately, the program may result in improved quality of care, increased rates of preventive care, greater patient satisfaction, and reduced growth in health care costs. While many external factors clearly affect these outcomes, the medical home approach is intended to provide HSF participants with a stronger connection to primary care and a usual place to go for that care, thus increasing the likelihood that intended outcomes will occur.

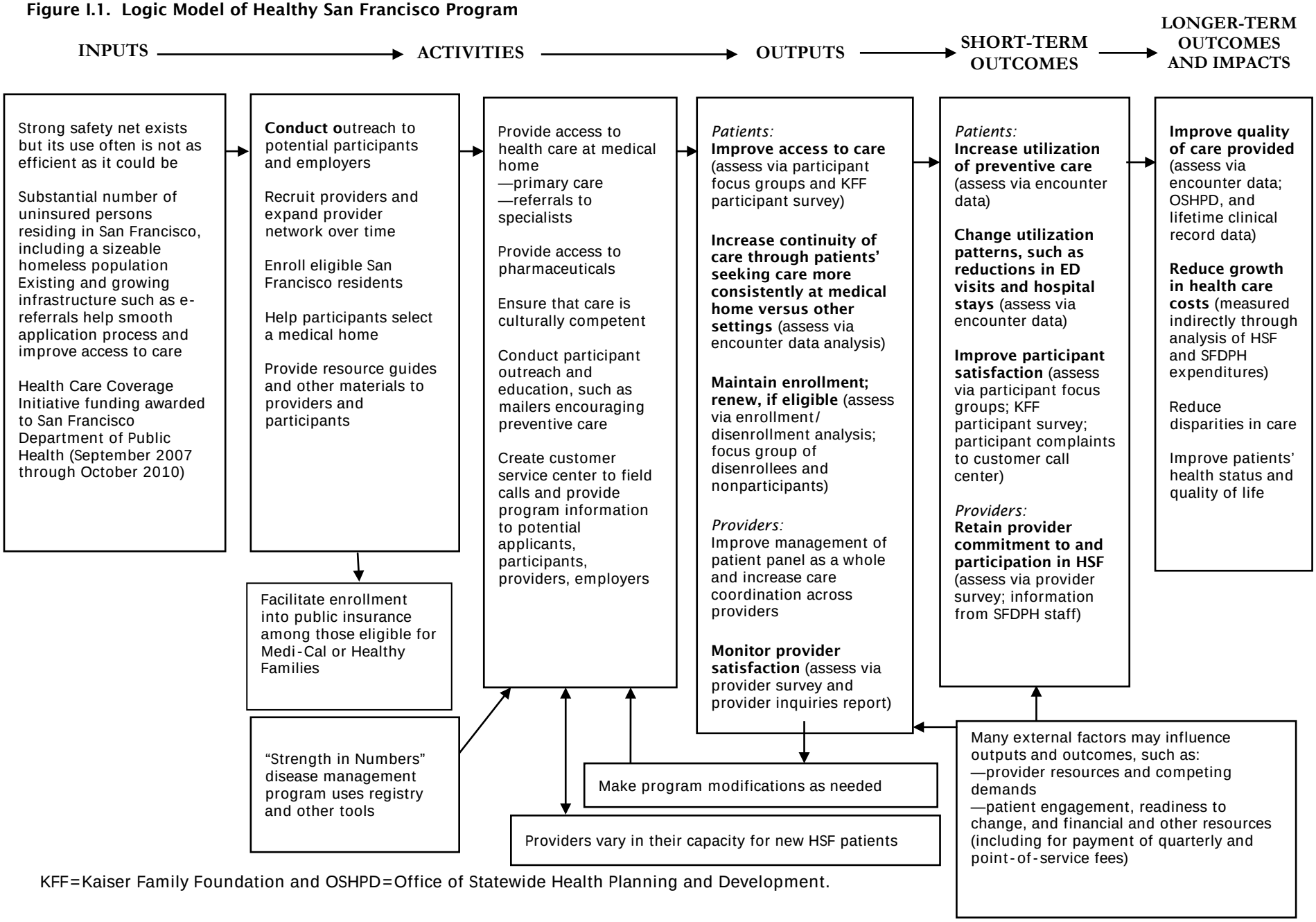
1. Improved Care Management and Better Coordination of Care.

Many providers we interviewed think the HSF medical home is improving care management and coordination while reducing gaps in care and duplicative services. We found that several strategies and components of HSF medical homes have shaped these impacts on care management and coordination.

Appointment scheduling and restructuring visits. Changing how appointments are scheduled has been a key area of attention for many HSF medical homes, especially the SFDPH clinics. The creation of a New Patient Appointment Unit has centralized some appointment scheduling for the SFDPH clinics, which streamlines the process for patients and reduces workload on individual clinics. Also, the SFDPH clinics have reduced the number of appointment types they use, allowing more flexibility in their daily schedules. The introduction of telephone visits, group visits, and a centralized nurse advice line have allowed providers to see more patients per day. In addition, several SFDPH clinics are piloting "open access scheduling," which is reducing wait times for appointments and no-show rates, as well as more closely aligning patients with a specific clinician within a medical home.

[4] For a fuller explanation of these relationships, see "Understanding the Healthy San Francisco Medical Home and How It Functions for Different Patient Populations," Available at: http://www.healthysanfrancisco.org/files/PDF/HSF_Medical_Homes_Report_Full_20100927.pdf

Figure I.1. Logic Model of Healthy San Francisco Program



KFF=Kaiser Family Foundation and OSHPD=Office of Statewide Health Planning and Development.

Information technology as a tool. Many HSF care management and coordination efforts rely on health information technology (health IT) to help gather, view, share, and analyze patient information. The most lauded HIT initiative is the eReferral system developed by a physician at UCSF just before HSF was implemented. Prompted by the growing demand for specialty care, eReferral improves access to and coordination of specialty care at SFGH by enhancing communication between the referring primary care provider and specialist. In addition, the medical homes now have broader access to patient information through the sharing of information among providers via the longstanding public hospital's and clinics' Lifetime Clinical Record (LCR) system, a clinical repository of test results, notes, and discharge summaries. In summer 2011, the SFDPH clinics implemented eClinicalWorks, which will create more direct ways for patients to make appointments and access providers. Finally, medical homes are increasingly using disease registries, such as Strength in Numbers and i2i, to help manage care for both their chronically ill patients and healthy patients by identifying gaps in tests or other interventions. The SFHP has supported the Strength in Numbers disease registry since 2009; many providers initially used this system to focus on diabetic patients and are now expanding to other conditions.

Improved financial access to other needed services. Our site visit discussions revealed that HSF has also helped reduce the barriers that providers typically face in referring their uninsured patients for other needed services. As the director of a newly participating medical home reported, "Now we can get labs, pharmacy, specialty care, and hospital care for [our uninsured patients] through this program." For the established medical homes (SFDPH and SFCCC providers), making HSF enrollment a condition for receiving pharmacy, specialty, and other ancillary services without getting billed establishes an incentive for providers to help their patients enroll in HSF and for patients to comply. One clinic respondent reported: "We encourage the patients who do have to pay to stay enrolled to make sure they continue to get their meds—that's the carrot to keep them enrolled."

2. Empanelment as an Improved Means of Managing a Patient Population.

Connecting individuals to a primary care medical home, known as empanelment, facilitates the ability of a particular medical practice to identify the population of patients for whom it is responsible. Within HSF, medical homes are working toward a team-based approach to care, with, for example, morning meetings being held to discuss patients so staff can coordinate workload. Providers doing panel management are also starting to reach out to their "shadow" population—HSF participants who have selected a certain provider but have yet to come in for an appointment.

C. Organization of the Remainder of Report

The rest of this report is organized as follows. In Chapter II we give a brief description of the data sources and methods used for this study. We then follow, in Chapters III and IV, with the findings from our enrollment and utilization analyses. We conclude by discussing some of the lessons learned from the HSF program and the implications of health care reform for HSF moving forward.

II. METHODS

This study of the HSF program relied on a large number of data sources and included a rich set of quantitative and qualitative data. In this chapter, we briefly describe the data sources and methods used and then discuss the limitations of this work. A detailed appendix of study methods is included at the end of this report.

A. Data Sources

HSF Enrollment and Encounter Data. Enrollment and encounter records for HSF participants provide information on participants' enrollment and retention in the program and utilization of health care services. Enrollment records for 95,580 unique enrollees were obtained from the SFDPH, and cover the period from July 2007 through March 2011. We used encounter data from July 2007 through December 2010 (extracted by SFHP in March 2011) to allow sufficient time for complete reporting. We structured our enrollment analysis around six cohorts defined by major changes in program eligibility or provider participation.

American Community Survey (ACS) and California Health Interview Survey (CHIS). To assess the degree to which HSF has attracted its target population, we draw on two data sets to profile the uninsured working-age population in San Francisco: the 2009 CHIS, which draws on a sample of 809 adults (ages 18+) for San Francisco County, and the 2009ACS Public Use Microdata Sample (PUMS) for San Francisco County, which has 6,058 adult respondents. Both surveys ask about current insurance status and therefore provide a snapshot of the City's uninsured population at the time of their administration. Because it top-codes household income at 501 percent of the FPL and includes variables on disability status, we are able to use the ACS to construct a more refined measure of the "target" population for HSF, which excludes the highest income uninsured and those who are likely eligible for public insurance programs (for example, Medi-Cal and Healthy Families), even if they are not currently enrolled.

Healthy Worker Program Enrollment and Encounter Data. We also obtained encounter data for enrollees in the Healthy Workers (HW) program, a health insurance program started in 1999 by the San Francisco In-Home Support Services (IHSS) Public Authority for individuals providing IHSS to seniors and people with disabilities. The program is funded by the City and County of San Francisco, receiving matching funds from the federal government. It is administered by the SFHP. HW enrollees are typically low-income workers and receive services from many of the same safety-net providers that serve the HSF population, so we anticipate that they may have similar service utilization patterns. As with HSF, encounter data for 1,256 HW enrollees who initially enrolled between July 2007 and December 2009 were extracted by the SFHP in March 2011 and we used data for services rendered between July 2007 through December 2010.

Hospital Inpatient and ED Discharges. To assess the possible effect of HSF on potentially avoidable hospital admissions and non-emergent ED visits, we obtained individual-level records from the California Office of Statewide Health Planning and Development (OSHPD) of all inpatient and ED discharges occurring in California hospitals from 2005 through 2009. For all analyses in this report, individual-level records were rolled up to the hospital level to compare trends at SFGH to those in other public hospitals in California.

Health Access Questionnaire. Since December 2008, SFDPH has administered a Health Access Questionnaire (HAQ) at enrollment, renewal (when a participant elects to continue

enrollment immediately at the end of a 12-month period), and re-enrollment (when a prior participant elects to rejoin HSF after a gap in enrollment). This 10-question instrument assesses perceived health status and access to care in the prior 12 months (captured by usual source of care, use of the ED, and difficulty in receiving medical care). Our analysis utilizes HAQ responses from December 2008 through March 2011. We identified three samples: (1) those who completed an HAQ at initial enrollment (n=49,943), (2) those who completed an HAQ at renewal or re-enrollment after a short gap of one to four months (n=26,864), and (3) those who met the above criteria *and* had completed a survey upon initial enrollment (n=13,777). We used the first sample to understand how well connected new enrollees were to health care systems in San Francisco, the second sample to understand perceived access among HSF participants, and the third sample to assess changes in perceived access over time that may be due to HSF.

Focus Groups. The analysis incorporates findings from nine focus groups conducted in 2010 and 2011: three in July, two in October, two in December 2010, and two in March 2011.[5] The sample for the July focus groups was drawn from participants who completed an enrollee satisfaction survey conducted by the Kaiser Family Foundation (KFF) in March 2009 and were still enrolled as of July 2010;[6] the sample for the October 2010 focus groups was drawn from participants who had exited from the program at least once, with some having re-enrolled and others still not participating in the program as of October 2010; the sample for the December focus groups was drawn from self-pay patients at SFGH and from employees whose employers chose the City Option to fulfill the Employer Spending Requirement (ESR); the sample for the March 2011 focus groups drew on the sample constructed for the December 2010 focus groups as well as outreach to several community organizations providing services to low-income adults, with a focus on attracting bilingual adults and those from racially and ethnically groups underrepresented in the previous focus groups. In all cases, the size of the focus group ranged from 10 to 13 individuals.

HSF Provider Survey. In May and June 2010, we conducted a self-administered online survey of providers participating in HSF as of April 2010, including physicians, nurse practitioners, nurse midwives, physician assistants, nurses, social workers, and other providers.[7] Of the 578 providers for whom we had contact information, 389 responded to the survey. Twelve providers were on leave or unavailable during the survey period, leaving 566 potential respondents, and, therefore, a response rate of 69 percent. The survey collected information on such topics as the activities related to and perspectives on care coordination, access, and quality improvement as well as the providers' perceptions of changes in the care-seeking behavior of HSF participants.

Site Visits. We also incorporate relevant information collected during three site visits in San Francisco in October 2009, February 2010, and February 2011. The aim of these visits was to gather qualitative information on HSF from key informants who have been involved closely with the program. These individuals included SFDPH HSF leaders and staff; SFHP leaders and staff; physicians, administrators, and other staff in various HSF medical homes; members of HSF advisory

[5] Corey, Canapary, and Galanis Research (CCG) conducted these focus groups.

[6] See http://www.healthysanfrancisco.org/files/PDF/HSF_Satisfaction_Survey_Kaiser.pdf for a description of the survey and the findings.

[7] The survey was administered by CCG. Kaiser Permanente (KP) was unable to participate in the provider survey because of the relatively short duration of its participation in the program and difficulty in identifying KP clinicians with adequate HSF participant interaction.

bodies; and San Francisco City employees who have been involved with HSF. In October 2009, Mathematica researchers spoke with 62 key informants; in February 2010, we spoke with 38 key informants; and in February 2011, we spoke with 50 key informants. The first visits focused more on the origins, structure, and goals of the program and the enrollment process; the topics of the last visits centered around the renewal and re-enrollment process, the role and function of the medical home, and sustainability of the program and its role in national health reform.

B. Analytic Approach

We applied descriptive and multivariate methods in our analyses of the trends in enrollment and retention and in access to and utilization of health care services by participants in HSF. Descriptive methods present actual enrollment flows and utilization levels, whereas regression analyses enable us to control for confounding factors and identify more clearly the characteristics associated with renewal, re-enrollment, and differences in utilization. As noted above, we drew on a wide array of data sources. Wherever possible, we draw on qualitative data from the focus groups and site visits to illuminate and add depth to the quantitative results. A detailed appendix of study methods for the analyses of both enrollment and encounter data are included in the Appendix.

C. Limitations to the Study

While analyses presented in this report are based on the best available data, we faced several challenges in assessing the effects of HSF on utilization. The strongest analysis would examine utilization patterns before and after enrollment in the HSF program for a representative sample of HSF participants, and a matched control sample of similar individuals who were eligible but did not enroll in HSF. Since such data are not available, we pursued two alternative approaches, each with limitations.

First, to capture potential effects of HSF on ED and inpatient hospital utilization, we examined trends in participants' use of services while enrolled in HSF by using encounter data for HSF participants. Specifically, for HSF participants who were continuously enrolled for at least 24 months, we looked at whether an individual had an emergent ED visit, a non-emergent ED visit, or an inpatient admission in the first year of the program, and then noted whether that person used any of those hospital services during the second year. We also performed this analysis for HW enrollees. While this analysis does not control for unobserved changes in health status that may lead to an emergent ED visit or inpatient admission, it does provide some control for unchanged individual characteristics that may influence the likelihood of a non-emergent ED visit.

Second, we examined trends in the use of ED and inpatient utilization among uninsured adults seen at SFGH over the period from 2005 to 2009. The analysis of the HSF participants relies on encounter data supplied by the SFHP, which are known to be incomplete, particularly for ED and inpatient services. SFGH is the only hospital with available data from the beginning of the program. While many hospitals began reporting encounters for their own medical home patients as early as December 2008, their reporting of charity care encounters for HSF participants enrolled with other medical homes did not begin until July 2009. No data are available from hospitals, clinics, and physicians that do not participate in HSF. Services covered through these other mechanisms would not be included in the SFHP data. We have no way of knowing the scope of this undercount.

We feel fairly confident, however, given the large and growing share of San Francisco charity care provided by SFGH, that patients were not simply seeking ED and inpatient services at other San Francisco hospitals during this time period. However, we cannot state with certainty that the

observed patterns are due to the HSF program, as opposed to some other factor (such as new ED intake procedures) uniquely affecting uninsured patients at SFGH.

Finally, we note that diagnoses and procedures are inconsistently coded in the encounter data, perhaps because most HSF providers do not receive fee-for-service reimbursement and therefore may lack strong incentives to provide that level of detailed information.

III. TRENDS IN ENROLLMENT AND RETENTION

The HSF program has now been operational for four years, attracting 95,580 unique enrollees from July 2007 through March 2011. HSF has enrolled an average of 2,100 new clients each month. While almost all the early enrollees were established patients within the SFDPH or SFCCC systems, the most recent HSF enrollees had no prior contact with their chosen medical home in the previous two years. Because the network of clinics participating in HSF has a broad reach across the City, the population of HSF enrollees is ethnically and linguistically diverse; however, income eligibility expansions have not led to changes in the overall income distribution of enrollees. Most continue to report household incomes at or below 200 percent of the FPL. Comparing HSF enrollment with estimates of the likely eligible population in San Francisco, HSF has reached approximately 64 percent of its target population, with much higher penetration among some subgroups.

More than 85 percent of HSF enrollees remain in the program for at least 12 months, and half of all participants renew enrollment at the first opportunity. Another 16 percent re-enroll in the program after a gap; more than half of the re-enrollments occur within four months of exiting. Altogether, two-thirds of enrollees for whom we can observe renewal and re-enrollment decisions by March 2011 signaled the value they place on HSF by actively opting into the program for a second period.

We draw on HSF administrative data to examine both overall trends in program enrollment and retention since 2007 as well as how these trends have varied among groups of nonelderly uninsured adults in San Francisco. In addition, drawing on data from focus groups that we conducted with adults who are (or were) enrolled in HSF or who have not enrolled but who are eligible, we explore factors that may be driving these trends and any differences that have emerged among groups over time. These data enable us to address the following four questions on HSF enrollment and retention:

1. Who enrolls in HSF?
2. Which eligible individuals do not enroll in HSF?
3. Who remains enrolled in HSF and for how long?
4. Why do individuals leave HSF and who returns?

A. Who Enrolls in HSF?

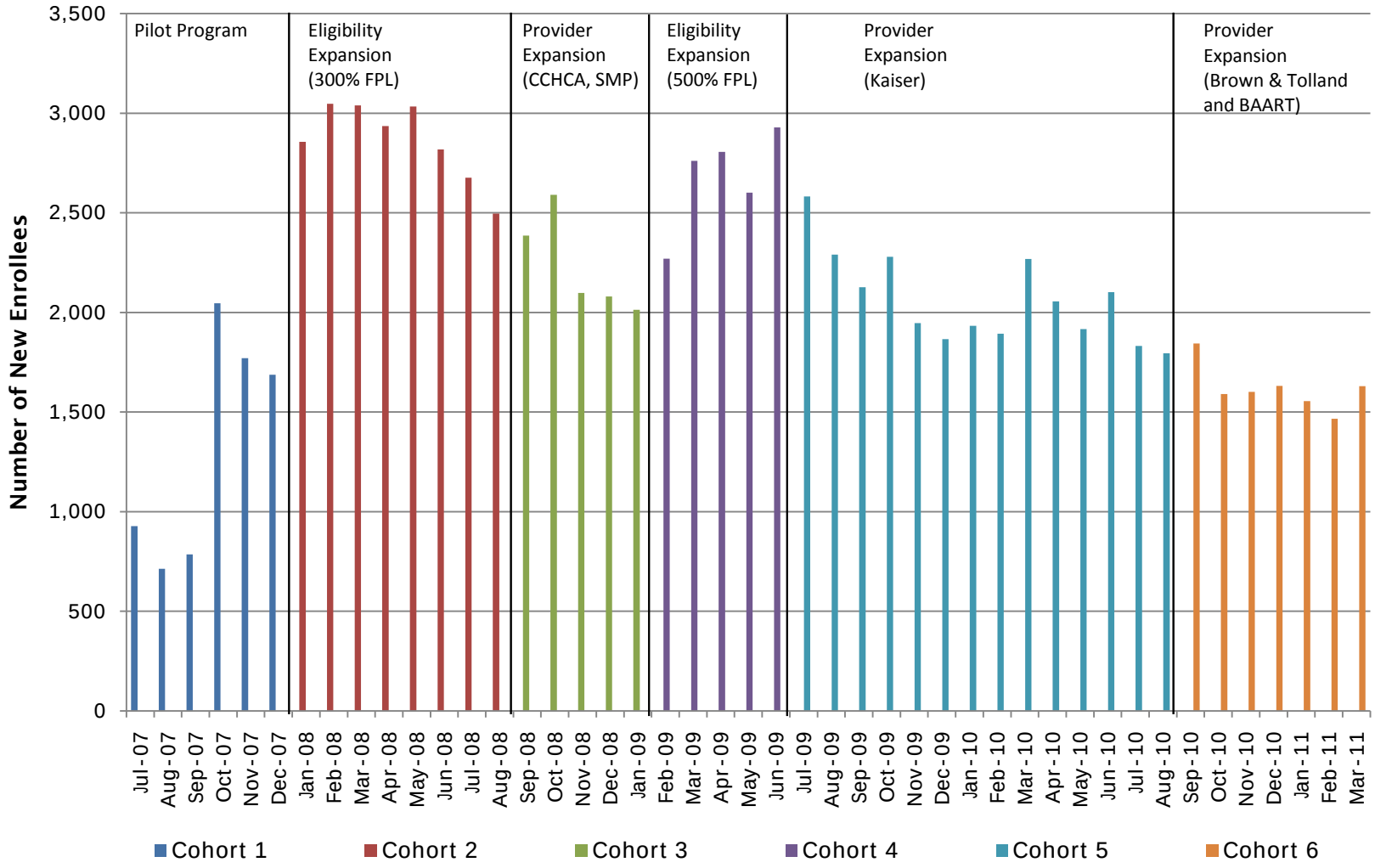
HSF attracts substantial numbers of low-income uninsured San Franciscans. From July 2007 through March 2011, HSF enrolled an average of 2,100 new clients monthly. In the first two years of the program (cohorts 1-4), monthly enrollment was roughly 2,300 (Figure III.1). Since July 2009, enrollment has averaged about 1,900 per month, reflecting the slower enrollment patterns of a mature program.

Monthly enrollment exceeded 2,500 new clients immediately following both major income eligibility expansions. The first expansion occurred in January 2008 when individuals with incomes between 101 and 300 percent of the FPL became eligible, and the second occurred in February 2009 when HSF opened to individuals with incomes between 301 and 500 percent of the FPL. The January 2008 surge in enrollment likely reflects program uptake by the newly eligible near poor (101-200 percent of the FPL) who were established clinic patients. In cohort 2, 27 percent of new

enrollees had incomes between 101 and 200 percent of the FPL (Table III.1), and 86 percent were prior users of their medical homes.

Increased enrollment in February 2009, however, was not primarily due to the entrance of newly eligible San Franciscans with incomes greater than 300 percent of the FPL. Just 3 percent of cohort 4 enrollees had incomes exceeding 300 percent of the FPL, and those with income below 200 percent of the FPL continued to represent the majority of new enrollees (88 percent). Although income eligibility expansions may have played some role in enrollment growth in early 2009, publicity surrounding the income expansion likely attracted to the program previously eligible individuals who were not already established clinic patients. Indeed, a steadily decreasing percentage of each cohort reported prior contact with their chosen medical home. In cohort 1, 95 percent of members were prior users of their medical home; by cohort 6, the most recent set of enrollees, just 44 percent reported having visited their medical home within the previous two years.

Figure III.1. New Enrollment in Healthy San Francisco, by Month and by Cohort



Source: Mathematica analysis of HSF enrollment data from July 2007 through March 2011.

Notes: Individuals are counted only in the month that they first enter HSF. Re-enrollments for participants who exit the program are not included in this graph.

The demographic composition of HSF enrollees has changed over time, although the income distribution of new enrollees has remained steady. The first cohort of enrollees was more likely to be near-elderly (39 percent were 55 to 64 years old), female (52 percent), and ethnically and linguistically Chinese (39 percent), reflecting the characteristics of populations served by the HSF pilot clinics, NEMS and the Chinatown Public Health Center (Table III.1). By cohort 6, larger percentages of the population were male (55 percent), younger (65 percent were 18 to 44 years old), white (24 percent), and English-speaking (65 percent). While enrollee characteristics have been relatively stable since cohort 4, the most recent cohort indicates a small decline in Spanish speakers and ethnically Latino enrollees.

The income distribution of new enrollees has remained steady since the expansion of eligibility to 500 percent of the FPL. Just under two-thirds of each cohort report household incomes of 0-100 percent of the FPL, and another quarter reports income between 101 and 200 percent of the FPL (Table III.1). The stable income distribution and continued strong enrollment in a program completing its fourth year suggest that HSF continues to reach new pockets of low-income uninsured San Franciscans. Ongoing enrollment of new participants may reflect increases in the number of adults in San Francisco without health insurance, either due to the loss of coverage or to new entrants to the City. It may also reflect the addition of new providers, continued media attention to the program, or increased word of mouth as current enrollees relate their experiences to friends, family, and co-workers.

Table III.1. Distribution of HSF Enrollment, by Demographic Characteristics and by Cohort

	Cohort 1		Cohort 2		Cohort 3		Cohort 4		Cohort 5		Cohort 6	
Characteristics	N	%	N	%	N	%	N	%	N	%	N	%
Overall	7,930	100	22,905	100	11,170	100	13,368	100	28,888	100	11,319	100
Gender												
Male	3,828	48	11,911	52	5,860	52	7,316	55	15,984	55	6,183	55
Female	4,102	52	10,994	48	5,310	48	6,052	45	12,904	45	5,136	45
Initial Age Group												
18-24	504	6	2,107	9	1,761	16	2,242	17	4,648	16	1,801	16
25-44	2,279	29	9,706	42	4,933	44	6,199	46	14,020	49	5,524	49
45-54	2,038	26	6,084	27	2,547	23	2,909	22	5,919	20	2,269	20
55-64	3,109	39	5,008	22	1,929	17	2,018	15	4,301	15	1,725	15
Ethnic Group												
Black	771	10	2,250	10	991	9	1,245	9	2,781	10	976	9
Chinese	3,051	38	5,703	25	2,761	25	3,010	23	5,391	19	2,552	23
Hispanic	1,550	20	6,104	27	2,961	27	3,361	25	6,771	23	2,418	21
White	1,098	14	3,994	17	2,119	19	2,964	22	6,904	24	2,719	24
Other	1,460	18	4,854	21	2,338	21	2,788	21	7,041	24	2,654	23
Initial FPL Level												
0-100%	7,930	100	14,823	65	7,308	65	8,447	63	18,242	63	6,926	61
101-200%	-	0	6,103	27	2,900	26	3,309	25	6,946	24	2,757	24
201-300%	-	0	1,940	8	927	8	1,276	10	2,862	10	1,220	11
301%+	-	0	39	0	35	0	336	3	838	3	415	4
Spoken Language												
Chinese	3,126	39	5,614	25	2,630	24	2,846	21	5,098	18	2,358	21
English	3,340	42	11,480	50	5,751	51	7,767	58	18,625	64	7,306	65
Spanish	1,182	15	4,898	21	2,294	21	2,376	18	4,343	15	1,392	12
Other	282	4	913	4	495	4	379	3	822	3	263	2
Initial Medical Home												
SFDPH	4,340	55	13,826	60	5,346	48	6,404	48	12,959	45	4,707	42
SFCCC	3,443	43	9,079	40	4,725	42	6,315	47	11,835	41	5,319	47
All other	- [a]	0	-	0	1,099	10	645	5	4,094	14	1,289	11
Homeless Status												
Homeless at any point	1,466	18	3,788	17	1,525	14	1,984	15	4,171	14	1,537	14
Never homeless	6,464	82	19,117	83	9,645	86	11,384	85	24,717	86	9,782	86
Medical Home Prior Use												
Yes	7,496	95	19,710	86	8,231	74	9,420	70	17,795	62	4,991	44
No	434	5	3,195	14	2,939	26	3,948	30	11,093	38	6,328	56

Source: Mathematica analysis of HSF enrollment data from July 2007 through March 2011.

[a] For cohort 1, there were 147 individuals with an unknown initial medical home assignment. This reflects a data entry error rather than an assignment to a medical home outside the SFDPH and SFCCC systems.

While many new HSF enrollees were established patients, some reported weak prior connections to the health care system. More than 90 percent of enrollees in cohorts 4 through 6 completed the HAQ upon enrollment, and responses have been consistent across cohorts (Table III.2). About half of respondents reported a clinic or doctor's office as their usual source of care prior to enrollment, a rate comparable to that among Medi-Cal or Healthy Family enrollees.[8] By comparison, only 26 percent of uninsured residents of California reported using a doctor's office or HMO as their usual source of care. Nevertheless, some new HSF enrollees lacked a strong connection to the medical care system. About 5 percent of respondents considered the ED their usual source for care, whereas another 11 to 12 percent reported not having a usual source for care. In addition, just under 30 percent reported that accessing medical care in the past year had been difficult.

Table III.2. Health Access Questionnaire Responses upon Enrollment for Recent HSF Enrollees

	Cohort 4		Cohort 5		Cohort 6	
	N	%	N	%	N	%
Total Cohort Size	13,368		28,888		11,319	
Response at Initial Enrollment	12,218	91	27,142	94	10,583	93
Among Those with a Response:						
Usual Source of Care						
Clinic/Health Center/Hospital Clinic	5,534	45	11,375	42	4,410	42
Doctor's Office	1,479	12	3,110	11	1,044	10
Emergency Room	636	5	1,364	5	463	4
Some Other Place	196	2	491	2	259	2
No One Place	1,368	11	3,292	12	1,295	12
Don't Know or Refused	3,005	25	7,510	28	3,112	29
Difficulty Accessing Medical Care						
Extremely Difficult	358	3	863	3	385	4
Very Difficult	1,044	9	2,481	9	748	7
Somewhat Difficult	2,127	17	4,843	18	1,695	16
Not Too Difficult	3,007	25	6,089	22	2,609	25
Not At All Difficult	1,661	14	3,058	11	1,314	12
Don't Know or Refused	4,021	33	9,808	36	3,832	36

Source: Mathematica analysis of HSF HAQ survey responses collected upon HSF enrollment from December 2008 through March 2011.

[8] Exhibit 2.13A from *California Health Care Chartbook: Key Data and Trends*, Kaiser Family Foundation, 2004, available at http://www.kff.org/statepolicy/7086/upload/California-Chartbook-Section-2-PDF.pdf.

B. Which Eligible Individuals Do Not Enroll in HSF?

HSF appears to have enrolled a large portion of working-age uninsured adults in San Francisco. Two recent surveys, the 2009 ACS and 2009 CHIS, can be used to estimate the number and characteristics of working-age uninsured San Franciscans.[9] Because its sample size includes nearly 10 times as many respondents, the ACS provides a more precise and stable estimate from year to year.[10] The ACS also includes variables that allow us to identify further the target population for HSF by excluding those with incomes above 500 percent of the FPL and those who likely qualify for public insurance, even if they are not enrolled.[11] Therefore, while Table III.3 presents both ACS and CHIS estimates for 2009, our discussion focuses on HSF enrollment relative to ACS estimates of the target population.

In 2009, there were an estimated 77,588 individuals in the HSF target population (Table III.3). As of December 2009, HSF enrollment was 49,556, or about 64 percent of the target population. HSF has been particularly effective in enrolling the older population (reaching about 87 percent of the target group ages 40 to 64), English speakers (reaching 76 percent of the target group), and Asian and Pacific Islanders (88 percent of the target group). While HSF appears to be approaching enrollment saturation among those in households below 200 percent of the FPL, a group that HSF is uniquely well positioned to reach and enroll through its network of safety-net providers, the majority of recent enrollees continue to come from this subgroup (Table III.1). There may be substantial turnover among this group of participants due to frequent changes in income status among lower-income households. As a result, HSF may be approaching saturation for this population at any given point in time and yet continue to enroll a large number of new members from this group in each time period.

[9] Both surveys ask respondents about their current insurance status; however, differences in sampling and variable definitions lead to different overall population estimates. The ACS considered individuals insured if they reported insurance through (1) a current or former employer or union, (2) direct purchase from an insurance company, (3) Medicare, (4) Medicaid or any other government-assistance plan for low-income or disabled individuals, (5) TRICARE or other military health care, or (6) Veterans Administration. CHIS considered individuals insured if they were in any of these plans; they also considered individuals insured if they reported enrollment in AIM (Access for Infants and Mothers), MRMIP (Major Risk Medical Insurance Program), and/or Family PACT (which covers only contraception and reproductive services). Specifically asking about these three California programs may have resulted in fewer women, particularly younger women, being reported as uninsured in the CHIS survey, relative to the ACS survey.

[10] For example relative to 2007, 2009 CHIS estimates suggest a 7 percent growth in the uninsured working-age population, reflecting the net result of a 17 percent decline among males and 58 percent growth among females. The magnitude of these swings—and particularly the decline in uninsurance among males, despite the nationwide economic downturn—lack face validity. In contrast, ACS estimates suggest a 22 percent growth in the uninsured working-age population over the period from 2008 to 2009, with 20 percent growth among men and 25 percent among women.

[11] Eighteen-year-olds with incomes below 250 percent of the FPL and disabled individuals with incomes below 100 percent of the FPL likely qualify for Medi-Cal or Healthy Families. CHIS top-codes income at 500 percent FPL, so those with higher incomes cannot be distinguished from the HSF target population.

Table III.3. HSF Enrollment Compared with Potentially Eligible Population in San Francisco

	HSF December 2009		Target Population[a] ACS 2009		Uninsured Working-Age Population CHIS 2009	
	N	%	N	%	N	%
Total Population	49,556	100	77,588	100	64,000	100
Gender						
Male	26,085	53	43,512	59	34,000	69
Female	23,471	47	34,076	41	30,000	32
Age						
18-24	6,352	13	13,026	17	6,000	9
25-39	15,699	32	33,076	43	34,000	49
40-64	27,505	56	31,486	41	24,000	42
Race/Ethnicity						
Asian or Pacific Islander	19,238	39	21,937	28	20,000	28
Black	4,368	9	6,023	8	9,000	24
Latino	12,055	24	22,151	29	23,000	21
White	9,491	19	23,853	31	12,000	21
Other (including two or more races)	4,404	9	3,624	5	---[b]	
Income (FPL)						
0-100%	33,821	68	19,368	25	10,000	44
101-200%	11,237	23	26,514	34	32,000	14
201-300%	3,922	8	13,899	18	11,000	11
301% or greater	576	1	17,662	23	11,000	31
Preferred Spoken Language[b]						
Chinese[b]	13,142	27	13,957	18	7,000	16
English	25,684	52	33,861	44	34,000	47
English and Chinese[b]					3,000	7
English and Spanish					10,000	6
Spanish	8,953	18	20,475	26	1,000	17
Other	1,777	4	9,295	12	9,000	14

Source: Mathematica analysis of ACS 2009 data and HSF enrollment data. Queries of CHIS 2009 downloaded from AskCHIS tool (http://www.chis.ucla.edu/main/default.asp) UCLA Center for Health Policy Research on March 31, 2011.

[a] Target population includes working-age (18-64 years old) uninsured adults with incomes at or below 500 percent of the FPL. We also exclude 18 year olds with incomes below 250 percent of the FPL and disabled individuals with incomes below 100 percent of the FPL, as these groups likely qualify for public insurance programs, even if they are not enrolled.

[b] Includes Chinese, Cantonese, and Mandarin. CHIS permitted individuals to respond that they spoke multiple languages at home. ACS codes whether someone spoke any language other than English at home. HSF asks applicants to indicate the preferred spoken language. The different questions make comparisons across these groups problematic.

HSF enrollees are less likely to be younger uninsured adults or from households with incomes above 300 percent of the FPL. Enrollment rates for the youngest age groups lag those for older adults in the target population. For example, the program has reached just under half of the target group ages 18 to 24. The same is true for those from higher income households. HSF appears to have enrolled about 14 percent of the target population with incomes above 200 percent of the FPL. Demographic characteristics of the most recent cohorts (Table III.1) suggest that coverage of the youngest group may have improved since December 2009; however, continued slower enrollment of higher-income participants (at or above 300 percent of FPL) implies little change in coverage of this population group.

Underrepresented groups may not be enrolled in HSF because they are less likely to be aware of the program, do not place as high a value on enrollment, perceive their current lack of coverage as a temporary situation, or regard the enrollment process difficult. Several explanations may account for the gap in HSF enrollment relative to the estimated target population. Certain groups may simply be unaware of HSF. This may be especially likely for the estimated 9,000 individuals in the target population who do not speak English, Spanish, or a variant of Chinese, the three languages that HSF uses for communications. Other groups, such as younger adults who may not have current health issues, may simply place a lower value on enrollment; they may not perceive a need for ongoing services and can opt into the program should health issues arise. Low enrollment among somewhat higher-income groups may be due to personal preferences or to a reluctance to make required financial contributions for a service they do not want or believe they need. These individuals are also more likely to have had private coverage in the past and may expect to regain coverage relatively soon.

Comments made by participants in the December 2010 and March 2011 focus groups, which comprised eligible individuals who were not enrolled, provide insight into why at least some individuals from these underrepresented groups may have decided not to enroll. Several participants, for example, thought HSF was targeted only at the very poor and did not realize they were eligible; others were concerned that they would not have sufficient documentation (to prove residency in the City and County of San Francisco), and still others, especially those familiar with private health insurance policies, were surprised that medical history was not a factor in the eligibility decision. A few participants thought an enrollment process that requires income verification and initial screening was cumbersome or overwhelming.[12] Some individuals did not understand why they had to enroll in person, rather than over the telephone or online.

C. Who Remains Enrolled in HSF and for How Long?

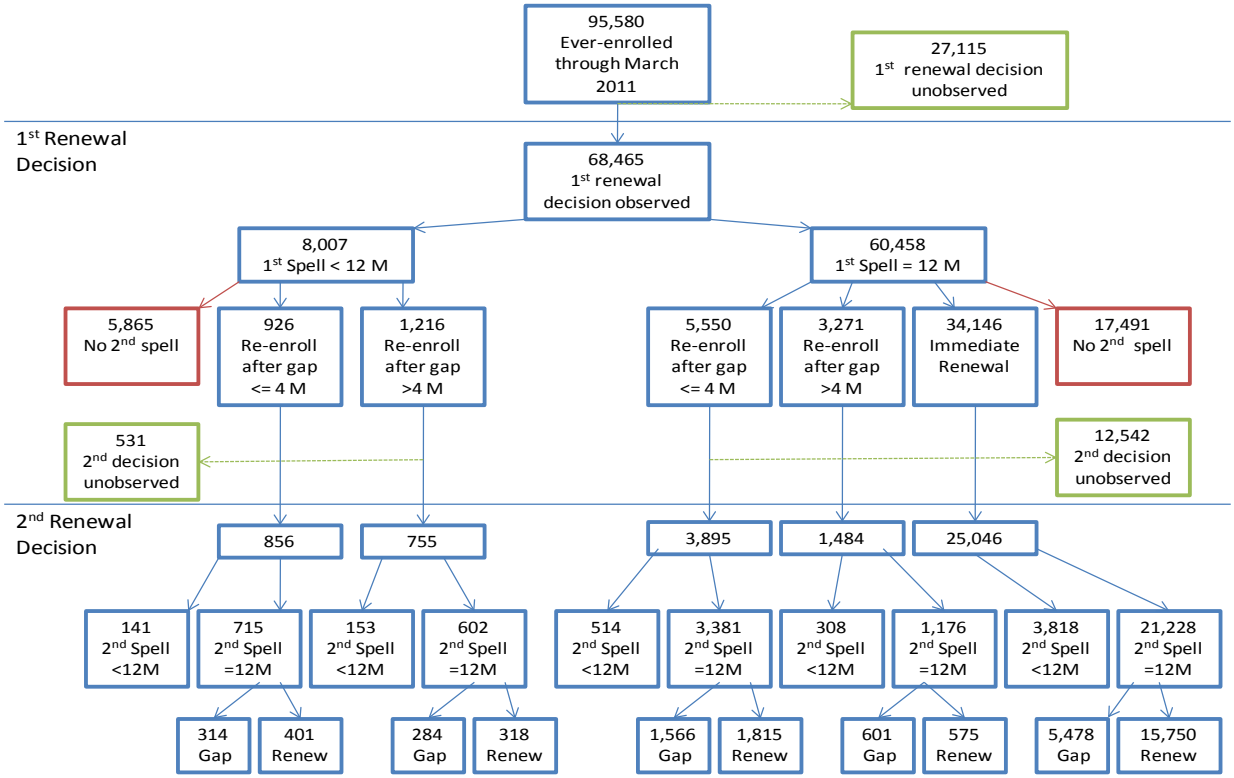
More than 85 percent of HSF enrollees remain in the program for at least 12 months, and more than half of them renew enrollment at the first opportunity. Through March 2011, HSF had enrolled 95,580 participants; 68,465 enrollees have been enrolled for at least 12 months, so we can observe their first renewal decision (Figure III.2).[13] Of those 68,465 enrollees, 60,458 stayed enrolled for the full 12 months, and 34,146 (50 percent of the enrollees; 56 percent of those reaching the renewal period) renewed enrollment in the program at the end of the 12 months. Another 10,963 enrollees (16 percent) who either had a short first period (less than 12 months) or failed to renew at the end of the 12-month enrollment period, eventually re-enrolled in the program.[14] Altogether, two-thirds of enrollees for whom we can observe renewal and re-enrollment decisions by March 2011 signaled the value they place on HSF enrollment by actively opting into the program for a second period. For participants who renewed or re-enrolled in HSF, 59 percent renew at their

[12] Participants in the other focus groups, all of whom were current or former enrollees, said the enrollment process was easy and efficient.

[13] The most recent 27,115 program entrants had not yet left the program as of December 31, 2010, but also had not been enrolled for 12 months and, therefore, had not faced a renewal decision. This figure uses December 2010 as a cutoff date to examine renewal decisions in order to align our enrollment and retention analyses with the availability of utilization data, which we consider complete through December 2010.

[14] After a gap of 4 or fewer months, 926 of the 8,007 who left before 12 months re-enrolled, and 1,216 re-enrolled after a gap longer than 4 months; 5,550 of those who chose not to renew at 12 months re-enrolled after a gap of 4 or fewer months; 3,271 re-enrolled after a gap longer than 4 months.

Figure III.2. Renewal Patterns Among Participants Ever Enrolled in HSF as of March 2011

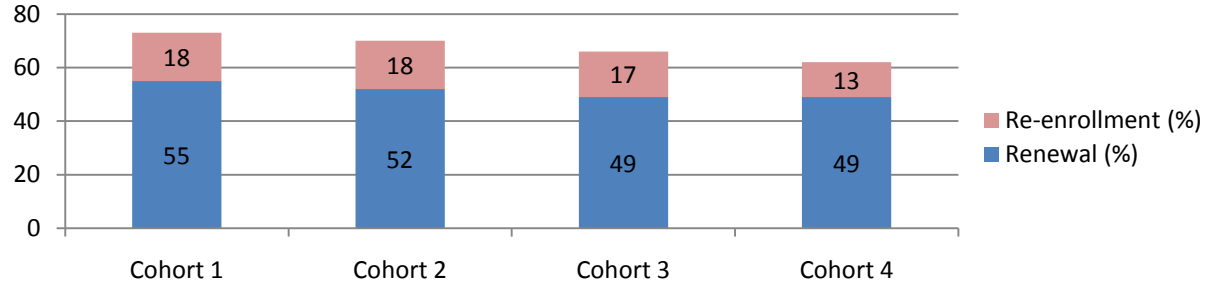


Source: Mathematica analysis of HSF enrollment data from July 2007 through March 2011.

second renewal opportunity. Nearly one-quarter (15,750 enrollees) have experienced at least 24 months of continuous enrollment.

Although retention rates fall modestly across cohorts, more than half of enrollees in each group opt into HSF a second time. The immediate renewal rate declines from 55 percent in cohort 1 to 49 percent by cohort 4, and the re-enrollment rate falls from 18 to 13 percent (Figure III.3). This pattern likely reflects the fact that as HSF has expanded, it has attracted more individuals without prior ties to the safety-net system. Those who were not prior users may be less likely to remain in HSF, partly because the medical home relationship must be newly established, and partly because they may be more likely to view HSF as a temporary solution to their health care needs. More than half of those who exit HSF and then re-enroll do so within the first four months of exiting.

Figure III.3. Percentage of Enrollees Renewing and Re- Enrolling in HSF, by Cohort



Source: Mathematica analysis of HSF enrollment data from July 2007 through March 2011. For all cohorts, re-enrollments within 18 months of exit are included in this figure. Results change by less than 1 percentage point when allowing re-enrollments beyond an 18-month window.

D. Why Do Individuals Leave HSF and Who Returns?

1. Disenrollment Reasons

In the majority of cases, the reason an HSF participant exits the program remains unknown. In cases where the reason is known, loss of HSF eligibility accounts for more than half of exits prior to renewal (Colby et al. 2011); for many that is a positive development: roughly three-quarters of these individuals became insured through either private or public coverage sources. The remainder who lost eligibility aged out of the program, moved out of San Francisco, or died.[15] After loss of HSF eligibility, making an insufficient payment is the leading reason for exiting HSF prior to renewal. However, insufficient payment does not necessarily reflect a financial burden to the enrollee; it may simply mean the enrollee did not make a payment. Only 2 percent of enrollees reported an inability to afford the participation fee as the reason for leaving the program, though some focus group participants said cost was a reason for leaving the program (adding that the costs were very reasonable, just not affordable for them at that time). These participants did not indicate that they contacted the HSF program to discuss their participation fee.

While we have some data on disenrollment reasons for these early exiters, virtually all those exiting the program at month 13 did so for failure to complete re-screening.[16] This blanket disenrollment reason masks several potential explanatory factors. Participants may have become ineligible without notifying HSF (for example, they may have moved out of the City or obtained access to insurance) or they may be relatively healthy individuals who have already addressed an episodic health care need during the first enrollment period. In 2010 the HSF program increased its efforts to track individuals who had not renewed to obtain information on the reasons why they made that choice. While followup with this group is challenging, data suggested that more than 25 percent of those contacted who did not renew had relocated outside of San Francisco or obtained public or private coverage.

2. Characteristics Associated with Retention, Renewal, and Re-Enrollment

Factors predicting retention, renewal, and re-enrollment are consistent with expectations that individuals for whom HSF represents a high-value or long-term solution, those with closer relationships to the medical home, and those who likely have more stability in their work and residency situations are more likely to remain in or return to HSF**.**

Individuals with physician visits during their first enrollment period and those with greater anticipated medical needs were more likely to remain in or return to HSF. For regular users of HSF services and those with anticipated ongoing medical needs, the program represents a positive value. Relative to those who did not have physician office visits during their first enrollment period, those with three or more visits were nearly five times as likely to remain enrolled for 12 months and about twice as likely to renew or to re-enroll after leaving HSF (Table III.4). Those with multiple chronic conditions were also more likely to remain engaged with HSF.

[15] According to data from the 2008 ACS, approximately 10 percent of nonelderly adults moved out of San Francisco in 2008.

[16] A small number were no longer eligible for HSF and several were coded as actively disenrolling but for no stated reason.

For example, enrollees who were diagnosed with two or more chronic conditions during their first enrollment period were about 20 percent more likely to remain enrolled, renew, or re-enroll, relative to those with no diagnosed chronic conditions. Although this was the general trend, those with a substance abuse diagnosis were less likely to remain enrolled or renew. Improving continuity of care for this population could be a future target for the HSF program.

Table III.4. Individual Characteristics Associated with Remaining Enrolled for 12 Months, Renewing at 12 Months and Re- Enrollment after Exiting: Odds Ratios

	Enrolled at 12 Months[a]	Renewed at 12 Months[b]	Re-Enrolled after Exit[c]
Gender			
Female	1.05	1.05**	1.13***
Male	Reference	Reference	Reference
Initial Age Group			
Age 18-24 years	Reference	Reference	Reference
Age 25-44 years	1.08	1.06**	1.08*
Age 45-54 years	1.15*	1.45***	1.34***
Age 55-64 years	1.17*	2.07***	1.00
Ethnic Group			
Black/African-American	0.37***	0.66***	1.19***
Chinese	1.39***	1.73***	1.15
Latino	0.72***	0.91**	1.28***
White	Reference	Reference	Reference
Unknown or other ethnicity	0.94	1.02	0.96
Initial FPL Level			
Income below 100% FPL	Reference	Reference	Reference
Income between 101% and 200% of FPL	0.01***	1.47***	1.32***
Income between 201% and 300% of FPL	0.01***	1.56***	1.22***
Income above 300% FPL	0.01***	1.73***	0.79
Spoken Language			
Chinese speaking	2.30***	1.62***	1.00
English speaking	Reference	Reference	Reference
Spanish speaking	0.87**	1.53***	1.38***
Other language	1.48***	1.67***	1.33***
Initial Medical Home			
SFGH medical home	Reference	Reference	Reference
Other DPH medical home	1.14**	1.02	1.14***
NEMS medical home	1.73***	1.10**	1.27***
Other SFCCC medical home	1.00	0.52***	0.71***
Other medical home	3.17***	2.14***	1.71***
Cohort			
Cohort 1	Reference	Reference	Reference
Cohort 2	2.96***	1.29***	0.96
Cohort 3	2.57***	1.24***	0.86***
Cohort 4	2.84***	1.45***	0.66***
Cohort 5	2.64***	1.21***	---
Homeless Status			
Never homeless	Reference	Reference	Reference
Homeless at some point	0.68***	1.78***	1.45***

Table III.4 *(Continued)*

	Enrolled at 12 Months[a]	Renewed at 12 Months[b]	Re-Enrolled after Exit[c]
Medical Home Prior Use			
Yes	Reference	Reference	Reference
No prior use of medical home	0.93*	0.40***	0.35***
Hospital Encounters			
Inpatient visit during first enrollment	0.74*	0.96	0.87
ED visit during first enrollment	1.23**	0.97	1.13**
Physician Office Visits			
No physician office visits	Reference	Reference	Reference
1-2 physician office visits	1.94***	1.30***	1.35***
3 or more physician office visits	4.74***	2.06***	1.91***
Chronic Conditions			
No chronic conditions	Reference	Reference	Reference
One chronic condition	1.21***	1.05*	1.07
Two or more chronic conditions	1.26***	1.24***	1.17***
Substance abuse diagnosis	0.74*	0.84***	1.26***
Mental health diagnosis	0.82**	1.04	1.05
Renewal and Re- Enrollment Status			
Renewed after first enrollment	---	---	0.00
Disenrolled for failure to pay fee	---	---	1.41***
Disenrolled because became ineligible	---	---	0.24***
Total N	**64,217**	**59,518**	**27,120**

Source: Mathematica's analysis of HSF Enrollment Data, July 2007 through December 2010.

[a] Dependent variable = 1 if participant was enrolled for the full 12 months; 0 otherwise.

[b] Dependent variable = 1 if participant was enrolled for the full 12 months and renewed at 12 months; 0 otherwise.

[c] Includes enrollees who exited before 12 months or failed to renew during their first enrollment period. Dependent variable = 1 if participant re-enrolled within 18 months of exiting; 0 otherwise.

*Significant at the 10% level.
**Significant at the 5% level.
***Significant at the 1% level.

Regardless of known chronic conditions, older individuals were generally more likely to remain with the program. The pattern is most clear for renewal: relative to young adults 18 to 24 years old, those in the 55 to 64 year old group were twice as likely to renew. Lower renewal rates among younger groups may occur because they have more variable life circumstances (for example, changes in income or pregnancy status that might result in eligibility for a public insurance program) or because they may be in generally better health, needing only episodic care, whereas older individuals are more likely to have frequent contact with the health care system and to view HSF as valuable.

Individuals with closer relationships with their medical home were also more likely to remain engaged with the HSF program. Those without visits to their chosen medical home in the two years prior to enrollment were consistently less likely to remain enrolled for 12 months, renew, or re-enroll after exiting. For example, after controlling for other factors, those without prior experience with their chosen medical home were only 40 percent as likely to renew (Table III.4). Lower retention rates among those new to the system do not necessarily signal dissatisfaction with HSF medical homes. Rather, for some individuals, joining an HSF medical home represents temporary *discontinuity* in their usual source of primary care. Those who enroll in HSF as a stopgap during employment transitions may have established relationships with medical providers outside

the HSF network. Short tenure in HSF may reflect changing life circumstances that allow these individuals to reconnect with their prior, more established, source of primary care.

Non-SFDPH and SFCCC medical homes were associated with particularly high retention. Those enrolled in non-SFDPH and SFCCC clinics were three times as likely to remain enrolled and about twice as likely to renew or re-enroll, compared to enrollees based at the SFGH clinics. One potential explanation for this is that Kaiser, a key provider outside the SFDPH and SFCCC systems, imposes a restriction on enrollees that other medical homes do not. When enrollees who have Kaiser as their medical home exit the program, they are not eligible to select it as the medical home upon re-enrollment. This policy may have enhanced retention among Kaiser enrollees. Other explanations include the effect of unmeasured differences in participants' characteristics and preferences.

Work and residential stability predict continued enrollment in the program. Relative to individuals who were never homeless, those who experienced a period of homelessness were less likely to remain in the program for 12 months. Such individuals may be difficult for the program to contact and keep engaged in HSF. However, homelessness was a positive predictor of renewal among those who remained in the program for 12 months and of re-enrollment among those who exited the program. For example, homeless individuals were about 75 percent more likely than those who did not experience homelessness to renew enrollment. This pattern likely reflects the high value of this program for these individuals, who have fewer avenues to high-quality coordinated care than other participants in the program. Some HSF clinics also target the homeless population and help members re-enroll when they return for services.

Individuals from households with incomes greater than 100 percent of the FPL were much less likely to reach 12 months of enrollment; however, those with near-poor incomes (101 to 300 percent of the FPL) were more likely to renew or to re-enroll after exiting, compared to those with incomes below the FPL. The higher probability of leaving the program before 12 months among those above the FPL may be explained in part by the fact that they are subject to a quarterly participation fee that those below the FPL do not face. Some participants in the focus groups mentioned this out-of-pocket cost as influencing their decisions.[17] Alternatively, household income likely correlates with other, unobserved factors that could influence enrollment decisions (for example, the availability of employer-sponsored insurance). We speculate that improved renewal (for those who enroll for 12 months) and re-enrollment (for those who exit) among those above the poverty level may be correlated with more stable housing situations and contact information. Individuals from these households who are approaching renewal or who exit the program may be easier to contact with information about re-enrollment because their telephone number and address remain consistent.

Controlling for other factors, retention has been relatively stable over time. Relative to cohort 1, cohorts 2 through 5 were 2.5 to 3 times as likely to remain in the program for 12 months and about 20 to 45 percent more likely to renew. Our analysis suggests that the likelihood of

[17] Because those with incomes below 100 percent of the FPL do not pay a participation fee, we were initially concerned these results were due to measurement error; that is, there may not be a formal disenrollment signal because HSF does not contact participants under the FPL who do not pay a participant fee to determine whether they are using or planning to use services. However, we found that among those with incomes below the FPL who remained nominally enrolled to 12 months and then exited at month 13, 70 percent used services during the third and fourth quarter of their first enrollment year, a clear signal that they are still enrolled and engaged in the program (Colby et al. 2011).

renewal, controlling for demographic and utilization characteristics, peaked in cohort 4. This timing coincides with the introduction of a renewal incentive program introduced in April 2010 whereby participants who complete renewal on time are entered into a lottery to win a grocery store gift card. To promote on-time renewal, the program also currently mails three reminder notices (at 90, 60, and 30 days before the renewal deadline) and contacts participants via an automated telephone call. Focus group participants routinely recalled being contacted about renewing and described the renewal process as "easy, just sign some papers."

Ethnicity and language also predict participation. Ethnically and linguistically Chinese individuals were more likely to remain in the program for at least 12 months and to renew, a pattern that may be driven by especially strong medical home bonds between Chinese speakers and the safety-net providers who deliver care in those languages. Black and Latino enrollees were less likely to remain in the program for 12 months or to renew, but were more likely than whites to re-enroll after exiting the program. One especially encouraging result is that speaking a language besides the three that HSF primarily uses to communicate (English, Spanish, or Chinese) was not associated with reduced likelihood of retention, renewal, or re-enrollment. Indeed, speaking an alternative language was a significant *positive* predictor of continued engagement with HSF, suggesting that the program has been effective at communicating with these groups once they are enrolled.

Those who disenroll due to ineligibility are less likely to re-enroll than those who exited for other reasons; those who exited for insufficient payment of participation fee are more likely to re-enroll. It is possible for those who lose eligibility because they have gained private or public coverage, or because their household income has risen above the ceiling, to become eligible again as the situation changes. However, as a group, these enrollees are less likely to re-enroll. Perhaps surprisingly, insufficient payment of the participant fee is *positively* associated with re-enrollment, relative to exiting for other reasons (including unknown reasons). We do not know why individuals do not pay the fee. Participants may decide that they do not want to incur the cost of re-enrolling if they use few services or have minimal health care needs. In other cases, failure to pay the fee may simply reflect a change in eligibility, increased mobility, or access to other health care options.

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IV. CHANGES IN ACCESS TO AND UTILIZATION OF HEALTH CARE SERVICES

In addition to addressing access, the HSF program also includes delivery system changes intended to improve both the quality of health care for HSF participants and efficiencies within the resource-constrained safety-net environment. Having participants seek care at a specific medical home is expected to alter the experience for both the provider and the patient, change utilization patterns, and ultimately improve the quality of care and control costs by reducing non-emergent ED visits and potentially avoidable hospital admissions.

We drew on encounter data from HSF providers for HSF enrollees submitted to HSF's third-party administrator (SFHP) to examine health care utilization patterns of HSF enrollees. We also analyzed encounter data submitted to SFHP for workers who enrolled in the HW program between January 2007 and December 2010. While these two groups of adults differ along several important dimensions, comparing encounter data for HSF participants and HW enrollees nonetheless provides interesting insight into health care utilization patterns for adults facing reduced barriers to primary care through two different mechanisms—a noninsurance access program and a more traditional insurance product. In addition, we include self-reported utilization data from the HAQ questionnaire administered by HSF since December 2008 and used California's OSHPD data to compare trends in ED visits since 2005 at SFGH and those at other public hospitals in California.

These various data enabled us to address the following questions regarding access to and utilization of health care services among HSF enrollees:

1. How did HSF change access to services?
2. To what extent are HSF participants utilizing available primary care services?
3. To what extent has HSF led to a decrease in potentially avoidable hospitalizations and non-emergent ED use?

Our analyses suggest that HSF is providing access to timely and coordinated primary care services to a population who greatly needs them. In general, HSF participants are very satisfied with their access to health care services. Overall, the results suggest that even though the majority of these HSF participants were established patients in the HSF medical homes prior to enrolling, participating in the program alleviated financial and nonfinancial barriers to medical care for a large portion of them. Most HSF participants are regularly receiving outpatient care at their medical homes, including recommended preventive services, and are using fewer ED services over time, both emergent and non-emergent, which suggests both improved care-seeking behavior and health status. The number of ED visits and potentially avoidable inpatient admissions at SFGH from 2005 to 2009 declined beginning in 2007, a possible signal that the HSF program, which began in 2007, may have had an impact on utilization among the uninsured.

A. How Did HSF Change Access to Health Care Services?

1. How satisfied are HSF participants with their access to services?

In general, HSF participants were satisfied with their access to needed health care services. In the HAQ, few of those responding at the time of renewal or re-enrollment stated that they experienced delays in obtaining needed care during the previous 12 months in the program. Participants in the focus groups stressed their satisfaction with access to primary care services in

general and preventive services in particular. At the same time, many of these participants expressed concern over the wait to see a specialist, and that was echoed by providers who participated in our survey.[18]

Overall, 74 percent of those who did respond to this access question said it was not at all difficult for them to access medical care.[19] Ability to access care varied by race, ethnicity, and income level. Latinos and Spanish speakers were least likely to report easy access to care (69 percent and 67 percent, respectively); blacks were most likely to report easy access (80 percent). Participants with income above 200 percent of the FPL were also more likely to report that it was not at all difficult to access care (77 percent) compared to other income groups.

Most participants never delayed seeking care or filling a prescription while enrolled in HSF. Overall, 93 percent of those giving a response in the HAQ at time of renewal or re-enrollment said they had not delayed seeking care or filling a pescription during the previous 12 months, although responses varied by homeless status, race, and ethnicity. Participants who were homeless at any point were the most likely to report a delay in seeking care (15 percent).

Chinese participants were least likely to report that they delayed seeking care (97 percent reported no delay), while whites were most likely to delay care (85 percent reported no delay). Similiarly, 98 percent of Chinese speakers reported no delay, compared to 89 percent of English speakers. Participants at the SFCCC-NEMS clinic also were most likely to report no delays (97 percent). It is important to note that SFCCC-NEMS clinics have particular expertise in working with Asian populations, so throughout our analysis the trends for ethnically Chinese, Chinese-speaking populations, and the subgroup receiving care at SFCCC-NEMS clinics track closely. The participants in the Chinese-language focus group were very satisfied with the care that they were receiving, even stating they received referrals to specialists very quickly.

Most participants rated the care they received from HSF clinics favorably. In both the HAQ and the focus groups, there was uniform agreement that the quality of care they were receiving was quite high. The vast majority of participants (91 percent) rated their care as good to excellent. Ratings were uniformly high across demographic subgroups.

2. Has HSF improved access to health care services?

In addition to looking at perceptions about access to and satisfaction with the care received during their first 12 months in the program, we also looked at changes in the responses to these questions for HSF enrollees who filled in the HAQ at time of enrollment and then again at time of renewal or re-enrollment after a gap of one to four months. The responses provided at enrollment reflect their access to care prior to joining HSF; the responses at renewal or re-enrollment reflect their experience in the HSF program. Even though enrolling in HSF is not the only change that could affect perceived access (a participant could, for example, sustain an injury during the year),

[18] We do not know whether the perceptions of the one in four enrollees who responded either "don't know" or refused to answer this and other questions on the HAQ are similar to the perceptions of those who responded. Similarly, it is difficult to generalize from the comments of those who participated in the focus groups. We give more weight to opinions that are expressed in the HAQ, the focus groups, the provider survey, and site visit interviews.

[19] See Table 1 in *Healthy San Francisco: Changes in Access to and Utilization of Health Care Services* for a full report of these results.

comparing responses from the second survey to responses from the first survey does provide some indications as to whether participants, on average, perceived a change in their access to health care services during enrollment in HSF.

More than 40 percent of participants felt access to care was easier now that they were in HSF; more than one-third felt access did not change with participation in HSF. Although a sizeable portion reported no change in access to care (36 percent; Table IV.1), 43 percent reported that they were better able to access care for themselves and their families once they were participating in HSF. Participants who were white (47 percent) and had household incomes above 200 percent of the FPL (43 and 47 percent) were most likely to report easier access to care now that they were in HSF (Table IV.2). Chinese (30 percent) participants and those receiving care at the SFCCC-NEMS clinic actually were least likely to express an improvement in access (30 percent and 27 percent, respectively).[20] Overall, 23 percent of HSF participants reported that access to care was more difficult now that they had joined HSF and those who were ever homeless were most likely to report increased difficulties in accessing care (34 percent).

Some participants were better able to seek care or fill a prescription while participating in HSF. The majority of participants did not report delaying care when they first enrolled in HSF and did not report a change in delays to care a year after enrolling (77 percent; Table IV.1). Very few reported delays at both enrollment and one year later (3 percent; Table IV.1). A notable portion, however, reported some delays in seeking care at enrollment but no delays after participation in HSF (17 percent). Those who experienced an improvement in delays to care more often were white (33 percent; Table IV.2) or black (27 percent), and less often Chinese (6 percent). Participants who experienced an improvement in delays to care also frequently had household incomes above 301 percent of FPL (27 percent) or were receiving care at an SFDPH clinic (26 percent).

Although many of the participants frequented a doctor's office or clinic for medical care before enrolling in HSF, some were able to make a doctor's office or clinic their usual source of care while participating in HSF. The majority of participants reported visiting a clinic or doctor's office as their usual source of care both before and after enrolling in HSF (74 percent; Table IV.1). A small group reported visiting the ED for usual medical care before and after enrollment in HSF (2 percent). The remaining 21 percent were able to transition from visiting EDs (or not having a usual source of care) to visiting a doctor's office or a clinic as their usual source of care. Compared to their peers, participants who were Latino (28 percent) or Spanish-speaking (29 percent), ever homeless (25 percent), or had never before used a medical home (31 percent) reported moving to a doctor's office or clinic most often (Table IV.2).

One in three participants felt the quality of their care improved with participation in HSF. Although many participants felt their care before and after enrolling in HSF was the same (44 percent; Table IV.1), 34 percent said it improved. Compared to their peers, those who experienced improvements in care were most often white (42 percent; Table IV.2), above 301 percent of the FPL (47 percent), or ever homeless (44 percent). Slightly more than one-fifth of respondents (22 percent) felt their care worsened while participating in HSF; blacks (32 percent), Latinos, and Spanish

[20] The literature suggests that there are systematic differences among different ethnic groups in responses to questions about satisfaction and perceptions. In this case, however, we are comparing responses given by an individual when first enrolling to responses given by that same individual to the same question a year later.

speakers were more likely to express this (28 and 30 percent, respectively). Those who said the quality of their care had improved were more likely than those who reported no change or worse care to reply that they experienced easier access to needed medical care now that they were in HSF (53 percent versus 28 percent and 18 percent).

Table IV.1. Overall Changes in Access to Care and Perceived Health Status Among HSF Participants

	Number of Responses	%*
Overall, how difficult is it for you and/or your family to get medical care when you need it?		
Member found access easier with time	3,118	43
Member found access the same with time	2,580	36
Member found access more difficult with time	1,496	21
Responded don't know or refused on one or both surveys	6,583	---
During the past 12 months, did you either delay getting care or not get a medicine that a doctor prescribed for you?		
Reported delayed care for both surveys	222	3
Reported delayed care for first survey, not for second	1,213	17
Reported delayed care for second survey, not for first	273	4
No delayed care for both surveys	5,592	77
Responded don't know or refused on one or both surveys	6,477	---
What kind of place do you go to most often to get medical care?		
Visited doctor's office or clinic for both surveys	6,271	74
Visited ED/other for both surveys	155	2
Move to ED /other	243	3
Move to doctor's office or clinic	1,771	21
Responded don't know or refused on one or both surveys	5,337	---
How do you rate the medical care that you received in the past 12 months?		
Rated medical care as better	2,121	34
Rated medical care as the same	2,774	44
Rated medical care as worse	1,378	22
Responded don't know or refused on one or both surveys	7,504	---
In the last 12 months, did you visit a hospital ED for your own health?		
Responded yes to both surveys	405	5
Responded yes to first survey, no to second	930	11
Responded no to first survey, yes to second	703	8
Responded no to both surveys	6,658	76
Responded don't know or refused on one or both surveys	5,081	---

Source: Mathematica analysis of HAQ responses collected December 2008 through March 2011 from among 13,777 respondents who completed a survey upon initial enrollment and again at renewal or re-enrollment after a short gap (one to four months).

* The percentage responding to any individual question excludes those who responded "don't know" or refused to respond to this question on one or both surveys.

Participants were most likely to report that their health status improved while receiving care from HSF clinics. Overall, 28 percent of respondents indicated improvements in self-reported health status during the year that they participated in HSF (Table IV.2). Health improvement varied by ethnicity, income level, age, and clinic selection. Reported improvements were most likely among Spanish-speaking participants (38 percent; Table IV.2) and participating in one of the SFDPH medical homes (32 percent). An equal proportion of respondents reported that their health had declined (28 percent). Those more likely to report a decline include ethnically

Chinese (33 percent; Table IV.2), those from households with incomes more than 300 percent of the FPL (35 percent), and participants in the SFCCC-NEMS medical homes (34 percent).

Table IV.2. Percentage Reporting Change in Access to Care, Care Quality, and Perceived Health Status, by Demographic Characteristics*

Response	Access Easier Over Time	Access Harder Over Time	Delayed Care in First Survey, Not Second	Moved to Physician Office or Clinic	Medical Care Better	Medical Care Worse	Health Improves	Health Declines
Total Respondents	7,194		7,300	10,516	6,273		8,776	
Overall	43	21	17	17	34	22	28	29
Gender								
Male	44	21	17	24	35	23	29	30
Female	43	21	16	19	33	21	27	29
Initial Age Group								
18-24	40	22	10	16	32	23	30	31
25-44	45	20	20	24	36	22	29	29
45-54	43	21	17	21	32	20	27	30
55-64	43	20	16	20	33	22	26	28
Race/Ethnic Group								
Black	44	23	27	20	35	32	30	31
Chinese	31	23	6	19	25	21	24	33
Latino	42	25	19	28	34	28	35	25
White	54	16	33	21	42	17	25	31
Other	54	17	15	19	41	20	29	27
Initial FPL Level								
0-100%	42	22	16	23	33	23	30	29
101-200%	43	19	15	19	34	20	26	29
201-300%	49	18	19	16	39	20	24	30
301%+	63	11	27	14	47	21	20	35
Spoken Language								
Chinese	33	22	5	18	26	19	24	31
English	50	19	24	20	40	22	28	31
Spanish	43	26	19	29	30	30	38	23
Other	55	16	13	27	31	18	25	24
Initial Medical Home								
Large SFDPH Clinic	47	23	25	28	37	27	36	21
Other SFDPH Clinic	47	24	26	26	39	26	31	28
SFCCC-NEMS	28	26	7	19	21	23	26	34
Other SFCCC	43	25	16	17	32	27	29	29
All other, unknown	61	4	17	17	48	10	24	28
Homeless Status								
Homeless any point	40	32	19	25	42	26	30	29
Never homeless	44	20	16	21	33	22	28	29
Medical Home Prior Usage								
Yes	42	21	16	18	33	23	28	30
No	48	19	17	31	38	19	28	29

Source: Mathematica analysis of HAQ responses collected December 2008 through March 2011 from among 13,777 respondents who completed a survey upon initial enrollment and again at renewal or re-enrollment after a short gap (one to four months).

* The percentage responding excludes those who responded "don't know" or refused to respond on one or both surveys.

The majority of providers surveyed did not perceive any change in their ability to obtain referrals to specialists or hospitals for existing patients who switched to HSF or to provide ongoing care to those with chronic conditions. Those who did perceive a change were more likely to report improvement in their ability to provide these services than being less able. The one

area where notable numbers of physicians and nurses perceived a decrease was in their ability to obtain referrals for specialty care for their patients, echoing concerns we heard from some participants in the focus groups.

Most participants reported that they did not seek care at an ED before or during their participation in HSF. Seventy-six percent of respondents reported at both enrollment and at renewal or re-enrollment that they did not visit a hospital ED for their own health in the prior 12 months (Table IV.1). A small portion of participants reported visiting the ED both before and after participation in HSF (5 percent). Of the remaining respondents, a higher percentage reported visiting an ED before participation but not afterward—11 percent versus 8 percent who reported visiting an ED after but not before participation in HSF.

Nearly 40 percent of those who reported they had used the ED before joining HSF but not during the year after enrolling also reported that their health status had improved; one-fourth reported that their health status had declined. The reverse pattern held for those who said that they used the ED after enrolling but not before and also reported that their health status had declined in the first 12 months of enrollment—37 percent reported a decline in health status and only 23 percent reported that their health status had improved. While these responses suggest that ED use is connected with health problems, recall bias may affect participants' self-reports of ED utilization.[21] Although the majority of the providers surveyed reported they saw no change in the use of the ED by HSF patients whom they had treated before they were enrolled in HSF, virtually none thought there had been an increase and quite a few thought there had been a decrease.

B. To What Extent Are HSF Participants Utilizing Available Primary Care Services?

Having HSF participants select a medical home is intended, in part, to provide a usual source of care that strengthens the connection to primary care, with the aim of improving timely access to needed primary care and increasing preventive care. Through requiring participants to select a medical home, the HSF program establishes, or, for those already seeking care in these settings, formalizes, a usual source of care for those enrolled. Prior research has shown a positive association between having a usual source of care and increased receipt of recommended preventive services for adults, such as flu shots and screening for cervical cancer, breast cancer, hypertension, and hyperlipidemia. We found that most HSF participants are visiting their medical homes and many are receiving recommended preventive services.

[21]We compared HAQ responses with encounter data on ED visits to assess recall bias and completeness of encounter data on ED visits. Among those who did not report ED use, 7 percent had an encounter record indicating an ED visit. Among those reporting ED use on the HAQ, only 40 percent had encounter records indicating an ED visit within the prior 12 months. When we allow ED visits outside of the 12-month window, we still found records for only 40 percent of those who self-reported an ED visit. While it is possible that it is five times more likely that someone would forget that an ED visit had occurred within the last year than think an ED visit was more recent than it was, another explanation of this asymmetry is that we are missing encounter data. We note that SFGH is the only hospital with complete reporting of ED visits for HSF participants. Other hospitals began submitting encounter data for HSF participants as early as December 2008; however, more than 93 percent of captured hospital encounters are at SFGH (http://www.healthysanfrancisco.org/files/PDF/2009-10_HSF_Annual_Report.pdf). The low percentage of HAQ respondents who indicated ED usage and had a documented visit suggests the undercount problem may be substantial.

Most HSF participants utilize services while enrolled in the program, often during their first week of eligibility. Participants using HSF for "one-time" care are rare. Among those ever enrolled in HSF through March 2011, 70 percent had at least one service record for physician, inpatient, or ED care. For those enrolled for at least 12 continuous months, 80 percent received at least one service (Table IV.3). Seventeen percent of those who used services did so within the first week of enrollment. This high level of use in the first week most likely is a reflection of the HSF enrollment process at participating clinics; only two percent of the enrollees in the HW program who had one or more encounter used services during their first week of enrollment. Few of those in the HSF program with first-week service use did not go on to use additional services, suggesting that enrollment in HSF for "one-time" care is rare and that most HSF participants have engaged with the program or their medical home.

Table IV.3. Likelihood of Any Utilization Among HSF Participants and HW Enrollees, by Time Period

	Participants with 12 Months of Continuous Enrollment*					
	HSF Participants			Healthy Worker Enrollees		
	N	% of Total	% with Encounter	N	% of Total	% with Encounter
Total Sample	**60,008**	**100**	- -	**1,256**	**100**	- -
Has at least one encounter while enrolled	47,879	80	100	897	71	100
Has at least one encounter in first year	43,573	73	91	792	63	88
Has at least one encounter during first week	10,238	17	21	17	1	2
Has encounters only during first week	1,339	2	3	0	0	0

Source: Mathematica analysis of HSF and HW enrollment and encounter data, July 2007 through March 2011.

*Includes individuals enrolled in HSF or HW for at least 12 continuous months, provided the 12th month occurred on or before December 2010, the last month during which we consider encounter data reporting to be complete.

Nearly three-quarters of HSF participants had at least one physician visit in the first year of enrollment, and almost half received at least one recommended preventive service. Seventy-one percent of HSF participants had at least one physician visit during the first year of enrollment, and just over 40 percent had a visit within the first two months of enrollment, indicating that many HSF participants promptly engaged with primary care providers (Table IV.4).

Table IV.4. Receipt of Physician and Preventive Care Services Among HSF Participants and HW Enrollees During First 12 Months of Enrollment

	HSF Participants		HW Enrollees	
	N	%	N	%
Total Sample	**60,008**	**100**	**1,256**	**100**
Any physician visit	42,509	71	756	60
Visit within first two months	25,483	42	268	21
Any specified preventive service	28,946	48	566	44

Source: Mathematica analysis of HSF and HW enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011. The list of codes to identify specific preventive services was developed by Mathematica and includes both standard and California-specific procedure codes.

HSF participants and HW enrollees had similarly high utilization levels. Almost two-thirds of HW enrollees had at least one encounter during the first year of enrollment—despite the fact that, on average, HW enrollees are more likely to be female, a bit older, and have fewer chronic conditions than HSF participants, characteristics that may affect the need for and receipt of health care services (Table IV.5).

Table IV.5. Demographic Characteristics of HSF Participants and HW Enrollees*

	Total HSF Enrollees		Total HW Enrollees	
Characteristics	N	%	N	%
Overall	60,008	100.0	1,256	100.0
Gender				
Male	31,626	52.7	458	36.5
Female	28,382	47.3	798	63.5
Initial Age Group				
18-24	7,816	13.0	135	10.7
25-44	25,649	40.7	424	33.8
45-54	14,496	24.2	382	30.4
55-64	12,047	20.1	315	25.1
Chronic Conditions				
No chronic conditions	22,374	37.3	566	45.1
One chronic condition	12,195	20.3	229	18.2
Two or more chronic conditions	25,439	42.4	461	36.7

Source: Mathematica analysis of HSF and HW enrollment and encounter data, July 2007 through March 2011.

*Includes individuals enrolled in HSF or HW for at least 12 continuous months, provided the 12th month occurred on or before December 2010, the last month during which we consider encounter data reporting to be complete.

There is notable variation, however, across the medical homes in the characteristics of their HSF participants. For example, participants in the SFCCC and CCHCA/Chinese Hospital clinics tend to be older, on average, than those enrolled in the other HSF medical homes. The percentage of participants with no, one, or two or more chronic conditions, clearly one of the most important characteristics in explaining observed differences in health care utilization, varies notably across the different medical homes. The percentage with no chronic conditions ranges from nine to 60 percent (Table IV.6); the percentage with two or more chronic conditions, from 21 to 76 percent. Almost half (48 percent) of HSF participants in SFDPH medical homes have two or more chronic conditions, whereas slightly more than one-third (36 percent) of those in SFCCC medical homes and less than one-fourth (23 percent) of HSF participants in the Kaiser medical home have this level of chronic health problems.

Nearly all individual characteristics that we examined were significant predictors of the likelihood of receiving primary and preventive care. In addition to observed differences in the use of primary care among men and women as well as participants of different ages and those with chronic conditions, there were differences according to an array of individual characteristics. These descriptive differences in the likelihood that HSF participants received primary or preventive care generally remained statistically significant in regression models that controlled for individual characteristics. For brevity, we focus the discussion on regression-controlled results.

Table IV.6. Prevalence of Chronic Conditions for Participants with 12 Months of Continuous Enrollment, by Initial Medical Home

		Number of Chronic Conditions					
		Two or More		One		None	
Medical Home	Number of Participants	N	%	N	%	N	%
SFDPH Clinics							
Curry Senior Center	252	192	76	25	10	35	14
Housing and Urban Health Clinic	284	192	68	41	14	51	18
Chinatown Public Health Center	2,138	1,238	58	345	16	555	26
Tom Waddell Health Center	1,884	1,047	56	358	19	479	25
Positive Health	602	340	56	208	35	54	9
Southeast Health Center	1,662	847	51	282	17	533	32
General Medicine Clinic	3,953	1,978	50	669	17	1,306	33
Ocean Park Health Center	1,117	532	48	248	22	337	30
Family Health Center	5,779	2,698	47	1,107	19	1,974	34
Maxine Hall Health Center	2,969	1,377	46	539	18	1,053	35
Castro Mission Health Center	3,931	1,754	45	856	22	1,321	34
Larkin Street Clinic	183	82	45	39	21	62	34
Potrero Hill Health Center	2,457	1,064	43	493	20	900	37
Silver Avenue Family Health Center	2,325	994	43	437	19	894	38
Urgent Care Clinic	1,382	475	34	263	19	644	47
Cole Street Clinic	99	21	21	25	25	53	54
SFCCC Clinics							
Glide Health Services	1,796	832	46	359	20	605	34
Haight-Ashbury Free Medical Clinic/Clayton	871	372	43	204	23	295	34
South of Market Health Center	1,836	750	41	362	20	724	39
Lyon-Martin	903	369	41	203	22	331	37
Native American Health Center	407	166	41	89	22	152	37
Haight-Ashbury Free Medical Clinic/Integrated Care Center	753	296	39	187	25	270	36
NEMS-Portola	18	7	39	3	17	8	44
NEMS-Chinatown North Beach	10,457	3,756	36	2,318	22	4,383	42
South of Market Senior Center	25	9	36	4	16	12	48
NEMS-Sunset	1,962	680	35	405	21	877	45
Saint Anthony Free Medical Clinic	1,821	630	35	459	25	732	40
NEMS-Visitation Valley	1,437	451	31	386	27	600	42
Mission Neighborhood Health Center	2,577	771	30	503	20	1,303	51
Mission Neighborhood Health Center/Excelsior	746	200	27	144	19	402	54
Other Clinics							
CCHCA/Chinese Hospital	900	505	56	151	17	244	27
Sister Mary Philippa Health Center	1,106	464	42	252	23	390	35
Kaiser Permanente Medical Center	1,248	285	23	210	17	753	60
Total	60,008	25,439	42	12,195	20	22,374	37

Source: Mathematica analysis of HSF enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011.

For physician services, factors predicting receipt of care at any point during the year were somewhat different than those predicting which participants had a physician visit within two months of enrollment. For example, women were 6 percent more likely to have any physician visits during the year when compared with men; however, they were 12 percent less likely to have one within 2 months after enrollment (Table IV.7).[22] Young adults (those younger than 25 years old) were less likely to have a visit during the first 2 months than those older than 45, but there were no significant differences between the youngest and the oldest in the likelihood of having a visit during the first year. White participants were more likely than all but black participants to visit a physician within the first 2 months; however, they were less likely to have any physician visit during the first 12 months than black participants, and ethnicity had no influence on the likelihood of visiting a physician.

Those with higher chronic disease burden were more likely to have any visits and receive visits within two months, as were those with a mental health diagnosis; however, participants with a substance abuse diagnosis were less likely to have a physician visit. English speakers and those for whom an SFCCC clinic is their medical home were also more likely to have one or more physician visit during the first year and during the first two months. However, those who were not previous users of their HSF medical home, and the homeless were less likely.

For preventive services, older individuals, non-whites, higher-income groups, Chinese speakers, individuals with greater chronic disease burdens, and those enrolled with SFDPH medical homes all were more likely to receive at least one specified preventive service. Older participants were more likely to have any physician visits, both within the first year and within the first two months, and more likely to receive preventive services. Also, for both prompt care (within the first two months) and preventive care, the higher levels increased with age (for example, participants 45–54 years of age were approximately twice as likely to receive preventive services as those under 25 years old, whereas those 55 years of age and older were almost three times as likely as the youngest group.

[22]Table IV.7 presents estimated odds ratios from logistic regression models predicting the likelihood of a physician visit and the receipt of preventive services. An odds ratio of 1.0 means that the event was as likely to occur in the group of interest (for example, women) as in the reference group (for example, men). An odds ratio greater than 1.0 means the event was more likely to occur than in the reference group, while an odds ratio less than 1.0 means the event was less likely to occur.

Table IV.7. Individual Characteristics Associated with the Likelihood of Primary and Preventive Care Receipt: Regression Results

	Estimated Odds Ratios		
	Physician Services		
	Within First 12 Months	Within First 2 Months	Any Specified Preventive Services
Gender			
Male	Reference	Reference	Reference
Female	1.06*	0.88**	1.01
Initial Age Group			
18-24	Reference	Reference	Reference
25-44	1.10**	1.12**	1.31**
45-54	1.08	1.19**	1.90**
55+	0.99	1.35**	2.58**
Race/Ethnic Group			
Black	1.18**	1.09*	1.14**
Chinese	1.11	0.95	1.68**
Latino	0.93	0.92*	1.22**
White	Reference	Reference	Reference
Other/unknown	0.95	0.92**	1.27**
Initial FPL Level			
100%	Reference	Reference	Reference
101-200%	1.09*	0.86**	1.12**
201-300%	1.21**	0.93	1.18**
301%+	0.82	0.76*	0.97
Spoken Language			
Chinese	0.96	0.84**	1.31**
English	Reference	Reference	Reference
Spanish	0.82**	0.82**	0.98
Other/Unknown	0.98	0.79**	1.16*
Chronic Conditions			
No Chronic Conditions	Reference	Reference	Reference
One Chronic Condition	25.95**	5.06**	7.42**
Two or More Chronic Conditions	103.12**	10.30**	22.70**
Substance Abuse Diagnosis	0.48**	0.92	1.48**
Mental Health Diagnosis	1.23*	1.24**	1.35**
Cohort			
1st Cohort (7/07-12/07)	Reference	Reference	Reference
2nd Cohort (1/08-8/08)	1.01	0.95	0.91*
3rd Cohort (9/08-1/09)	1.29**	0.96	0.98
4th Cohort (2/09-6/09)	1.38**	1.24**	1.09*
5th Cohort (7/09-12/09)	1.36**	1.18**	1.27**
Initial Medical Home			
SFDPH	Reference	Reference	Reference
SFCCC	1.28**	1.29**	0.79**
Other	0.70**	0.82**	0.47**
Not a Prior User of Medical Home	0.87**	0.90**	0.87**
Homeless at Some Point	0.57**	0.94*	0.69**
Immediate Renewal at 365 Days	1.52**	0.86**	1.49**

Source: Mathematica analysis of HSF enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011. Regression sample included 60,008 individuals with at least 12 months of continuous enrollment, provided the 12th month occurred in December 2010 or earlier.

*Significant at $p < 0.05$.
**Significant at $p < 0.01$.

Most HSF participants had between one and 6 physician visits per year, and a small percentage had monthly or more frequent visits. About 29 percent of HSF participants had no physician visits, 27 percent had one or 2 visits, and 28 percent had between 3 and 6 visits during the first year (Table IV.8). Five percent had 12 or more visits during the year. A larger percentage of HW enrollees (40 percent) had no physician visits during the first year of enrollment, but a higher percent (10 percent) had 12 or more visits during that time period.

Table IV.8. Distribution of Physician Visits Among HSF Participants and HW Enrollees During the First Year of Enrollment

	HSF Participants		HW Enrollees	
	N	%	N	%
Total Sample	60,008	100	1,256	100
No Physician Visits	17,499	29	500	40
1-2 visits	16,207	27	226	18
3-6 visits	16,822	28	245	20
7-11 visits	6,654	11	163	13
12+ visits	2,826	5	122	10

Source: Mathematica analysis of HSF enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011.

Older individuals, those with greater chronic disease burden, and enrollees in SFDPH medical homes had more physician visits. In general, younger participants had fewer visits (Table IV.9). Similarly, physician office use increased with increasing chronic disease burden. Those with two or more chronic conditions had notably more visits than those with no chronic conditions. This difference was greater for those in the HW program, explaining in part the higher percentage with 12 or more visits. Age and health status are correlated with each other; however, while the differences in use diminished once various individual characteristics were controlled for, both age and the presence of chronic conditions remained significant determinants of use.

Table IV.9. Receipt of Primary Care Among HSF Participants in SFDPH and SFCCC Medical Homes and HW Enrollees During the First 12 Months of Enrollment, by Demographic Characteristics

	Total Enrollees			Average Number of Visits Among Users		
	SFDPH	SFCCC	HW	SFDPH	SFCCC	HW
Overall	31,017	26,609	1,256	3.63	2.97	3.88
Gender						
Male	17,581	12,329	458	3.61	2.87	2.79
Female	13,436	13,280	798	3.66	3.07	4.51
Initial Age Group						
18-24	3,769	3,457	135	2.06	1.65	2.16
25-44	14,717	9,647	424	3.00	2.59	2.96
45-54	7,143	6,543	382	4.53	3.42	4.19
55-64	5,388	5,962	315	5.25	3.86	5.50
Chronic Conditions						
No Condition	10,251	10,694	566	0.53	0.65	0.34
One Condition	5,935	5,626	229	2.52	2.68	2.69
Two or More Conditions	14,831	9,289	461	6.21	5.82	8.82

Source: Mathematica analysis of HSF and HW enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011.

Most participants with ED visits or inpatient admissions received prompt outpatient followup. Eleven percent of HSF participants had an ED visit, while 3 percent had an inpatient hospitalization during the first year of enrollment (Table IV.10). HW enrollees had experienced similar frequencies. While most HSF participants using hospital services received a follow-up physician visit within one month of discharge, about 44 percent of participants with ED visits and 29 percent of those with an inpatient admission did not obtain a followup outpatient visit within one month.[23] Similar levels of followup were experienced by the HW enrollees. Improving the hospital-to-primary-care transition, particularly for the large number of participants with serious chronic disease burden, may be an important strategy for realizing further health improvements for participants, and ultimately long-term savings for San Francisco's health care system.

Table IV.10. Likelihood of Physician Visit Followup to Inpatient and ED Use by HSF Participants Continuously Enrolled for at Least 12 Months

	HSF (n=60,008)			HW (n = 1,256)		
Measure	Participants with at Least One Event	% of Total	% of Those with Event	Participants with at Least One Event	% of Total	% of Those with Event
ED Visit	6,876	11	100	130	10	100
ED visit with physician followup within one month	3,821	--	56	60		46
ED visit without physician followup within one month	3,055	--	44	70	--	54
Inpatient Admission	1,604	3	100	41	3	100
Inpatient admission with physician followup within one month	1,133	--	71	32		78
Inpatient admission without physician followup within one month	471	--	29	9	--	22

Source: Mathematica analysis of HSF enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011.

C. To What Extent Has HSF Led to a Decrease in Emergent and Non-Emergent ED Visits and in Potentially Avoidable Hospitalizations?

HSF participants show steadily declining ED use over time. HSF participants who were enrolled for 24 months or more show declining use of the ED during their enrollment. Only 18 percent of participants who had an ED visit during their first year had another visit during their second year (Table IV.11). The percentage of HSF participants who had at least one repeat ED visit was noticeably lower than that experienced by HW enrollees; almost 40 percent of those with an emergent ED visit during the first year had another during their second year and almost one-fourth of those with a non-emergent ED visit repeated.

[23] Table IV.10 presents statistics at the individual level; that is, 44 percent of patients with at least one ED visit had at least one instance in which the visit did not have a physician visit followup within a month. Because most users of ED and inpatient services had only one visit, these statistics do not differ when we consider the percentage of *visits* with followup rather than the percentage of *individuals* with followup.

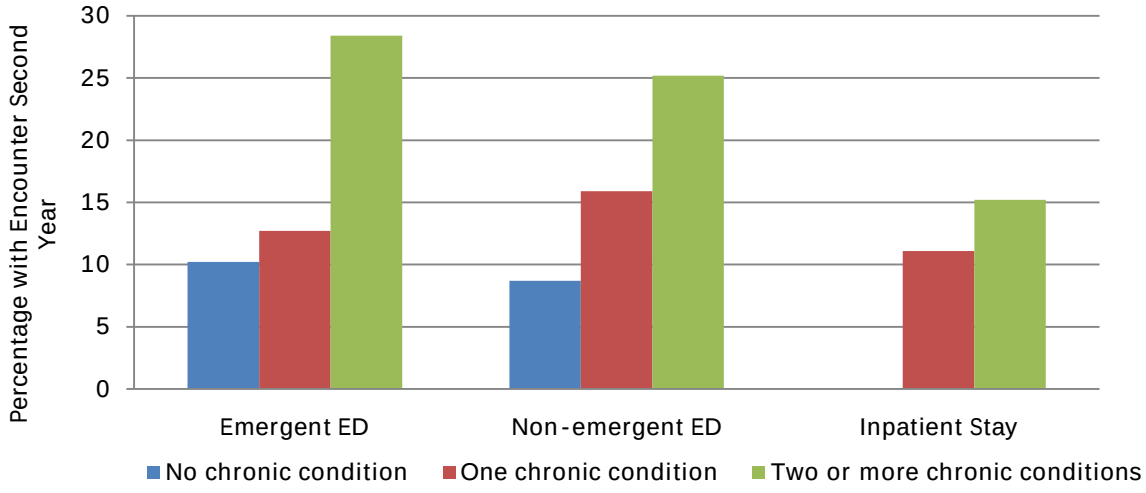
Table IV.11. Frequency of Repeating ED and Inpatient by HSF Participants and HW Enrollees Continuously Enrolled for at Least 24 Months

	HSF Participants	HW Enrollees
Hospital Service	N = 28,380	N = 375
Emergent ED Visit		
% of those with visit in first year who repeat in second year	19	39
Non- Emergent ED Visit		
% of those with visit in first year who repeat in second year	18	24

Source: Mathematica analysis of HSF enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011.

We note that non-emergent ED use will never reach zero because primary care clinics do not provide 24/7 access to care and some participants inevitably will develop urgent conditions during evening or weekend hours that would have been treatable in a primary care setting. Even so, more than 90 percent of those with no chronic conditions who had a non-emergent ED visit during their first year did not have one during their second year (Figure IV.1). Declines in emergent care use may be due to health status improvements that beneficiaries have realized as a result of improved primary care through their HSF medical home.[24] Participants with multiple chronic conditions were more likely to have repeated ED visits and hospital admissions.

Figure IV.1. Percentage of HSF Participants with an ED Visit or Inpatient Admission the First Year Who Experienced that Hospital Service Again the Second Year, by the Presence of Chronic Conditions



Source: Mathematica's analysis of HSF Provider Survey, May through June 2010.

[24] Our data on ED utilization primarily reflect care delivered at SFGH. While some hospitals participating in HSF began reporting ED and inpatient use in 2009, other participating hospitals began submitting these data only recently. In addition, some HSF participants may receive care at hospitals that do not participate in HSF. As a result, we cannot rule out the possibility that at least part of the observed declines is due to participants shifting their utilization to other emergency facilities in San Francisco. However, we have no evidence to suggest this is occurring. Indeed, OSPHD patient discharge data suggest that SFGH provided a greater proportion of San Francisco's charity care in 2009 relative to 2007.

Most HSF participants did not make multiple ED visits, suggesting they are not inappropriately utilizing the ED for routine care. ED use was particularly high during the first month of enrollment because many HSF participants first became aware of the program at the time of an ED visit. We separated those with an ED visit in the first month from those with later events and examined the likelihood of repeat ED utilization.[25] About one-fifth of all first-time ED visits among HSF participants occurred within the first month of enrollment, and about 59 percent of those visits were for emergencies. Almost 60 percent of this group had no further ED use during the first year of enrollment. Seventy-nine percent of first-time ED visits occurred *after* the first month of enrollment. For this group, 62 percent were for emergencies, and 76 percent of these individuals had no further ED visits during the year.

Chronic disease burden, homelessness, language/ethnicity, and medical home were the primary factors predicting both ED visits and inpatient hospitalizations. Household income also predicted ED use, and age predicted inpatient hospitalizations. Rates of ED visits and inpatient hospitalizations varied across different population subgroups (Table IV.12). Participants with one or more chronic conditions were more likely, relative to those with no conditions, to have non-emergent ED visits, emergent ED visits, and inpatient hospitalizations. Those with substance abuse diagnoses also were more likely to use all hospital services, and those with mental health problems were more likely to have non-emergent ED visits but less likely to have an inpatient admission. Reflecting their increased exposure to health hazards (inconsistent nutrition and shelter) and likely reduced ability to connect with available primary care services to manage chronic conditions consistently, homeless individuals were about twice as likely to use the ED and 65 percent more likely to have a hospitalization.

In contrast, non-English speakers and ethnically Chinese participants were less likely to use both ED and inpatient hospital services. While these findings may reflect a difference in participant behavior, we do not have a strong theoretical basis for believing that use of hospital care—particularly emergent ED use and inpatient hospitalizations, which are less driven by individual choice—might be influenced by language and ethnicity in models that include several controls for health status. HSF participants enrolled in an SFCCC medical home also were less likely to use all three forms of hospital services than were those enrolled in an SFDPH medical home. We believe the most likely explanation for all of these findings is one related to data quality. As previously noted, virtually all hospital services included in the data set used for these analyses were rendered at SFGH. If non-English speakers and those who selected an SFCCC clinic as their medical home are more likely to visit other San Francisco hospitals for ED and inpatient services, we would observe fewer hospital visits, even though these individuals may be receiving hospital services at the same, or an even greater, rate than English speakers and SFDPH enrollees concentrating their utilization at SFGH.

[25] See Figure 4 in *Healthy San Francisco: Changes in Access to and Utilization of Health Care Services.*

Table IV.12. Individual Characteristics Associated with the Likelihood of ED Visit and Inpatient Admission Among HSF Participants During the First 12 Months of Enrollment: Regression Results

	Estimated Odds Ratios		
	Non-Emergent ED Use	Emergent ED Use	Inpatient Hospitalization
Gender			
Male	Reference	Reference	Reference
Female	0.93	0.82*	0.81**
Initial Age Group			
18-24	Reference	Reference	Reference
25-44	1.07	0.99	1.32*
45-54	0.95	0.90	1.40**
55+	0.86	0.69**	1.32*
Race/Ethnic Group			
Black	1.27**	1.26**	1.06
Chinese	0.74**	0.51**	0.54**
Latino	0.91	1.00	1.05
White	Reference	Reference	Reference
Other/unknown	0.89*	0.85**	0.83*
Initial FPL Level			
≤ 100%	Reference	Reference	Reference
101-200%	0.82**	0.87**	0.86
201-300%	0.61**	0.65**	0.99
301%+	0.90	0.49**	0.77
Spoken Language			
Chinese	0.48**	0.70**	0.60**
English	Reference	Reference	Reference
Spanish	0.78**	0.66**	0.56**
Other/unknown	0.67**	0.72**	0.61**
Chronic Conditions			
No chronic conditions	Reference	Reference	Reference
One chronic condition	4.62**	3.00**	6.84**
Two or more chronic conditions	9.63**	8.44**	41.89**
Substance Abuse Diagnosis	2.86**	2.00**	2.42**
Mental Health Diagnosis	1.37**	0.92	0.70**
Cohort			
1st cohort (7/07-12/07)	Reference	Reference	Reference
2nd cohort (1/08-8/08)	0.87*	0.95	0.84*
3rd cohort (9/08-1/09)	0.93	1.05	0.86
4th cohort (2/09-6/09)	0.95	1.05	0.82*
5th cohort (7/09-12/09)	0.94	1.05	0.79*
Initial Medical Home			
SFDPH	Reference	Reference	Reference
SFCCC	0.83**	0.77**	0.79**
Other	1.69**	1.06	0.87
Not a Prior User of Medical Home	1.00	0.92	0.98
Homeless at Some Point	2.10**	2.00**	1.65**
Immediate Renewal at 365 Days	0.93*	0.93*	0.99

Source: Mathematica analysis of HSF enrollment and encounter data, July 2007 through December 2010. Encounter data extracted in March 2011. Regression sample included 60,008 individuals with at least 12 months continuous enrollment, provided the 12th month occurred in December 2010 or earlier.

**Significant at $p < 0.01$.
*Significant at $p < 0.05$.

To analyze the impact of HSF on ED use and potentially avoidable hospitalizations, we examined trends at SFGH, the primary hospital for HSF participants, compared to all other public hospitals in California (n=16). We compared trends for the HSF target population (uninsured or self-paying non-elderly adults) to three control groups: insured adults (Medi-Cal, Medicare, or private insurance), children, and the elderly. Because HSF has enrolled more than half of uninsured adults in the City, we would expect that changes in hospital utilization patterns among HSF participants may be sufficiently large to affect the utilization trends among uninsured patients using SFGH. Trends for insured adults, children, and the elderly illustrate whether there may be underlying citywide or statewide utilization trends driven by provider supply or accessibility. If HSF has had an impact on ED use or potentially avoidable hospitalizations, use among the uninsured or self-pay adult population at SFGH should have declined beginning in 2007 relative to the trends in use for other populations and at other hospitals.

HSF may be associated with a decrease in the number of non-emergent ED visits to SFGH made by uninsured adults. In 2005 and 2006, uninsured adults made about 6,600 non-emergent ED visits to SFGH (Figure IV.2). In 2007, the year during which HSF was launched, the number of non-emergent ED visits made by uninsured adults began to decline, reaching 4,500 visits by 2009.[26] Concurrent with this decline, HSF enrollment grew steadily, reaching more than 45,000 by the end of 2009. In contrast, the average number of non-emergent ED visits among uninsured adults at other public hospitals in California grew from 2005 to 2009. Insured adults and children made slightly more non-emergent ED visits to SFGH and other public hospitals in 2009 than in 2005, and use among the elderly remained steady. Because the decrease in non-emergent ED visits (1) began the year that HSF was launched, (2) was seen only in the program's target population group, and (3) was different from the general trend for California public hospitals, there is some evidence suggesting that the HSF program may have led to uninsured adults in San Francisco reducing their use of the SFGH ED for non-emergent care. Lending further support to this hypothesis, the pool of uninsured San Francisco residents potentially utilizing SFGH grew by an estimated seven percent from 2007 to 2009, a trend that would be expected to *increase* the number of visits made by this group.[27]

Uninsured adults in San Francisco made fewer emergent and non-emergent ED visits in 2009 than in 2007, but the decline is not necessarily attributable to the HSF program. From 2005 to 2009, the number of emergent ED visits to SFGH by uninsured adults declined steadily, reaching 1,985 in 2009. During the same period, the number of emergent ED visits for all other groups increased. Children and the elderly made slightly more emergent ED visits to SFGH and other public hospitals in 2009 compared to 2005, and insured adults at all public hospitals made many more visits. A similar pattern was seen for non-emergent ED visits.[28] While we are certain that HSF's target population made fewer emergent and non-emergent ED visits during the program's operation (2007 to 2009), the decline was a continuation of the trend that began before the launch

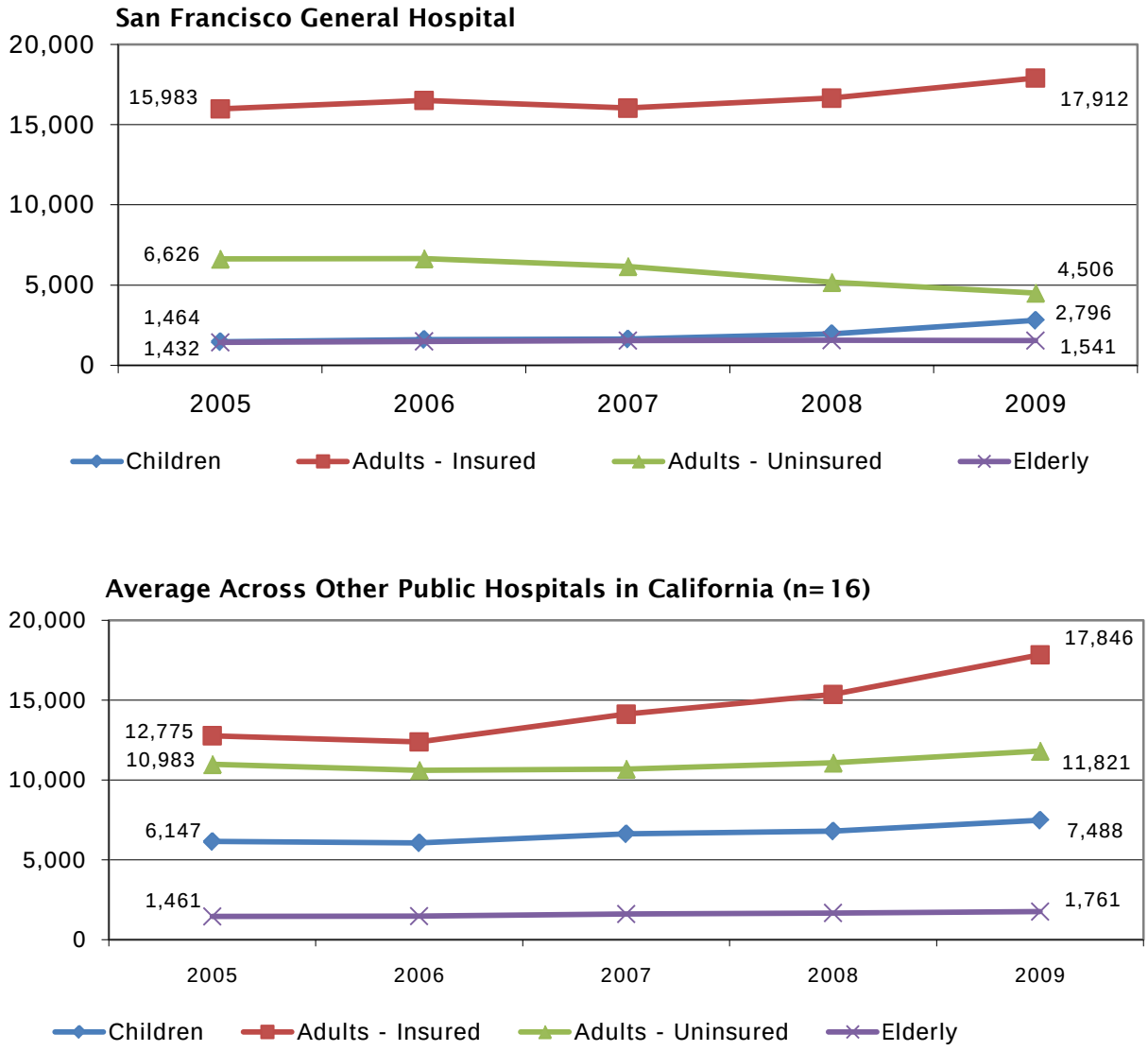
[26] We present counts of ED visits rather than a rate—for example, the percentage of uninsured non-elderly adult residents with an ED visit—because we do not have accurate estimates of the appropriate denominator (the number of uninsured and insured non-elderly adults, elderly adults, and children) on an annual basis for San Francisco and the other counties in California.

[27] The number of uninsured adult San Francisco residents increased from an estimated 60,000 to 64,000 from 2007 to 2009. California Health Interview Survey. Query submitted on April 21, 2011.

[28] See Figure 6 in *Healthy San Francisco: Changes in Access to and Utilization of Health Care Services.*

of HSF. Thus, while it is possible that HSF allowed this trend to persist or accelerate, we are uncertain whether the decline in emergent or non-emergent ED visits can be attributed entirely to the HSF program.

Figure IV.2. Number of Non- Emergent ED Visits to SFGH and Other Public California Hospitals, 2005–2009[29]

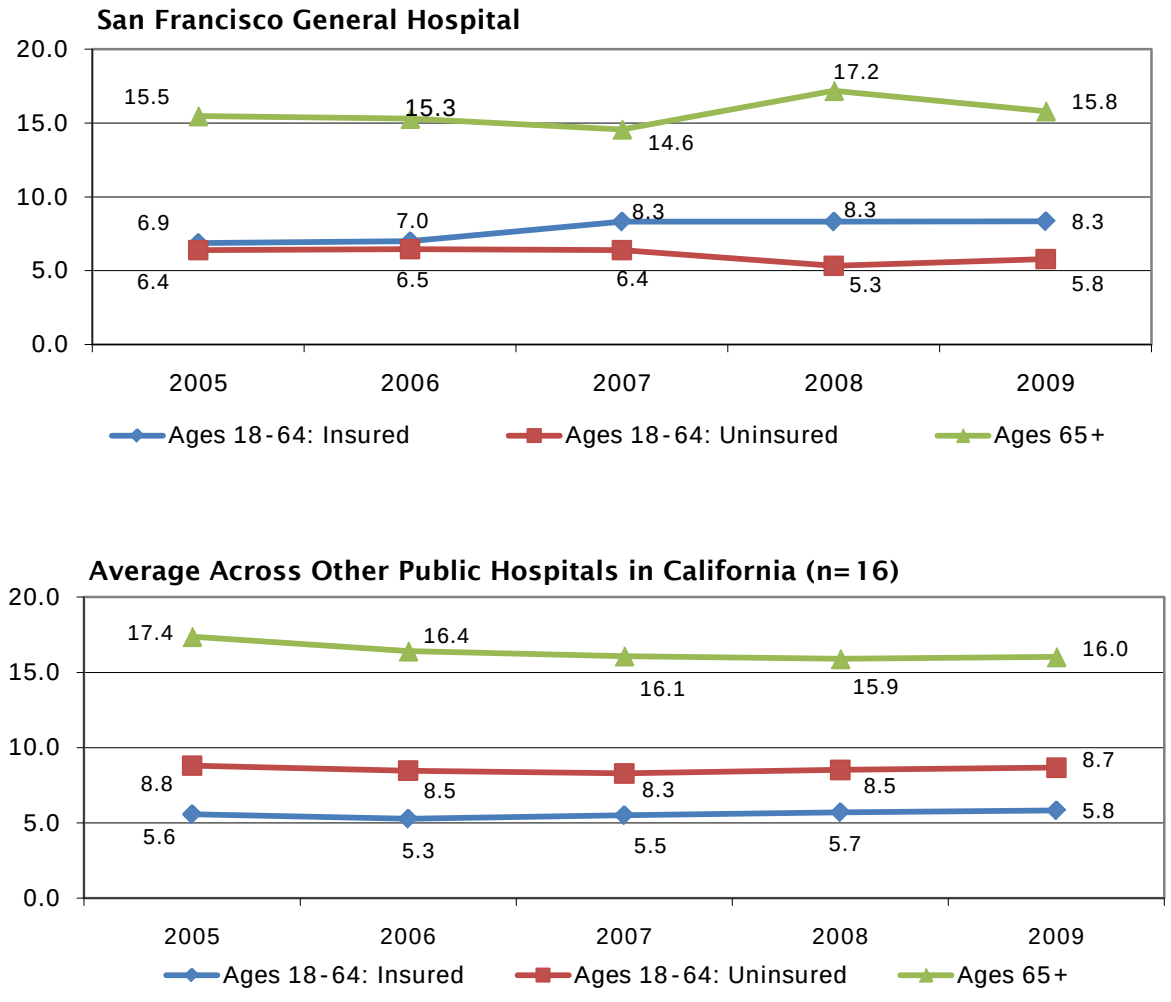


Source: Mathematica analysis of ED discharge records for California hospitals in 2005–2009, collected by the California OSHPD

[29] We also compared trends at SFGH to trends in other California hospitals with (1) a comprehensive ED or (2) more than 500 beds. The trends in visits to hospitals with a high skill intensity and large size mirror those found in all other California public hospitals combined. For this reason, we compare visits to SFGH to average visits across all other California public hospitals throughout the analysis.

HSF may be associated with a decrease in potentially avoidable hospitalizations made by uninsured adults in San Francisco. In 2005 and 2006, about 6.5 percent of hospitalizations for uninsured adults at SFGH were potentially avoidable (Figure IV.3). Beginning in 2007, the year of HSF's launch, potentially avoidable hospitalizations among the uninsured at SFGH began to decline, reaching 5.8 percent of all hospitalizations by 2009. In contrast, the percentage of potentially avoidable hospitalizations among insured adults at SFGH remained steady from 2007 to 2009, while the rate among the elderly grew from 14.6 to 15.8 percent. At all other public hospitals in California, the percentage of potentially avoidable hospitalizations among insured and uninsured adults rose over the period from 2007 to 2009 and remained steady for the elderly. As was the case with observed trend in non-emergent ED visits, because the percentage of potentially avoidable hospitalizations began to decline the year that HSF was launched, was seen only in the program's target population group in San Francisco, and was different from the trends for adults in other California public hospitals, there is some suggestive evidence that the HSF program has helped uninsured adults in San Francisco avoid hospitalizations for preventable conditions.

Figure IV.3. Percentage of Hospitalizations That Are Potentially Preventable in SFGH and Other California Public Hospitals, 2005–2009



Source: Mathematica analysis of inpatient discharge records for California hospitals in 2005-2009, collected by the California Office of Statewide Health Planning and Development.

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V. PROGRAM FINANCING AND EXPENDITURES

A. Sources of Funding

HSF was designed to leverage existing resources so that new funds would augment and not replace other charity care, sliding scale, and grant funding sources for the uninsured. The full cost of caring for HSF participants includes costs financed by these various other funding sources. This includes financial contributions from employers who use HSF to meet HCSO, the City and County's general fund, and program participants. In 2007 through 2010, additional funding came from a 10-county California Medicaid waiver program known as the HCCI, which aims to move the State from a fragmented, episodic, typically hospital-based approach to caring for medically indigent adults to a system centered on primary and preventive services delivered through a medical home. HCCI funds supported delivery system improvements within the SFDPH system and offset some of the costs of care for HSF participants with household incomes under 200 percent FPL who met other federal requirements and enrolled in a SFDPH medical home.

An ESR was the mechanism for employers with workers in San Francisco to share financial responsibility. Under the ESR, employers who have more than 19 employees[30] can choose to meet their spending requirement by contributing to the "City Option," through which employees can participate in HSF (if they meet eligibility criteria) or access funds in a medical reimbursement account administered by the SFHP. Employers must report their compliance with the ESR every year and the City and County of San Francisco's Office of Labor Standards and Enforcement oversees the ESR and responds to complaints and inquiries regarding particular employers as an enforcement mechanism. A lawsuit filed by the Golden Gate Restaurant Association that contested the legality of the spending requirement made the fate of the ESR somewhat uncertain during the first years of the program, but the issue was settled in June 2010 when the U.S. Supreme Court upheld a lower court ruling in favor of the City and County and the ESR was allowed to continue. Findings from a recent study provide further support for the ESR, citing evidence that it has not reduced employment and earnings as predicted by some of those opposed to the requirement.[31]

Provider Participation. Private community clinics participating in HSF finance care for the uninsured with numerous funding sources, ranging from self-pay and third party revenues to grants from federal, state, and local sources. HSF provides some compensation for costs associated with participation in HSF, including enrollment activities and provision of encounter data.

As is the case in most cities, nonprofit hospitals in San Francisco have traditionally served uninsured patients through their charity care programs. San Francisco has been a leader in the provision of charity care, establishing a local charity care ordinance in 2001. Nonprofit hospitals in

[30] Applicable to for-profit businesses that employ an average of 20 or more people per week during a quarter. Nonprofit businesses that employ fewer than 50 people per week on average and all small businesses are exempt from these requirements.

[31] Colla, Carrie H., William H. Dow, and Arindrajit Dube. "The Labor Market Impact of Employer Health Benefit Mandates: Evidence from San Francisco's Health Care Security Ordinance." Published by the National Bureau of Economic Research, July 6, 2011.

San Francisco are required to offer (and report) charity care services to uninsured or underinsured patients. HSF capitalizes on this charity care requirement and nonprofit hospitals receive no direct payments from HSF for the costs of such care to HSF participants.

B. Financial Information

It is challenging to capture accurately the financial details of the HSF program. By design, HSF did not start a new delivery system for its participants, rather, it leveraged resources already being used to support care for the uninsured, using new funds to make delivery system improvements, support coordinated enrollment and information sharing activities, and make services available to additional uninsured adults. Within the SFDPH system, HSF expenditures are not contained in a separate budget division but are spread over five operating divisions. Outside of SFDPH, the costs of caring for the uninsured are financed with a variety of funding sources, including charity care obligations and grants for uncompensated care. Providers track revenues and expenditures for HSF and other uninsured patients in different ways and in varying levels of detail. Consequently, SFDPH was able to obtain expenditure data from non-SFDPH providers for only Fiscal Year (FY) 2010, and it was not possible to obtain reliable revenue data that corresponded with these expenditures.

Table V.1 summarizes the HSF financial information SFDPH included in its most recent annual report to the San Francisco Health Commission, for FY 2009-2010. SFDPH revenue and expenditure items, and City and County general fund subsidies, are shown for each program year. For non-SFDPH providers, expenditure estimates are included only for FY 2010. Because complete and reliable data on revenues tied to these expenditures were not available for non-SFDPH providers, only SFDPH revenue is reported and reflected in net HSF expenditures. The two columns on the far right of the table show the percent of total revenues and expenditures for SFDPH only, as well as percentages of FY 2010 expenditures by SFDPH and non-SFDPH entities. Average revenue and expenditure amounts per person month are shown in the last three rows of the table.

Table V.1. Healthy San Francisco Revenue and Expenditures

	Fiscal Year (July 1 to June 30)				Total 2006-2010	% of SFDPH	% of Total, 2009-10
	2006-07	2007-08	2008-09	2009-10			
Participant Months	0	126,268	421,058	594,102	1,141,428		
SFDPH Revenue							
SFDPH General Fund	$4,866,402				$4,866,402	5.2	
HCCI		$8,136,224	$19,199,749	$22,855,381	$50,191,354	53.4	
Participation Fees		$836,493	$3,208,577	$5,046,830	$9,091,900	9.7	
ESR Expenditures		$4,187,554	$18,236,251	$13,970,440	$36,394,245	38.7	
(Reserve for Unearned Revenue)		-$1,046,889	-$4,559,063	-$1,563,176	-$7,169,128	-7.6	
Philanthropic Grants (Evaluation)			$450,000	$140,000	$590,000	0.6	
Total SFDPH Revenue	$4,866,402	$12,113,382	$36,535,514	$40,449,475	$93,964,773	100.0	
SFDPH Expenditures							
Administration	$277,000	$0	$752,122	$697,757	$1,726,879	0.6	0.4
Third-Party Administrator	$2,306,311	$3,039,107	$5,132,291	$6,180,527	$16,658,236	5.3	3.8
DPH services (SFGH, Clinics, UCSF, Pharmacy)		$38,030,229	$91,431,700	$97,374,760	$226,836,689	71.9	59.3
DPH Behavioral Health		$2,183,284	$20,099,554	$23,440,070	$45,722,908	14.5	14.3
Other providers	$885,000	$2,153,255	$6,683,671	$11,516,867	$21,238,793	6.7	7.0
One-e-App	$693,091	$393,000	$240,702	$282,636	$1,609,429	0.5	0.2
IT Infrastructure/Siemens	$705,000	$200,000	$200,000	$203,578	$1,308,578	0.4	0.1
Capital Project (Potrero Hill)				$562,280	$562,280	0.2	0.3
Total SFDPH Expenditures	$4,866,402	$45,998,875	$124,540,040	$140,258,475	$315,663,792	100.0	85.4
SFDPH Revenue Minus Expenditures	$0	-$33,885,493	-$88,004,526	-$99,809,000	-$221,699,019		
SFDPH General Fund Subsidy		$33,885,493	$88,004,526	$99,809,000	$221,699,019		
NON- SFDPH Expenditures (with Charity Care)							
CPMC				$1,084,857			0.7
CCHCA & Chinese Hospital				$2,204,557			1.3
Kaiser Permanente				$5,287,225			3.2
SFCCC				$17,622,202			10.7
St. Mary's & Sister Mary Phillipa				$4,031,298			2.5
St. Francis Hospital & Glide Specialty				$5,184,462			3.2
UCSF				$121,160			0.1
SFDPH Reimbursement				-$11,448,386			-7.0
Net Non-SFDPH Expenditures				$24,087,375			14.7
Total HSF Expenditures				$164,345,850			100.0
SFDPH Revenue Per Person Month		$95.93	$86.77	$68.09	$82.32		
SFDPH Expenditures Per Person Month		$364.30	$295.78	$236.08	$276.55		
Total Expenditures Per Person Month				$276.63			

Source: 2009-2010 Annual Report: Healthy San Francisco Annual Report to the San Francisco Health Commission (For Fiscal Year 2009-2010). Available at http://www.healthysanfrancisco.org/files/PDF/2009-10_HSF_Annual_Report.pdf.

SFDPH expenditures for HSF through FY 2010 totaled $315,663,792. Almost all of this was for service delivery—86 percent for services provided at SFGH (for both SFDPH and private providers) and SFDPH clinics and contracted behavioral health services (for all HSF medical homes), and another 7 percent for services delivered by private clinics, hospitals, and other HSF providers.[32] The remaining 7 percent was for administration, information systems, and capital improvements.

HSF-attributable expenditures by non-SFDPH providers were estimated at $35,077,479 in FY2010; after subtracting SFDPH reimbursement, net expenditures amounted to $24,087,375, or roughly 15 percent of total expenditures for that program year.

The largest source of SFDPH revenue for the program has been the HCCI waiver, which brought in $50,191,354 during the three years of the waiver program, 53 percent of total SFDPH revenues. As of October 2010, an additional $2.15 million in HCCI funds were allocated for program administration but are not yet received because of State delays in developing an approved protocol for claiming these costs. The next largest source is revenue from ESR expenditures, totaling $36,394,245 or 39 percent of total SFDPH revenue.[33] Participation fees amounted to $9,091,900 and account for almost 10 percent of SFDPH revenue. SFDPH general funds financed program start-up costs during the first year, just over 5 percent of total SFDPH revenues. Remaining revenue came from various foundation sources and covered primarily evaluation activities. SFDPH expenditures that exceed available revenue are covered by City and County general funds. This substantial subsidy covered more that 70 percent of total SFDPH expenditures, amounting to $221,699,019 during the program's first four years.

SFDPH expenditures per person month averaged $276 from FY 2008 to FY 2010, starting out considerably higher the first year and declining by roughly $60 in each of the following years. Notably, $276 was also the per person month expenditure figure for FY 2010, when non-SFDPH expenditures were included.

C. HSF and Health Care Expenditures

It is difficult to quantify the influence of the HSF program on the costs of caring for the uninsured adult population in San Francisco. We do not have comparable cost information for a baseline period prior to HSF and for a sufficient time period after the program was introduced. It is also difficult to isolate the costs for care to only the HSF participants because, prior to HSF, encounters by uninsured adults were not tracked over time and across providers in a consistent manner that would allow costs to be accurately attached to specific individuals.

In compliance with the San Francisco charity care ordinance passed in 2001, SFDPH has worked closely with representatives from local hospitals to produce annual reports documenting the

[32] SFGH provides hospital based specialty, urgent care, diagnostic, emergency care, home health, pharmacy, durable medical equipment, and inpatient services to not only SFDPH clinics, but to the seven participating SFCCC clinics and BAART Community HealthCare (excluding pharmacy). In addition, it provides specialty services not available to Sister Mary Philippa Health Center through its partnership with St. Mary's Medical Center. SFDPH provides all contracted behavioral health services for all HSF participants at all of the medical homes, both its own and all of the private providers.

[33] The Department holds 25 percent of this revenue ($7,169,128) in reserve each year for unearned revenue.

amount of charity care provided by all hospitals in San Francisco. There are reports for each year going back to 2001. The most recent report available at this time covers FY 2009, HSF's second full program year. Total charity care expenditures are available for each year. Starting in 2009, data are available to distinguish between HSF and non-HSF charity care costs, so in future years it will be possible to examine trends in these figures going forward.

In FY 2009, the estimated cost of providing services to HSF participants accounted for approximately 45 percent of the $155,006,558 reported by participating hospitals. More than three-fourths of those costs (77 percent) were borne by SFGH. According to the SFDPH's Charity Care Report, 89 percent of HSF patients with a hospitalization were treated at SFDPH.

Table V.2. Estimated Cost of Charity Care for HSF and Non- HSF Patients in FY 2009, by Hospital

	Estimated Cost of Charity Care, FY 2009			% of Charity Care Costs
Hospital	HSF	Non-HSF	Total	HSF
Subject to Ordinance				
Catholic Healthcare West				
St. Francis	1,858,397	4,778,164	6,636,561	28
St. Mary's	798,592	2,375,745	3,174,337	25
Chinese Hospital	108,853	251,490	360,343	30
Sutter Health				
California Pacific Medical Center	883,170	8,998,020	9,881,190	9
St. Luke's	201,687	1,362,281	1,563,968	13
Subtotal	3,850,699	17,765,700	21,616,399	18
Other Facilities				
Kaiser Foundation Hospital-San Francisco	458,282	3,171,573	3,629,855	13
San Francisco General Hospital	65,969,759	53,383,644	119,353,403	55
University of California, San Francisco Medical Center	121,160	10,285,741	10,406,901	1
Subtotal	66,549,201	66,840,958	133,390,159	50
Total	70,399,900	84,606,658	155,006,558	45

Source: San Francisco Department of Public Health, San Francisco Charity Care Report. All of the available charity care reports can be accessed from the SFDPH website, at http://www.sfdph.org/dph/files/reports/StudiesData/CharityCare.

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VI. SUMMARY AND IMPLICATIONS

HSF has attracted a large portion of the low-income uninsured working-age adults in San Francisco. For some participants, HSF is a stopgap measure until they regain or obtain public or private insurance coverage. For others, especially those who have been without insurance for a long time and have no immediate prospects of obtaining coverage, HSF provides access to coordinated preventive and primary care services. HSF has also implemented chronic care management programs aimed at improving the health of these patients. In the focus groups, HSF participants, particularly those who have renewed or re-enrolled in the program, expressed appreciation to the program for the improved access to primary care and the reduction in uncertainty in meeting their health care needs. In general, providers expressed satisfaction with the HSF program and intended to continue participating. Most had noticed either no change in access and utilization or improvements for patients who had enrolled in the program, and virtually all of them felt they were able to provide better, more coordinated care to their low-income uninsured patients.

A. Enrollment, Renewal, and Re- Enrollment Patterns

HSF has been effective in enrolling eligible uninsured adults, especially those who receive care at one of the HSF medical homes. The program has also implemented several activities aimed at improving the retention rate. The frequency with which people move into and out of San Francisco, coupled with changes in income and insurance coverage opportunities for many non-elderly working-age adults, results in eligibility changes that will continue to affect the retention rate.

1. Enrollment

Since July 2007, more than 95,000 individuals have enrolled in HSF for some length of time. As of March 2011, there were more than 54,000 enrollees, most of whom were enrolled either in an SFDPH medical home (45 percent) or an SFCCC medical home (45 percent). The pool of uninsured adults is constantly changing, so it is difficult to ascertain how many adults were eligible for the program over that time period and, therefore, what percentage of the eligible pool enrolled in HSF. There have been various estimates of the length of periods without coverage, but most studies indicate that more than half of the uninsured adults in the United States at any point in time have been uninsured for less than one year, and more than one-third of uninsured adults have been uninsured for four or fewer months. With those caveats in mind, it is still reasonable to conclude that HSF has been very successful at enrolling eligible adults in the program.

Based on the demographics of those enrolled, the program appears to have been most successful reaching uninsured non-elderly adults in San Francisco who are female, 40 to 64 years old, English and Chinese speakers, and from households with incomes below the FPL. The program has been less successful reaching uninsured individuals between 18 and 24 years old, whites, and those with household incomes greater than 200 percent of the FPL. Younger individuals (the so-called "young invincibles") may not perceive a need for medical care, and those with higher incomes may be between jobs with employer-sponsored coverage and willing to chance being without coverage during these periods.

The program has developed an outreach strategy that relies on news articles, presentations, word of mouth, and recruitment by safety-net providers who are part of the HSF system of medical homes. Most people in our focus groups said they had heard about the program through one of these mechanisms. In the first year or so of the program, virtually all new enrollees had used the

safety-net system prior to joining HSF, often learning about the program and making the decision to enroll when seeking medical care at one of the participating primary care clinics or EDs.

In the past two years, there has been an increase in the number of adults enrolling in HSF who have little or no previous experience at participating clinics, reflecting various changes in both the program and in the broader economy. Although the enrollment process was designed in part to make it easy for patients to enroll, several participants in our focus groups—some of whom had tried to enroll, others who had not—noted that the process is a barrier for them. In particular, participants cite the requirement to enroll in person at one of the HSF enrollment sites. Given the need to check documents validating residency, calculating household income, and permitting screening for Medi-Cal and other programs, moving to a phone-based system for enrollment, renewal, or re-enrollment is not likely. Several of the sites have extended the hours they are open, making it easier for some workers to apply. There was also some confusion and misinformation about both eligibility and what services were covered among focus group participants who had not tried to enroll.

2. Renewal and Re-Enrollment Patterns

Just as the pool of uninsured adults is constantly changing, so is the pool of HSF enrollees. Although more than 85 percent of HSF enrollees remain in the program for at least 12 months, only half renew at the 12-month renewal date, and only one-quarter of those who exit re-enroll. It has been at least 30 months since participants in cohort 1 exited the program, and that cohort has the lowest rate of participants who have not returned (71 percent versus 76 percent for cohort 2, 82 percent for cohort 3, and 94 percent for cohort 4). However, there were few who re-enrolled after being out of the program for more than 12 months in the first two cohorts and almost none after 8 months for cohort 3, so we would not anticipate significant increases in re-enrollment rates.

Who is more likely to renew? Controlling for other characteristics, older enrollees, Chinese speakers, and those who had prior experience as patients in their HSF medical homes are more likely to stay for the full 12 months and then renew. Not surprisingly, enrollees who are heavy users of the system, specifically those who have more than two physician visits during the year, are more likely to stay enrolled and to renew.

Comments from focus group participants shed additional light on why some individuals fail to renew and why some then re-enroll later. Although there appeared to be widespread dissatisfaction with the amount of paperwork necessary to renew—especially if there had been no change in income, coverage, or residency in the previous 12 months—and the need to renew in person rather than over the phone, most of those who decided to renew acknowledged that, even with these requirements, renewal was fairly easy. The reasons given for not renewing were more likely to be either that they did not need health care at the time or that they did not have the money for the participant fee and were going to wait until "things got better."

The HSF program has undertaken multiple efforts to increase the retention rate and to track those who have not renewed. In addition to mailing notices to individuals prior to their renewal dates and placing calls to individuals who have not renewed as of 45 days after their term ended, the program has started an outreach effort aimed specifically at those in demographic groups with the lowest reported retention rates and has recently put into place an incentive to renew. Upon renewal, the individual is entered into a lottery to win a gift card. Early evidence suggests that this approach may be leading to increased renewal rates.

Who does not re-enroll? Approximately 40 percent of enrollees neither renew nor re-enroll, at least not within the timeframe of our analysis. Controlling for a variety of individual characteristics, we estimate that individuals who are ages 18 to 24, men, individuals with incomes below 100 percent of the FPL, more recent enrollees, and those who were not already patients at their medical home are more likely to exit and not re-enroll. It is likely that many of these individuals either see little or no need for ongoing medical care, or they regain coverage and therefore access to their previous usual source of care.

B. Changes in Utilization and Care- Seeking Behavior

Our analyses suggest that HSF is providing access to timely and coordinated primary care services to a population that greatly needs them. More than 40 percent of HSF participants suffer from two or more chronic conditions. In general, HSF participants are regularly receiving outpatient care at their medical homes, including recommended preventive services, and are using fewer ED services over time, both emergent and non-emergent, which suggests both improved care-seeking behavior and health status. Even though the majority of HSF participants were established patients in the HSF medical homes prior to enrolling, participating in the program appears to have alleviated financial and nonfinancial barriers to medical care for a large portion of them.

1. Use of Primary Care Services

There is evidence that HSF is increasing access to primary care for participating adults, improving self-reported health status and altering their care-seeking behavior. In general, HSF participants are very satisfied with their access to health care services. The majority of respondents to a survey conducted when they renewed their enrollment in HSF at the 12-month mark, or re-enrolled after an enrollment gap of one to four months, said it was not at all difficult for them to access the medical care they need.

Three out of four HSF enrollees had at least one physician visit within the first year of enrollment. The HSF medical home system provides each HSF participant with a usual source of care, with the expectation that they will benefit from routinely seeking care from a familiar place that provides the core primary care functions and coordination of care for chronic conditions. For many enrollees, initial enrollment takes place when they seek care at one of the medical homes. Thus, it is not surprising that most have an encounter during that initial week of enrollment. However, almost all of those with an encounter during that first week have additional visits during the year. Almost half of HSF participants received at least one recommended preventive service during the first 12 months of enrollment.

Our analyses also show that, while most participants access care early in their enrollment, many also have subsequent visits during the first year of enrollment, suggesting that, for the most part, participants are not just enrolling in the program when they seek care at SFGH's ED or at one of the medical homes and then disengaging soon thereafter. HSF participants who have one of the SFDPH clinics as their medical home are more likely than others to report that they had delayed care prior to enrolling in HSF but not after enrolling. In general, participants rate the care they receive at their medical homes favorably, and approximately 15 percent reported switching from not having a usual source of care to seeing their clinic as their primary source of health care.

2. ED Visits and Inpatient Admissions

HSF participants show declining use of the ED as their enrollment in the program continues. The decline in the number of emergent ED visits (injuries; all visits leading to inpatient admission; and probable emergencies, such as heart attack symptoms) by the HSF population was similar to the decline in non-emergent ED visits. Approximately one in five of ED visits occurred during the first month of enrollment. The majority of ED visits are emergent visits. Most HSF enrollees do not have multiple ED visits.

The number of ED visits and potentially avoidable inpatient admissions at SFGH from 2005 to 2009 declined beginning in 2007, a signal that the HSF program, which began in 2007, may have had an impact on utilization among the uninsured. While the encounter data that we received do not include services rendered at nonparticipating providers and may be underreported for some of the participating providers and thus inadequate for assessing the level of service use at a point in time, we note that they are more reliable for assessing trends over time because data completeness has improved during the course of the program. That captured ED visits decreased over time, despite increased reporting, gives us greater confidence in the conclusion that HSF has led to improved access to primary care for participants. In addition, the impact on the behavior of HSF participants is large enough that we see changes in SFGH-level data, which is strong evidence that HSF has had an impact on the low-income uninsured adult population in San Francisco.

C. Provider Satisfaction and Participation

The responses to the survey make it clear that the majority of providers are satisfied with HSF. Many of the providers added written comments at the end of the survey to express their pleasure at being part of HSF. Several providers interviewed during the site visits emphasized that HSF participation aligns well with their mission as safety-net providers. Participating in HSF allows clinics to facilitate care of uninsured patients, a concept endorsed wholeheartedly by safety-net providers. HSF also creates a system through which the uninsured can seek care throughout the HSF network of clinics. As one provider noted, this distribution of patients is beneficial, because if "we are sharing the burden within the City, everyone gets better care."

Effect on quality and continuity of care. In the survey and the site visits, providers commented on the positive impact of HSF on access, quality, and continuity of care, particularly for patients with chronic illness. Survey respondents also perceived an increased ability to coordinate care across providers for HSF patients and to provide ongoing care to those with chronic conditions.

Impact of increased patient care load. At the same time, many providers interviewed during site visits commented on increased pressures in the broader health care delivery system, problems of too few resources and too many patients, and general frustration getting access to care for some patients. While those interviewed agreed that expanding access to care for the uninsured is a laudable goal, many reported that their clinics were facing capacity constraints as a result of an influx of HSF patients. As noted in Table III.1, 95 percent of HSF enrollees in cohort 1 and 84 percent in cohort 2 were prior patients in the medical home they chose. Only recently have the majority of new enrollees not been established patients.

Demand for specialty care. According to those interviewed, access to specialty care has long been an issue for patients using the San Francisco safety-net system. The eReferral system has helped streamline the referral process to some extent; however, many providers and administrators

reported HSF has significantly increased demand for specialty care. Providers participating in the survey also pointed to referrals to specialty care as more problematic for HSF patients than for their other patients, and although some providers thought it was now easier to provide referrals for HSF patients than before these patients enrolled, a considerable number said it was now more difficult. Complaints about the lack of options, the long wait, and other problems when seeking specialty services for HSF patients were the most common comment made in the survey.

Role of provider perceptions on satisfaction. While there are some differences across different provider types and medical home groups, neither individual nor practice characteristics appear to be the main drivers of general satisfaction with the HSF program. Rather, providers' perceptions of the impact of the program on their ability to provide care to HSF enrollees appear more important. In some cases, these perceptions may not square with the actual structure or administrative processes of the program. The lack of awareness (and use) of several of the HSF resources suggests a need to find better ways for reaching providers. During the site visits, several providers stressed the importance of patient and provider education regarding HSF policies and procedures. Comments of this nature addressed such topics as ensuring that patients know that HSF is not insurance, increasing patients' awareness of what services are covered and what are not covered, and creating more educational opportunities for providers to learn about how HSF works.

D. Caring for Low- income People in a Reformed Health Care System

The passage of federal health reform legislation in March 2010 has led states and communities across the country to start preparing for the sweeping changes set to occur by January 2014. The Medicaid expansions and coverage subsidies authorized by this legislation will expand health insurance coverage to a large portion of the currently uninsured. Those who remain uninsured will include undocumented immigrants; individuals who are excluded from coverage mandates; and others eligible for coverage who remain uninsured by choice, often because insurance remains unaffordable for them. California is accelerating implementation of certain health reform components through a Medicaid waiver program they call "Bridge to Reform." When reforms are fully in place, program staff estimate, roughly 60 percent of the HSF population will gain coverage and the remaining 40 percent will remain uninsured and still need care through HSF.

HSF has helped San Francisco prepare for health reform in several important respects. Perhaps most important, its centralized system for enrolling and tracking the uninsured gives the City a considerable lead in identifying and enrolling people who become eligible for reform programs. HSF also helped to organize and expand the delivery system for uninsured and low-income adult populations and strengthened the position of its providers to compete successfully in a more competitive health care landscape.

1. Coordinated Enrollment

There are substantial benefits to formalizing the system of care for the uninsured population and others served by safety-net providers. Whether it is a stand-alone system or one that is incorporated into state health insurance exchanges, a coordinated system for identifying who is uninsured and tracking where they are getting care would be of benefit to communities. At a minimum, such an enrollment system would allow a community to produce an accurate count of the number of uninsured people accessing care; at its best it provides a foundation for connecting individuals to a primary care medical home and allows for a wide range of care management possibilities, and perhaps a greater focus on population health. Ideally the system would assign each person an identifier that stays the same over time and as people move from one program or form of

coverage to another. As providers and others in the community gain a better understanding of how many people are uninsured and where they are getting care, access problems and other supply-side concerns can be addressed more effectively.

HSF's experiences with eligibility screening through the One-e-App system also provide lessons relevant to state health insurance exchanges, which will also need a system to screen first for possible eligibility for Medicaid and other public programs. The information and documentation required for this screening adds time and complexity to the enrollment process and may prove to be a barrier for some people targeted by the exchanges.

2. Providing Care, Not Insurance

Communities may not want to get into the business of providing health insurance to those who remain without coverage under health reform. Communities with good information about the size and health status of their uninsured population will be in a better position to assess whether providing insurance is possible with existing funds. By leveraging existing resources for the uninsured and organizing the delivery system, HSF was able to expand access to care for both new and existing uninsured adults with less additional funding than would have been required to provide insurance coverage. Also, because state insurance regulations do not apply to HSF, the program has more flexibility and can permit variation across different medical homes in specific service and cost sharing features. The program has benefited greatly from this flexibility.

Communities interested in adopting aspects of HSF should prepare for some confusion about how this kind of program differs from insurance coverage, and plan for addressing and managing expectations. Program staff were diligent about ensuring the website and all written materials about the program communicated the message that HSF is not insurance, but focus group participants still had trouble grasping this concept.

3. Establishing Medical Homes

When health reform takes effect, safety-net providers will be competing with other providers for millions of newly insured people while also continuing to care for the remaining uninsured. Providing high quality care efficiently will be essential to survival in that environment. By connecting each person with one specific medical home and increasing providers' accountability for a set of patients, HSF has demonstrated that it is possible to generate important access and quality improvements for low-income adults with multiple health problems. The medical homes approach also makes it possible to manage existing systemwide capacity more effectively and determine gaps that must be filled. Furthermore, stress on safety-net providers is reduced when, instead of worrying that demand is limitless, they can focus on meeting the needs of a clearly defined population. Mainstream providers outside the traditional safety net may also be more willing to participate in caring for the uninsured when they are able to set a limit on the number of people they see.

Local safety-net systems may also benefit from strengthening the ties between primary care providers, specialists, and hospitals. The safety net in most communities is composed of many different public and private hospital and community-based providers that care for the uninsured in a relatively uncoordinated manner. Connecting people with a medical home makes it possible to coordinate care across different providers more effectively. The HSF experience shows that establishing medical homes for the uninsured is a critical step in formalizing the relationships between providers so referrals and information exchange can be managed more effectively. Their experience also suggests that the full exchange of information across different providers is much

more challenging because it requires providers to coordinate their information systems and be willing to share patient information with entities who are competitors.

Some of the strategies necessary to improve access and productivity involve more substantial changes that providers may resist at first, but HSF's experience suggests the payoff is well worth the challenge. The open-access approach to appointment scheduling, for example, requires providers to make an up-front investment of time to reduce the backlog of existing appointments. The extra effort may lead to fewer missed appointments and greater patient satisfaction because they are not waiting as long to be seen. The shift to a panel management approach may also trigger changes in the approach to care for people with chronic illnesses. Some longstanding safety-net providers who are unaccustomed to focusing on efficiency and productivity may view all of this as a significant and challenging change. Lessons from HSF suggest that once providers experience the benefits of the new approach they are likely to be quite supportive.

4. Funding Care for the Uninsured

Lessons also emerged from HSF about how a program like this may influence the costs of caring for the uninsured. First, some long-term cost savings are possible, through fewer ED visits and potentially avoidable hospitalizations. Encouraging HSF participants to go to their medical homes for care that they would previously seek at the ED and providing more consistent and better coordinated primary care in the medical homes should save the safety-net system money. The Government Accountability Office (GAO) estimates that the average cost for a non-emergent ED visit was more than seven times higher than the cost of a visit to a community health center.[34]

At the same time, short-term costs of preventive and primary care services may increase as uninsured people become more connected with a medical home. In addition, expanding Medi-Cal in 2014 will reduce the number of low-income uninsured adults eligible for HSF, but will likely stress the already stretched capacity of safety-net providers participating in the program. Some of the newly eligible adults will be moving from HSF to Medi-Cal and may exhibit only small changes in their health care utilization patterns. There will be some low-income uninsured adults who gain coverage under Medi-Cal, however, who, for a variety of reasons, did not enroll in HSF. These individuals, even those who were established patients of the safety-net system in San Francisco, will likely increase their utilization of preventive and primary care services. In their recent study of Medicaid expansion in Oregon, Finkelstein et al. estimated a 21 percentage point increase in the probability that low-income adults who gained coverage would have an outpatient visit.[35]

Although HSF sought to use existing resources to maximize funding availability and to ensure stable funding, additional resources were required to cover new costs—a result that is not surprising given the number of new people brought into the system. Other communities will have to think creatively about opportunities for reallocating available resources.

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[34] U.S. Government Accountability Office, *Hospital Emergency Departments: Health Center Strategies that May Help Reduce Their Use,* No. GAO-11-414R, Washington, D.C. (May 2011).

[35] Amy Finkelstein, Sarah Taubman, Bill Wright, et al. *The Oregon Health Insurance Experiment: Evidence from the First Year*, Working Paper 17190, National Bureau of Economic Research, Cambridge, MA. www.nber.org/papers/w17190.

In addition, the HSF experience suggests that communities should plan carefully for ways to collect reliable baseline data on the costs of care prior to changes in the system in order to track ongoing changes. Hospitals, clinics, and other providers capture costs in different ways and to varying levels of detail. Even after the delivery system became more organized and coordinated, HSF found it difficult to obtain solid data on the cost of care provided to HSF participants because of differences in how costs are tracked and reported across different systems.

APPENDIX

DATA SOURCES AND METHODS

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DATA SOURCES AND METHODS

A. Data Sources

Healthy San Francisco Enrollment and Encounter Data. Enrollment and encounter records for HSF participants provide information on participants' enrollment and retention in the program and utilization of health care services. Enrollment records for 95,580 unique enrollees were obtained from the San Francisco Department of Public Health (SFDPH) and cover the period from July 2007 through March 2011. We used encounter data from July 2007 through December 2010 (extracted by San Francisco Health Partners [SFHP] in March 2011) to allow sufficient time for complete reporting.

We structured our enrollment analysis around six cohorts defined by major changes in program eligibility or provider participation. The first cohort includes individuals who enrolled in July through December 2007; all of these enrollees were from households with incomes under the federal poverty level (FPL). The second cohort begins with the January 2008 increase in income eligibility to 300 percent of the FPL. The addition of new participating providers in September 2008 marks the start of the third cohort. The fourth cohort begins in February 2009 with the second increase in income eligibility to 500 percent of the FPL. The fifth cohort starts in July 2009, when Kaiser Permanente joined as a medical home, and the sixth cohort starts in September 2010 when Brown & Toland Physicians and BAART providers joined as medical homes.

Our retention and renewal analyses focused on the 68,465 individuals who enrolled prior to January 1, 2010. This group includes all members of cohorts 1 through 4, and part of cohort 5. With this restriction, we can consider complete utilization records through at least the first 12 months of enrollment and assess how service use predicts program retention. Most utilization analyses imposed the additional restriction that HSF participants had at least 12 months of continuous enrollment (n=60,008).[36] Because one of the goals of HSF is to change care-seeking behavior, restricting analyses to this group increases our ability to estimate the program's potential effects, as we would not expect behavioral change for participants who are enrolled only briefly.

[36] In our initial analysis of enrollment pattern for HSF participants (Colby et al. 2011), we strove to be consistent with the SFHP "analytic months" definition of enrollment. To be counted as enrolled in any given analytic month, a participant was required to be enrolled on the last day of that month. When we began analyzing utilization, we examined encounters occurring 365 days from the first date of enrollment (McLaughlin et al. 2011). For a small number of participants with partial-month first-enrollment spells, this leads to different definitions. As an example, consider someone who first enrolled on July 1, 2008, then disenrolled on July 20, 2008 and re-enrolled on September 1, 2008. Under the SFHP "analytic months" definition, this person's first enrollment month would be September 2008; under our "day one" definition applied for utilization analyses, it would be July 2008.

In this summary report, we utilize both types of analysis where fit is best. Results focused on enrollment and retention patterns continue to rely on analytic months, whereas sample populations constructed for utilization analysis are based on the number of days enrolled. For 99 percent of participants, those who were enrolled for 12 analytic months have also been enrolled for 365 days. As an example, the reader will see that in Figure III.2, we report that 60,458 participants with an observable first enrollment decision reach 12 months of consecutive enrollment, measured in analytic months. However, our utilization analysis includes 60,008 participants with 365 days of continuous enrollment, counting from the first recorded date. The balance (450 or 0.7 percent), meet the criteria for 12 analytic months of enrollment, but not 365 days of consecutive enrollment in their first enrollment period.

American Community Survey (ACS) and California Health Interview Survey (CHIS). To assess the degree to which HSF has attracted its target population, we draw on two data sets to profile the uninsured working-age population in San Francisco: the 2009 CHIS, which draws on a sample of 809 adults (ages 18+) for San Francisco County, and the 2009ACS Public Use Microdata Sample (PUMS) for San Francisco County, which has 6,058 adult respondents. Both surveys ask about current insurance status and therefore provide a snapshot of the City's uninsured population at the time of their administration. Because it top-codes household income at 501 percent of the FPL and includes variables on disability status, we are able to use the ACS to construct a more refined measure of the "target" population for HSF, which excludes the highest income uninsured and those who are likely eligible for public insurance programs (for example, Medi-Cal and Healthy Families), even if they are not currently enrolled.

Healthy Worker Program Enrollment and Encounter Data. We also obtained encounter data for enrollees in the Healthy Workers (HW) program, a health insurance program started in 1999 by the San Francisco In-Home Support Services (IHSS) Public Authority for individuals providing IHSS to seniors and people with disabilities. The program is administered by the SFHP. HW enrollees are typically low-income workers and receive services from many of the same safety-net providers that serve the HSF population, so we anticipate that they may have similar service utilization patterns. As with HSF, encounter data for 1,256 HW enrollees who initially enrolled between July 2007 and December 2009 were extracted by the SFHP in March 2011 and we used data for services rendered between July 2007 through December 2010.

Hospital Inpatient and Emergency Department (ED) Discharges. To assess the possible effect of HSF on potentially avoidable hospital admissions and non-emergent ED visits, we obtained individual-level records from the California Office of Statewide Health Planning and Development (OSHPD) of all inpatient and ED discharges occurring in California hospitals from 2005 through 2009. For all analyses in this report, individual-level records were rolled up to the hospital level to compare trends at San Francisco General Hospital (SFGH) to those in other public hospitals in California.[37]

Health Access Questionnaire. Since December 2008, SFDPH has administered a Health Access Questionnaire (HAQ) at enrollment, renewal (when a participant elects to continue enrollment immediately at the end of a 12-month period), and re-enrollment (when a prior participant elects to rejoin HSF after a gap in enrollment). This 10-question instrument assesses perceived health status and access to care in the prior 12 months (captured by usual source of care, use of the ED, and difficulty in receiving medical care). Our analysis utilizes HAQ responses from December 2008 through March 2011. We identified three samples: (1) those who completed an HAQ at initial enrollment (n=49,943), (2) those who completed an HAQ at renewal or re-enrollment after a short gap of one to four months (n=26,864), and (3) those who met the

[37] Other public acute care hospitals in California (n=16) included: Alameda County Medical Center, Contra Costa Regional Medical Center, Kern Medical Center, LAC/Harbor-UCLA Medical Center, LAC+USC Medical Center, Los Angeles County Olive View-UCLA Medical Center, Natividad Medical Center, University of California Irvine Medical Center, Riverside County Regional Medical Center, University of California Davis Medical Center, Arrowhead Regional Medical Center, University of California San Diego Medical Center, San Joaquin General Hospital, San Mateo Medical Center, Santa Clara Valley Medical Center, and Ventura County Medical Center. We limited our analysis to public hospitals because they are the dominant providers of care to the uninsured population and are more similar to SFGH in mission and patient population than private hospitals.

previously detailed criteria *and* had completed a survey upon initial enrollment (n=13,777).[38] We used the first sample to understand how well connected new enrollees were to health care systems in San Francisco, the second to understand perceived access among HSF participants, and the third to assess changes in perceived access over time that may be due to HSF.

Focus Groups. The analysis incorporates findings from nine focus groups conducted in 2010 and 2011: three in July, two in October, two in December 2010, and two in March 2011.[39] The sample for the July focus groups was drawn from participants who completed an enrollee satisfaction survey conducted by the Kaiser Family Foundation (KFF) in March 2009 and were still enrolled as of July 2010;[40] the sample for the October 2010 focus groups was drawn from participants who had exited from the program at least once, with some having re-enrolled and others still not participating in the program as of October 2010; the sample for the December focus groups was drawn from self-pay patients at SFGH and from employees whose employers chose the City Option to fulfill the Employer Spending Requirement (ESR); the sample for the March 2011 focus groups drew on the sample constructed for the December 2010 focus groups as well as outreach to several community organizations providing services to low-income adults, with a focus on attracting bilingual adults and those from racially and ethnically groups underrepresented in the previous focus groups. In all cases, the size of the focus group ranged from 10 to 13 individuals.

In both the July and October 2010 focus groups, we collected information on several topics including: enrollment into HSF, satisfaction with and perceived value of the program, the renewal and/or re-enrollment process, their experience with their medical home, why they had exited (if appropriate), perceived changes in access to health care since entering the program, and utilization of preventive and other health care services while in the program. Individuals were selected for these groups based on a random sample of HSF participants stratified by age, health status, and medical home. The three groups in July included one conducted in English, one in Cantonese, and one in Spanish. Both groups in October were conducted in English. The December 2010 and March 2011 focus groups, also conducted in English, explored why individuals who had heard of HSF had not enrolled in the program.

HSF Provider Survey. In May to June 2010, we conducted a self-administered online survey of providers participating in HSF as of April 2010, including physicians, nurse practitioners, nurse midwives, physician assistants, nurses, social workers, and other providers.[41] Of the 578 persons providers for whom we had contact information, 389 responded to the survey. Twelve providers were on leave or unavailable during the survey period, leaving 566 potential respondents and

38 HAQ questions may be answered by the enrollee or by another household member (for example, a spouse or parent) applying for enrollment. Our analysis did not suggest differences in data quality between those who responded for themselves and those for whom another household member responded (for example, comparable rates of "don't know" and "refusal" responses were observed for both groups). Thus, we present the data together and do not distinguish between self- and other-respondents.

39 Corey, Canapary, and Galanis Research (CCG) conducted these focus groups.

40 See http://www.healthysanfrancisco.org/files/PDF/HSF_Satisfaction_Survey_Kaiser.pdf for a description of the survey and the findings.

41 The survey was administered by CCG. Kaiser Permanente (KP) was unable to participate in the provider survey because of the relatively short duration of its participation in the program and difficulty in identifying KP clinicians with adequate HSF participant interaction.

therefore a response rate of 69 percent. The survey collected information on such topics as the activities related to and perspectives on care coordination, access, and quality improvement as well as the providers' perceptions of changes in the care-seeking behavior of HSF participants.

Site Visits. We also incorporated relevant information collected during three site visits in San Francisco in October 2009, February 2010, and February 2011. The aim of these visits was to gather qualitative information on HSF from key informants involved closely with the program. These individuals included SFDPH HSF leaders and staff; SFHP leaders and staff; physicians, administrators, and other staff in various HSF medical homes; members of HSF advisory bodies; and City employees who have been involved with HSF. In October 2009, Mathematica researchers spoke with 62 key informants; in February 2010, we spoke with 38 key informants; and in February 2011, we spoke with 50 key informants. The first visits focused more on the origins, structure, and goals of the program and the enrollment process, while the topics of the last visits centered around the renewal and re-enrollment process, the role and function of the medical home, and sustainability of the program and its role in national health reform.

B. Analytic Approach

We applied descriptive and multivariate methods in our analyses of the trends in enrollment and retention and in access to and utilization of health care services by participants in HSF. Descriptive methods present actual enrollment flows and utilization levels, whereas regression analyses enable us to control for confounding factors and identify more clearly the characteristics associated with renewal, re-enrollment, and differences in utilization. As previously noted, we drew on a wide array of data sources. Wherever possible, we drew on qualitative data from the focus groups and site visits to illuminate and add depth to the quantitative results. Below, we describe our specific quantitative approach to each analysis.

1. Enrollment and Retention

Who enrolls in HSF? We analyzed enrollment records from July 2007 through March 2011, structuring our analysis around the six cohorts that we defined. We examined trends in the volume of enrollment over time and considered how the profile of enrollees changed across cohorts. As HSF gradually expanded in scope, raising its income eligibility thresholds and attracting new providers, we anticipated that the populations who would enroll after each major change would have different characteristics. For example, anecdotal reports during our site visits suggested that the earliest enrollees at the pilot sites (Chinatown Public Health Clinic and North East Medical Services) generally had longstanding relationships with their medical homes and may have been more likely to remain in the program than enrollees in other cohorts and at other clinic sites. We also descriptively examined HAQ responses for enrollees in cohorts 4, 5, and 6 who completed the survey when first entering HSF (N = 49,943) to assess the strength of existing connections to the health care system upon enrollment.

Which eligible individuals do not enroll in HSF? To quantify and address the gap between likely eligible and enrolled individuals, we compared demographic characteristics of HSF participants with profiles of uninsured working-age San Franciscans from two recent surveys—the 2009 ACS and CHIS. Using variables unique to the ACS, we further identified the HSF target population by excluding the high-income uninsured (501 percent of the FPL and greater), and those who are likely eligible for public coverage. We assessed to what degree HSF enrolled various subgroups by comparing the number of HSF participants with the estimated number of individuals in each of these groups.

Who remains enrolled in HSF and for how long? To examine retention rates among HSF enrollees, we tracked exit, renewal, and re-enrollment rates, using HSF enrollment data. For renewal, we focused on enrollees who entered the program prior to January 2010, including all members of cohorts 1 through 4, and some members of cohort 5. We did not have an opportunity to observe renewal decisions for later enrollees (as they had not been enrolled for 12 months).[42] Among those who exit and re-enroll, we also examined the length of enrollment gaps. We considered all re-enrollments that we were able to observe through March 2011. In a separate analysis, we examined re-enrollments in the 18 months following program exit for members of cohorts 1 through 4. By limiting the analysis to this group and time period, we created a uniform window for re-enrollment in order to better examine the effect of cohort membership on the likelihood of returning to the program.

Why do individuals leave HSF and who returns? To address the question of why individuals exit HSF, we descriptively examined the reported reasons for disenrollment as well as demographic characteristics by exit, renewal, and re-enrollment decisions, drawing on HSF enrollment and encounter data. However, among HSF enrollees, demographic characteristics tended to cluster within medical homes and cohorts. For example, cohort 1 enrollees were disproportionately older, female, and Chinese, and nearly all were well established patients, reflecting the fact that the earliest HSF participants were patients of pilot sites that served neighborhoods with these characteristics.

To separate the effects of demographic characteristics, enrollment period, and medical home, we conducted regression analyses, modeling exit and renewal decisions. Regression analyses are structured as conditional logit models. We first modeled the probability that an individual would remain enrolled for 12 months. Then, among those who reached 12 months of enrollment, we modeled the probability that an individual would renew HSF enrollment. We excluded from these regressions all individuals who enrolled after December 2009 (cohort 6 and part of cohort 5), as insufficient time had elapsed for these members to reach 12 months of enrollment in our data. We also excluded enrollees who we know had disenrolled due to loss of eligibility. To model the likelihood of re-enrollment among those who left early or failed to renew at month 12, we included all individuals in cohorts 1 through 4 who exited the program for any reason prior to or at the 12-month mark, and controlled for all of the reasons that were recorded—whether they left due to a reported inability to pay, insufficient payment, or a change in program eligibility.[43] To better isolate the effects of cohort membership, we looked only for re-enrollments within 18 months of program exit.

Regression models controlled for demographic characteristics, including diagnosed chronic conditions, and utilization characteristics, including the use of inpatient stays, ED visits, and physician visits during the first period of enrollment. To construct chronic disease variables, we applied the Chronic Illness and Disability Payment System (CDPS) algorithm to all encounter

[42] Because our enrollment data extend through March 2011, we were able to observe, but did not report on renewal decisions for HSF enrollees in cohort 5 who entered the program from January to March 2010. We excluded these participants from our retention and renewal analyses because we lack complete encounter data for their last three months of enrollment, and we use encounter variables to predict retention and renewal outcomes.

[43] Although some reasons for becoming ineligible for HSF are permanent (for example, turning 65 years old and aging out of the program), others may be temporary (for example, moving out of the city or obtaining private or public insurance coverage).

records pertaining to the first 12 months of enrollment (or less, if an individual exited the program prior to reaching 12 months). The CDPS generates a series of indicators for chronic conditions in 20 different major categories.[44] Our regressions included indicators for whether an individual had one chronic condition or at least two chronic conditions as identified by the CDPS. We also included specific indicators for a diagnosis of substance abuse or mental illness, as these individuals may have substantially different enrollment patterns.

To identify inpatient stays, ED visits, and physician visits, we implemented the service and revenue coding specifications used by SFHP to produce the HSF annual report.[45] Although encounter data provide the best available tool to gain insight on service use by HSF enrollees, they are incomplete. For example, although all nonprofit hospitals in San Francisco might provide services to HSF enrollees, and the providers have agreed to report these admissions, the SFDPH suspects underreporting from hospitals other than SFGH and is working to improve data collection; however, at present, hospital-based services in the encounter data are primarily those reported by SFGH.

2. Access to and Utilization of Health Care Services

How satisfied are HSF participants with their access to services? We conducted a descriptive analysis of 26,864 responses to the HAQ survey completed upon renewal or re-enrollment after a short gap to evaluate satisfaction with access to HSF services. By restricting our sample to participants who are or were recently enrolled in HSF, we ensure that respondents reflecting on their care over the prior 12 months describe their access to and utilization of care provided through the HSF program, not their situation prior to enrollment. We also assessed variations in perceived access to care by demographic characteristics, including gender, age, ethnicity, spoken language, economic status, and medical home.

Of the 26,864 participants who completed the HAQ upon renewal or re-enrollment in HSF, about 75 percent provided complete responses to questions describing access to HSF services. We analyzed trends in response rate by demographic characteristics; where response rates were low, we are less confident that the results are representative and comparable to other groups. Response rates varied across demographic subgroups, most notably race and ethnic group, homeless status, and medical home assignment. For example, ethnically Chinese participants were more likely to respond to the HAQ (84 percent) compared to whites (63 percent) and blacks (56 percent). Those who were never homeless also provided complete responses more often (81 percent) than those who were ever homeless (29 percent).[46]

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[44] The CDPS is a diagnostic classification system developed to describe different burdens of illness among Medicaid beneficiaries. Using ICD-9 codes, the CDPS categorizes diagnoses into 20 major categories that correspond to body systems. Each of the major categories is subdivided according to the degree of increased expenditures associated with the diagnosis. Kronick et al. "Improving Health-Based Payment for Medicaid Beneficiaries: CDPS." Health Care Financing Review, vol. 21, no. 3, 2000, pp. 29–64.

[45] We do not separate physician office from outpatient visits because two major primary care clinics for HSF participants are based at SFGH.

[46] HAQ questions may be answered for another member of the household (for example, a spouse or parent). Our analysis did not suggest differences in the frequency of responding "don't know" or "refusal" for those who responded for themselves and those for whom another household member responded.

Has HSF improved access to services? To evaluate whether HSF participation improved access to care, we analyzed changes in access to health care services and self-reported health status, as measured by the HAQ. We also examined the ways in which responses varied by demographic characteristics. Our analysis included responses from 13,777 participants who completed the HAQ both upon initial enrollment and again upon renewal or re-enrollment following a gap in participation of one to four months. The responses that participants provided at enrollment reflect their access to care prior to joining HSF; the responses at renewal or re-enrollment reflect their experience in the HSF program. We compared responses from the second survey to those from the first survey to assess potential effects of the program on access. For example, if a participant reported that access to medical care over the past 12 months was "somewhat difficult" upon initial enrollment but that access was "not at all difficult" upon renewal, we would consider that person to have experienced improved access to medical care while enrolled in HSF. In this approach, enrollees serve as their own control. There are limitations to this analysis, however, because factors other than enrolling in HSF can change over the year—for example, the onset of a new health care condition—and affect perceptions about access to and satisfaction with health care.

To what extent are HSF participants utilizing available primary care services? What individual and program characteristics influence the likelihood that participants will utilize these services? In evaluating whether HSF enrollees are taking advantage of improved access to primary care services, we considered (1) a physician visit within two months of enrollment and (2) receipt of one or more of seven specific preventive services recommended by the U.S. Preventive Services Task Force (USPSTF): alcohol misuse counseling or screening, blood glucose testing, flu vaccination, cholesterol testing (ages 35+), colorectal cancer screening (ages 50+), pneumococcal vaccination (ages 50+), and screening for sexually transmitted diseases.[47] While there are clear differences between participants in an access program that is not insurance coverage (HSF) and enrollees in an insurance product (HW), we also compared the utilization of these primary care services by HSF participants to the utilization of HW enrollees, which provides a contrast to another relatively low-income adult population in San Francisco during a similar timeframe.

To examine the individual and program characteristics influencing primary and preventive care receipt, we constructed two types of regression models. First, we modeled the likelihood of having any physician visit within the first 12 months of enrollment as well as the likelihood of receiving any of the seven specific preventive services. Then, among individuals with at least one physician visit, we developed a model estimating the total number of visits during the first year of enrollment.[48] Regression model samples were limited to individuals with 12 months of continuous enrollment (n=60,008), and included control variables for demographic, health status, and program characteristics.

[47] We also examined, but do not report on, the use of depression screening among HSF participants. This service was never reported in the encounter records. The list of preventive services that we examined does not reflect all USPSTF recommendations. Some recommended preventive services for adults, such as breast and cervical cancer screening, are known to be underreported in HSF encounter data because they are reimbursed through other programs. Appropriate delivery of some other recommended services—for example, blood pressure screening—cannot be readily identified from administrative data.

[48] The distribution of physician visits was skewed; there was a small portion of individuals with a large number of visits. We used the natural log of the number of visits to reduce the influence of these few extreme cases. As a sensitivity test, we also ran models excluding the top one percent of users and found no differences from the results presented in this paper.

We examined the percentage of participants utilizing each type of service, as well as the timing of utilization. For each ED and inpatient event, we reviewed the encounter record for evidence of a physician visit one month after the event. ED utilization is particularly high in the first month of enrollment, since some participants first become aware of their HSF eligibility after visiting the ED. Accordingly, we distinguish enrollees with ED visits within the first month of enrollment from those with later first-time ED use, and assess their patterns of repeat ED use separately.

To what extent is HSF associated with a decrease in non-emergent ED use and potentially avoidable hospitalizations? Because we lack utilization data for HSF participants prior to their enrollment in the program, we cannot examine changes in their service use that may be attributable to participation in the program. We can, however, examine trends in utilization after they enrolled in HSF. We charted the number of emergent and non-emergent ED visits per 1,000 members for each month since enrollment. We also compared whether there was a non-emergent and emergent ED visit in the second year of enrollment to whether that individual had an ED visit in the first year of enrollment for both HSF participants and HW enrollees who were continuously enrolled for 24 months. Declining use of non-emergent ED visits may reflect better access to routine care appointments or improved participant understanding that the medical home should be the primary source of care. Declining use of emergent ED visits may reflect improved management of chronic health conditions.

We also looked at utilization patterns by uninsured adults receiving ED and inpatient services at SFGH, the City's primary safety-net hospital, which accounted for more than 60 percent of inpatient admissions among self-pay and uninsured adults in San Francisco in 2009.[49] Because we estimate that HSF has enrolled more than half of the uninsured non-elderly adults in the City, we hypothesize that changes in hospital utilization patterns among HSF participants may be sufficiently large to affect observed utilization trends among uninsured non-elderly adult patients using SFGH. Accordingly, we examined whether HSF is associated with a decrease in ED visits and potentially avoidable hospitalizations by looking at trends among uninsured or self-pay adults ages 18 to 64 from 2005 through 2009 (HSF was implemented in 2007) at SFGH. As controls, we considered trends at public short-term general hospitals in other counties in California (n=16). We also examined trends for insured adults, children, and the elderly to understand whether there may be underlying citywide utilization trends driven by broader provider supply or accessibility changes. If HSF has had an impact on ED use or potentially avoidable hospitalizations, use among the uninsured or self-pay adult population at SFGH should have shown a decline beginning in 2007 relative to the trends in use for other populations and at other hospitals.

An ED visit was considered emergent if it met one of three criteria: (1) resulted in an inpatient hospitalization; (2) had a diagnosis code indicating injury; or (3) had a diagnosis code indicating emergent care was needed with greater than 70 percent probability, per the ED classification algorithm developed by New York University (NYU).[50] ED visits not meeting one of these criteria were considered non-emergent.

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[49] Authors' calculation using OSHPD patient discharge data. USCF Medical Center and California Pacific Medical Center were the next largest providers of safety-net hospital services, accounting for 11 percent and 9 percent, respectively, of inpatient admissions among self-pay and uninsured adults.

[50] The ED classification algorithm developed by NYU (http://wagner.nyu.edu//chpsr/ed_background.shtml) uses the primary diagnosis code available on a claim to assign probabilities that a visit was likely emergent or non-emergent.

To calculate the rate of potentially avoidable hospitalizations, we applied a software tool designed by the Agency for Healthcare Research and Quality (AHRQ) to inpatient discharge records from 2005 through 2009 and identified eight types of potentially avoidable admissions among adults: short-term diabetes complications, chronic obstructive pulmonary disease, asthma, hypertension, congestive heart failure, dehydration, bacterial pneumonia, and urinary tract infections.[51] We computed the ratio of potentially avoidable admissions to total admissions for the self-pay or uninsured adult population and the other population comparison groups, then compared the trends in these rates over time for SFGH and other public short-term general hospitals in California.

In addition to these descriptive analyses, we developed logistic regression models predicting the likelihood of having any emergent ED, non-emergent ED, and inpatient admission as a function of medical home and demographic characteristics.

3. Limitations to the Study

While analyses presented in this report are based on the best available data, we faced several challenges in assessing the effects of HSF on utilization. The strongest analysis would examine utilization patterns before and after enrollment in the HSF program for a representative sample of HSF participants and a matched control sample of similar individuals who were eligible but did not enroll in HSF. Since such data are not available, we pursued two alternative approaches, each with limitations.

First, to capture potential effects of HSF on ED and inpatient hospital utilization, we examined trends in participants' use of services while enrolled in HSF by using encounter data for HSF participants. Specifically, for HSF participants who were continuously enrolled for at least 24 months, we looked at whether an individual had an emergent ED visit, a non-emergent ED visit, or an inpatient admission in the first year of the program and then noted whether that person used any of those hospital services during the second year. We also performed this analysis for HW enrollees. While this analysis does not control for unobserved changes in health status that may lead to an emergent ED visit or inpatient admission, it does provide some control for unchanged individual characteristics that may influence the likelihood of a non-emergent ED visit.

(continued)

The NYU team determined these probabilities by reviewing the complete medical chart for approximately 6,000 ED visits. A panel of physicians determined whether each case was emergent and claims then were reviewed to assess the primary diagnosis recorded in each case. Some diagnoses were associated with both emergent and non-emergent cases; for example, a claim may be considered 30 percent emergent and 70 percent non-emergent and, as such, the algorithm is intended for population-level analyses, not for assessing whether a particular visit was appropriate. To assign individual visits, we have dichotomized the probabilities assigned by the algorithm; visits with a diagnosis code indicating that emergent care was needed with greater than 70 percent probability were considered emergent visits. Analyses are not sensitive to setting a more stringent threshold, such as 80 percent. While using the ED algorithm greatly expands our ability to classify visits, it is important to note that diagnoses that did not appear in the 6,000 sample ED cases are not classified.

[51] Potentially avoidable admissions are cases in which hospitalization could be avoided if the patient received timely and adequate outpatient care; thus, this measure reflects the performance of the primary care system as a whole, including care management efforts by HSF providers. We used the AHRQ software tool, version 4.2, available at: [http://qualityindicators.ahrq.gov/pqi_download.htm]. The tool also identifies the following preventable hospitalizations which we did not consider: long-term diabetes complications (three measures—unlikely to be affected within the HSF timeframe), angina (small sample size), readmission after appendix removal (small sample size), and low birth weight (outside scope of HSF).

Second, we examined trends in the use of ED and inpatient utilization among uninsured adults seen at SFGH over the period from 2005 to 2009. The analysis of the HSF participants relies on encounter data supplied by the SFHP, which are known to be incomplete, particularly for ED and inpatient services. SFGH is the only hospital with available data from the beginning of the program. While many hospitals began reporting encounters for their own medical home patients as early as December 2008, their reporting of charity care encounters for HSF participants enrolled with other medical homes did not begin until July 2009. No data are available from hospitals, clinics, and physicians that do not participate in HSF. We found that only about 40 percent of those who self-reported an ED visit during the previous 12 months on their renewal HAQ had an encounter record of an ED visit, even when we expanded beyond the previous 12 months of data. This finding suggests that the scope of the undercount problem could be substantial. In addition, some of the HW enrollees have coverage for at least some health care services through other sources. Services covered through these other mechanisms would not be included in the SFHP data. We have no way of knowing the scope of this undercount.

We feel fairly confident, given the large and growing share of San Francisco charity care provided by SFGH, that patients were not simply seeking ED and inpatient services at other San Francisco hospitals during this time period. However, we cannot state with certainty that the observed patterns are due to the HSF program, as opposed to some other factor (such as new ED intake procedures) uniquely affecting uninsured patients at SFGH.

Finally, we note that diagnoses and procedures are inconsistently coded in the encounter data, perhaps because most HSF providers do not receive fee-for-service reimbursement and therefore may lack strong incentives to provide that level of detailed information.

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