



Market Assessment and Benchmarking Project for the City and County of San Francisco Department of Public Health

Report

Prepared for:

The City and County of San Francisco

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I. Executive Summary

The San Francisco Department of Public Health recognizes that San Francisco's demographic and economic profile is changing. These changes will affect future healthcare service supply and demand as well as the stability of San Francisco's safety net system. The safety net system is already challenged, as federal and state subsidies have declined and an increasing number of uninsured and underinsured seek public healthcare services. The Department understands that it must operate as efficiently and effectively as possible to face these challenges successfully. Moreover, the City and County of San Francisco seeks to optimize efficiency, best practices, and health outcomes as it implements Healthy San Francisco¹ and rebuilds San Francisco General Hospital to comply with state seismic standards.

Given these demographic shifts and developments in the healthcare landscape in San Francisco, the City and County of San Francisco's Controller's Office and the Department of Public Health commissioned the Lewin Group to conduct a local market assessment and benchmarking analysis. The analysis will support decision-making to improve program and service offerings, allocate resources, and collaborate with other organizations and policy initiatives.

The market assessment analyzes the current healthcare environment in the city, makes projections of demand for healthcare services, and examines the Department of Public Health's role in providing direct healthcare to San Franciscans. The benchmarking analysis compares San Francisco General Hospital with comparable Bay Area, California and national public healthcare delivery systems across measures designed to assess efficiency and effectiveness. The benchmarking analysis also identifies best practices contributing to the success of the benchmark safety net systems.

Summary of Findings: Market Analysis

- *The population is aging and the racial and ethnic profile of San Francisco is changing.* A growing senior citizen population will require unique hospital and ambulatory services for a range of acute, chronic, and multiple diagnosis disease conditions that will affect future demand for health services. The city also has a changing ethnic and racial make-up that will require providers to update their offerings of "culturally competent" care. The Department of Public Health is responding by evolving programs and services to meet changing demands.
- *The Department of Public Health plays a critical role in healthcare service delivery in the city, both as a primary provider and as a robust public health agency.* The Department is the primary provider to the poor and uninsured in San Francisco. Moreover, it is among the nation's leading public health departments in terms of the broad scope of services it provides as well as its public health initiatives like Healthy San Francisco.

¹ The goal of Healthy San Francisco is to expand services and restructure the city's safety net system from a crisis delivery approach to an emphasis on primary care. The program launched with two pilot clinics on July 1, 2007 and is now present at 22 centers throughout the city. More information can be found at: <http://www.healthysanfrancisco.org/> and in Appendix C of this report.

- ***There will be a significant (24 percent) shortage of acute hospital beds in San Francisco by 2030***, which is a gross shortage of 533 beds.² This projection assumes that San Francisco General Hospital, which currently provides 15 percent of the city’s acute beds, will be rebuilt to meet state seismic requirements. Absent new capacity, the city’s hospitals will increasingly lack adequate surge capacity to meet demand in the event of a public safety or public health emergency.
- ***San Francisco’s healthcare system will require a delicate balance of appropriate inpatient and outpatient capacity.*** Inpatient hospital capacity should be tempered with development of a robust portfolio of outpatient and community-based service options for quality of care, cost control and access reasons. The Department of Public Health has developed and continues to expand such programs.
- ***Opportunities exist to improve the operational efficiency of the Department of Public Health-operated clinics.*** Reductions in wait time can be gained by completion of the Department of Public Health’s multi-year clinic redesign and reconfiguration initiatives.
- ***San Francisco General Hospital is operating at 97 percent capacity, which is well above other San Francisco hospitals and the industry standard.*** The next highest hospital occupancy rate in San Francisco is Kaiser (84 percent), and hospital experts recommend occupancy rates below 80 percent to gain operational efficiencies. The General is operating at such high capacity levels because it is the city’s primary safety net provider and does not turn away patients in need. It provides over half of the psychiatric, HIV, and substance abuse care in the city.
- ***San Francisco General Hospital faces countervailing factors which limit its ability to optimize its trauma center capacity.*** As a trauma center, the hospital is required to maintain costly stand-by capacity and advanced resources or “tertiary capability.” However, as the city’s major safety net provider, the hospital must also meet the needs of other patients with either less severe illnesses or who require less tertiary capability. In particular, a large number of mental health patients in San Francisco are referred to and served by San Francisco General Hospital. The Department of Public Health should continue efforts to expand care delivery alternatives for lower severity and psychiatric services, as well as collaborate with other city providers to ensure a more equitable distribution of the psychiatric patient population.
- ***The community and key stakeholders interviewed for this report are looking to the Department of Public Health to set the gold standard of care for the safety net population.*** Healthy San Francisco is acknowledged as an example of innovative public healthcare. Stakeholders would like to see the Department operate as a performance-driven organization with a transparent agenda and performance metrics. Stakeholders would also like to see the Department play a central role in creating a sustainable citywide primary care network.

² Source: San Francisco Department of Public Health staffed acute hospital bed capacity survey administered March 2007, OSHPD 2005, Lewin analysis

Summary of Findings: Benchmarking Analysis

The central finding emerging from the benchmarking analysis is that, overall, San Francisco General Hospital performs efficiently and effectively compared to benchmark providers across many of the performance measures Lewin examined. Worthy of note is the General's high relative levels of performance related to inpatient clinical quality, cost of inpatient care, and patient revenue cycle management.

The General's performance in these areas was achieved despite its high occupancy rate (97 percent) and its aging physical plant, which negatively impact efficiency and effectiveness. Age has a negative effect because old physical infrastructures have problems accommodating advances in medical and information technology and design-based operating efficiencies.

Significant findings emerging from the benchmarking analysis include:

- ***San Francisco General Hospital is near the top of the benchmark range in overall clinical quality.*** This is based upon comparisons across widely accepted and validated indicators related to the treatment of heart attacks, congestive heart failure, and pneumonia, as well as the prevention of surgical infections prevention.
- ***San Francisco General Hospital delivers cost-efficient inpatient care.*** The General performs well in this regard when its costs are adjusted for factors outside of its control, such as variations in patient populations and regional wage levels. This is particularly notable given the General's strong residency training programs and old physical plant, both of which typically drive up costs.
- ***San Francisco General Hospital has improved its productivity in recent years.*** The General reports a significant drop (20 percent) in person hours per discharge between fiscal year 2005 and fiscal year 2006, indicating improved productivity.
- ***San Francisco General Hospital exhibits workforce efficiency.*** An external analysis of workforce efficiency found that leaner staffing levels at the General compared to a peer group produce an annualized savings in salaries, wages, and direct contract labor expense of about \$3.2 million.³
- ***San Francisco General Hospital excels in revenue cycle efficiency.*** Another independent study recently concluded that the Department of Public Health revenue cycle processes and procedures are among the most complete and effective as compared with other large public health systems.⁴ This is particularly notable given that the General has limited control over its budget due to its close relationship with and ownership by the City and County of San Francisco.
- ***San Francisco General Hospital has reduced its proportion of minor emergency department visits to five per cent,*** which is lower than all but one of the benchmark hospital systems. Minor emergency department visits are reduced when such patients

³ San Francisco General Hospital Staffing Review: Executive Summary, Brady & Associates, July 13, 2007

⁴ Revenue Maximization Project Summary, Phase 2 Consulting, Presentation to the San Francisco Health Commission, September 25, 2007

can access care in appropriate outpatient settings such as doctor's offices, clinics, or urgent care centers. Reducing minor emergency department visits is important to free up hospital resources for those patients requiring hospital-based care.

Best Practices Recommendations

Lewin's examination of successful best practices at the benchmark hospital systems unearthed opportunities for the City and County of San Francisco to enhance General Hospital's efficiency and effectiveness further. These include:

- ***Provide Department of Public Health management with greater flexibility to capitalize on local market opportunities.*** As demonstrated by Denver Health, the ability to identify and pursue specialized programs and niche markets opportunistically can diversify and enhance hospital revenue. Developing such centers of excellence would also enhance the future competitive position of the General in a local healthcare environment where the city's residents will have more choice in care providers.
- ***Rebuild San Francisco General Hospital's aging physical plant.*** Rebuilding the General, as required by the state's seismic mandate, will allow it to achieve operating efficiencies associated with new facilities, improve patient and staff satisfaction levels, and continue to provide critical trauma services for all San Franciscans. Rebuilding General Hospital will also better position the system as an effective partner in implementing Healthy San Francisco as well as in providing services to the underinsured.
- ***Consider other best practice initiatives that have been successful in comparable public hospital systems.*** Optimal information technology enhancements and methods of enhancing operational efficiency, such as Lean Toyota Production Systems, can further enhance the General's performance.

The Lewin Group, San Francisco Controller's Office, and the San Francisco Department of Public Health would like to thank the many dedicated healthcare professionals who contributed data and expertise to this report.

II. Introduction

A. Background

The Institute of Medicine defines the “healthcare safety net” as those providers that organize and deliver a significant level of healthcare and other related services to uninsured, Medicaid, and other vulnerable populations.⁵ The providers who offer care to the safety net population typically include public hospitals; local health departments; and federal, state, and locally supported community health centers or clinics, including nonprofit hospitals obliged to provide community benefits such as charity care.

Today, these safety net systems operate in an increasingly precarious environment. There are growing numbers of uninsured individuals seeking healthcare services at both public hospitals and clinics coupled with an erosion of the direct and indirect state and federal subsidies that historically have helped finance uncompensated care. These challenges undermine the ability of safety net providers to fund needed new medical and information technologies and capital upgrades. These challenges also threaten the ability of safety net providers to compete in local markets with private sector healthcare delivery systems.

There are a number of national and state initiatives in development to fortify the safety net and secure or improve access for the uninsured and underinsured. Some proposals advocate for insurance coverage expansion while others aim to improve access to services by funding more providers and/or facilities. However, until more progress has been achieved through any of these initiatives or alternately there is an establishment of a universal health system, it is often up to local community providers to develop their “home grown” safety net system.

In California, there are both state and local initiatives underway to fortify the safety net. Governor Schwarzenegger’s proposed healthcare reform would provide insurance coverage to Californians who currently cannot obtain health insurance from their employer either because it is not offered or it is unaffordable. San Francisco’s Mayor Newsom with the Board of Supervisors promulgated Healthy San Francisco, which offers comprehensive health services for residents lacking insurance. Healthy San Francisco was launched at two pilot clinic sites in July 2007 and in twenty additional clinics in September.

The City and County of San Francisco is challenged to provide optimal healthcare services to the safety net population given limited resources. However, unlike many other communities across the country, San Francisco’s Department of Public Health plays two prominent roles: 1) providing traditional public health programs and services to all city residents; and 2) operating as a major provider of healthcare services through a delivery system that provides access to a full continuum of care, from the simplest preventive service to the most complex treatment. For example, San Francisco General

⁵ America’s Health Care Safety Net: Intact but Endangered. Institute of Medicine. Marion Ein Lewin and Stuart Altman, Editors. 2000.

Hospital is home to the city's only trauma center, is the sole provider of psychiatric emergency services, and hosts a large number of residency training programs. This care continuum is delivered by the Department of Public Health's citywide network that includes General Hospital as well as primary care clinics and other care settings.

Also affecting San Francisco's safety net system is the city's changing demographic and economic profile, which will alter future healthcare service supply and demand. The San Francisco Department of Public Health, and its oversight body, the San Francisco Health Commission, understand that the Department must operate as efficiently and effectively as possible in order to face these challenges. Moreover, the City and County of San Francisco seeks to optimize efficiency, best practices, and health outcomes as it implements Healthy San Francisco and develops plans to rebuild San Francisco General Hospital to comply with state seismic standards.

Given the rapidly changing environment in San Francisco, the City and County of San Francisco's Controller's Office and the Department of Public Health commissioned the Lewin Group to conduct a local market assessment and comparative benchmarking analysis.

B. Project Goals

Focusing on acute and primary care, the market assessment analyzes the current healthcare environment in San Francisco, makes projections of demand for healthcare services, and examines the Department of Public Health's role in providing direct healthcare to San Franciscans. The benchmarking analysis compares San Francisco General Hospital with comparable Bay Area, California and national public healthcare delivery systems across measures designed to assess efficiency and effectiveness. The market analysis and benchmarking analyses will support city government decision-making to improve current program and service offerings, allocate resources, and collaborate with other organizations and policy initiatives. These efforts will be critical to ensure efficient and effective future delivery of healthcare services to the residents of San Francisco.

The key research questions which informed this report are as follows:

- What is the role of the Department of Public Health within the San Francisco healthcare market? Are there changes occurring in the local supply and demand for healthcare that will have a large impact on the Department of Public Health?
- How well is the city utilizing its existing resources to provide healthcare to its citizens in terms of access, quality and cost?
- Is San Francisco General Hospital doing an effective and efficient job in providing health services compared to other comparable healthcare providers?
- Are there best practices in place among benchmark providers that may be informative to San Francisco General Hospital?

C. Methodology and Approach

The report methodology employed a framework customized to address each research question of interest to the San Francisco Controller's Office and Department of Public Health. The data collection approach was designed to maximize the opportunity to gather information from as many qualitative and quantitative data sources as possible. The Lewin Group, San Francisco Controller's Office, and the San Francisco Department of Public Health would like to thank the many dedicated healthcare professionals who contributed data and expertise to this report.

Local Market Assessment Methodology

To conduct the local market assessment, Lewin completed the following analyses:

- Data collection and analysis of market demand and supply, projected future demand, and major forecasted changes in the market;
- Comparative assessment of service demand and payer mix at San Francisco General Hospital and the seven other acute care providers in the city;
- Analysis of the large clinic and primary care systems in San Francisco using a customized survey, including the Department of Public Health clinics, San Francisco Community Clinic Consortium, Brown & Toland, and Kaiser Permanente; and
- Interviews with 25 area stakeholders regarding their assessment of changes in the local healthcare market and the Department of Public Health's current and future role.

Quantitative data analysis formed the basis for the market analysis and was used to examine area capacity and demand. Quantitative data came from numerous sources cited throughout this report. However, Lewin conducted the majority of the analyses using the most recently available data from the following sources:

- California Department of Finance data was used to populate all demographic analyses;
- California's Office of Statewide Health Planning and Development (OSHPD) inpatient discharge data was used to develop market share and service line assessments and profiles, as well as service utilization rates. In addition, OSHPD data was used to profile the clinics of the San Francisco Community Clinic Consortium;
- San Francisco General Hospital provided internal data for analysis of their trauma services, inpatient service occupancy rates, and community health network clinics;

- A customized survey was designed and administered by Lewin to 29 area clinics. Twenty responses were received for a response rate of about 69 percent.⁶ The survey included both quantitative and open-ended qualitative questions. Respondents provided their perspectives of strengths, weaknesses, opportunities and threats associated with each individual clinic and the citywide network of clinics as a whole. Please see Appendix A for the list of clinics surveyed and responses received;
- A customized survey designed and jointly administered by Lewin and the San Francisco Controller's Office to all eight San Francisco hospitals to collect primary data on inpatient care capacity. This survey was fielded because OSHPD does not provide staffed-bed data broken out by bed type and using licensed-bed data would not provide an accurate assessment of true current bed capacity; and
- Publicly available secondary data and interviews with staff were used to profile Kaiser Permanente and Brown & Toland.

In order to better understand factors driving the delivery of healthcare in San Francisco now and in the future, it was also important to supplement the data sources above by conducting semi-structured interviews with area stakeholders representing the medical business, insurance, policy, academic, labor and political communities. Lewin conducted in-depth telephone interviews averaging 45-60 minutes each with the 25 stakeholders listed in Appendix B.

Although Lewin developed a comprehensive interview protocol with a broad set of questions for these stakeholders, we focused our discussion only on questions most relevant to the background, expertise and interests of each individual. Lewin also assured interviewees their comments would be kept confidential, individual responses would be combined with those of other respondents, and names would not be associated with responses. Lewin analyzed qualitative data gathered from interviews to identify patterns and common themes that could be used along with quantitative data to inform the principal research questions.

Benchmarking Analysis Methodology

Lewin completed five major data collection and analysis tasks to assess the performance of San Francisco General Hospital relative to comparable public health system benchmarks and to identify relevant best practices.

a. Develop appropriate public health system comparison groups

Lewin developed and analyzed a range of measures to establish comparable local, regional and national public hospitals against which to benchmark the performance of San Francisco General. Key metrics included capacity and utilization, financial

⁶ Clinics that did not submit completed survey forms to Lewin were profiled using data from OSHPD.

performance, patient characteristics, presence of residency training programs, and trauma center designation. Lewin used the following data sources for this analysis:

- Office of Statewide Health Planning and Development (OSHPD) 2005 data for California benchmark hospitals;
- National Association of Public Hospitals and Health Systems' 2004 survey "America's Public Hospitals and Health Systems " for national benchmark hospital data; and
- Medicare 2005 Cost Report data for measures of patient acuity.

Appendix D includes all data elements and comparative analyses conducted to identify appropriate benchmark public healthcare delivery systems. Based upon this analysis and discussions between the Department of Public Health and Lewin, five benchmark health systems were selected:

- Alameda County Medical Center (San Francisco Bay Area)
- Santa Clara County Medical Center (California)
- Riverside Regional Medical Center (California)
- University Medical Center (National: Las Vegas, Nevada)
- Denver Health (National: Denver, Colorado)

b. Collect benchmark measures of efficiency and effectiveness from public and proprietary data sources

Lewin collected the most current available array of comparative performance measures to allow empirical analysis and comparison of performance across benchmark systems. Public data sources included the Centers for Medicare and Medicaid Services (CMS) and Office of Statewide Health Planning and Development (OSHPD). Private sources featured the 2006 Ingenix Hospital Financial Benchmarks database, which included a range of profitability, liquidity and other financial measures of efficiency for all benchmark public healthcare delivery systems.

c. Develop, field, and analyze benchmark system surveys

Lewin developed and fielded surveys to public hospital benchmark systems to allow primary data collection and analysis as well as comparison of relative performance. The surveys featured both quantitative and qualitative data elements. Types of quantitative information requested included three-year trended financial, utilization, capital, and patient severity and productivity data. Qualitative information requested included financial, capital and productivity issues related to benchmark efficiency and effectiveness, factors influencing performance, and current and past initiatives undertaken related to improving benchmark performance levels. See Appendix E for the survey instrument.

d. *Conduct interviews with benchmark system senior staff*

Lewin developed an interview protocol to guide our interviews averaging 45 minutes in length with benchmark hospital Chief Executive Officers and Chief Financial Officers. Interview topics focused on issues and factors related to each benchmark hospital's efficiency and effectiveness. The purpose was to build upon and further our understanding of the reported quantitative data trends. Interviews also identified and discussed possible benchmark hospital best practices and their potential transferability to other safety net settings, including San Francisco General Hospital. The interview protocol can be found in Appendix F.

e. *Benchmark San Francisco General Hospital departmental staffing levels and productivity with peer departments in similar hospitals nationwide*

Brady and Associates conducted an independent analysis which benchmarked San Francisco General Hospital departments against those with similar functions and workloads in similar urban teaching hospitals. The purpose of the analysis was to assess workforce efficiency by comparing departmental staffing levels.⁷

D. Organization of the Report

This report includes the findings of the local market assessment followed by the comparative benchmarking analysis:

Local Market Assessment

- *Population Dynamics*, which describes projected local demographic trends, health insurance coverage patterns, and health status indicators for the residents of San Francisco.
- *San Francisco Delivery System Characteristics*, which profiles the available supply of health services by neighborhood, facility, and clinical specialty; and how patients access healthcare at hospitals, primary care clinics, trauma centers and emergency departments operated by the Department of Public Health or other local providers.
- *San Francisco Primary Care Providers*, which describes the unique mix of clinical and supportive services offered at Department clinics, as well as future opportunities and challenges they may face. The private primary care provider networks operating in San Francisco are also profiled.

⁷ *San Francisco General Hospital Staffing Review: Executive Summary*, Brady & Associates, July 13, 2007. Brady and Associates is a consulting firm which specializes in decision support benchmarks and change management assistance to hospitals. See <http://www.bradyinc.com>

Benchmarking Analysis

- *Benchmark Hospital Summary Profiles*, which provides a brief description of benchmark county public delivery systems and their governance structures.
- *Clinical Quality Measures*, which profiles hospital quality in caring for four benchmark medical conditions: heart attacks, congestive heart failure, pneumonia, and surgical site infections.
- *Financial Metrics and Ratios*, which reports financial performance by profitability, liquidity, cost-efficiency, revenue and payer mix measures, and county financial contributions.
- *Productivity Indicators*, which compares how efficiently hospitals utilize workforce resources given the complexity of care patients require.
- *Best Practices*, which reports on best practice efficiency and effectiveness of care initiatives implemented at benchmark hospitals that could be deployed at San Francisco General Hospital.

This report concludes with a summary of key findings, their implications, and high level recommendations.

III. Local Market Assessment

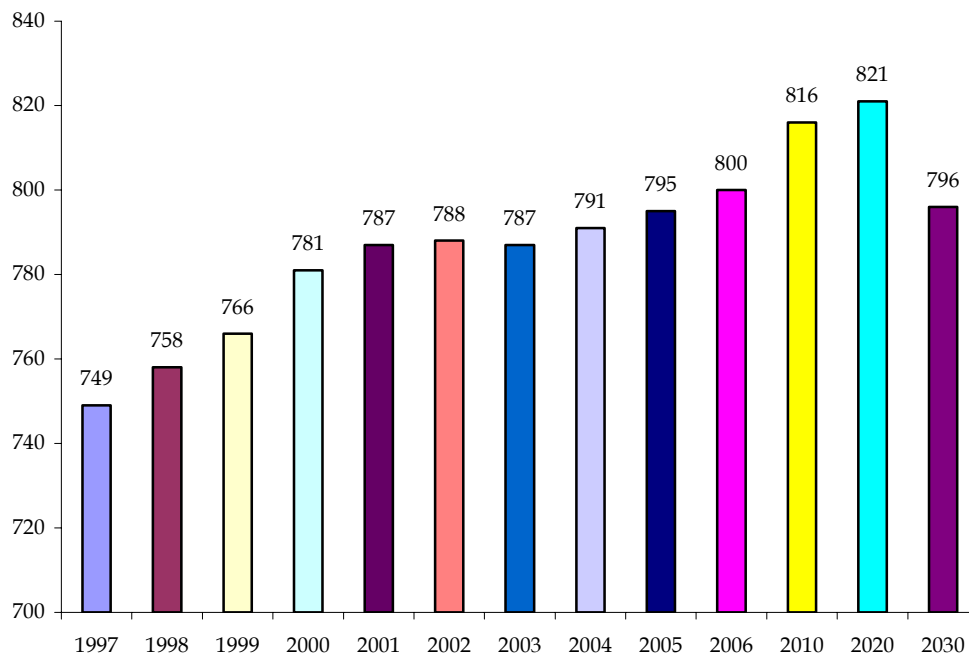
Lewin used historical data trends to determine current demand and supply and project future demand in order to summarize the local healthcare market in San Francisco. We further tested and validated this analysis through interviews with 25 area stakeholders. Our analysis focused on population dynamics, delivery system characteristics, and the role of the San Francisco Department of Public Health. Results of these analyses are discussed below.

A. Population Dynamics

1. Age and Gender

In 2006, there were approximately 800,000 residents of San Francisco. According to Department of Finance projections, the city's population is projected to grow modestly to 821,000 by the year 2020 but decline thereafter to pre-2006 population levels by 2030 (Figure 1).

Figure 1: San Francisco Population (in thousands), 1997-2030

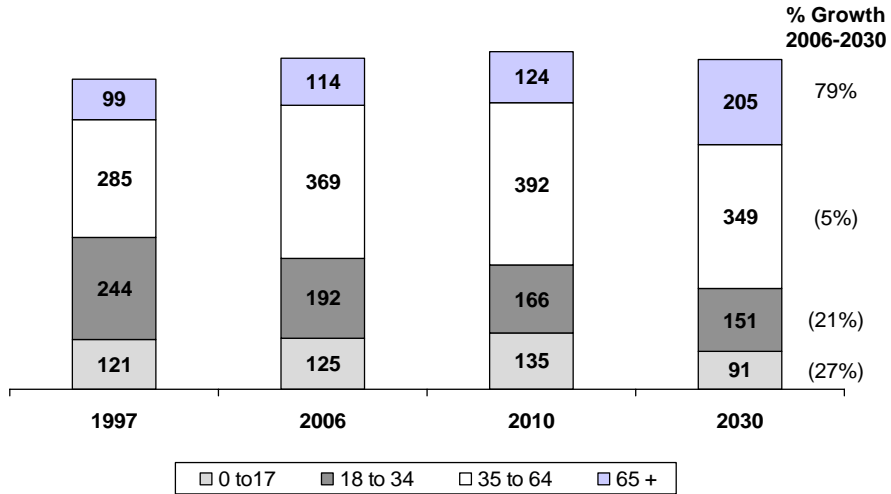


Source: California Department of Finance

The population in San Francisco is aging, with decreasing numbers of younger residents (age 35 and under). Today, residents age 65 and over comprise 14 percent of the city's total population. By 2030, this cohort is projected to grow by 79 percent and comprise 26 percent of the total population. Meanwhile, younger residents are projected to leave the

city, so that this cohort will decrease by about 24 percent between 2006 and 2030 (Figure 2).

Figure 2: San Francisco Population Estimates by Age Cohort (in thousands), 1997-2030



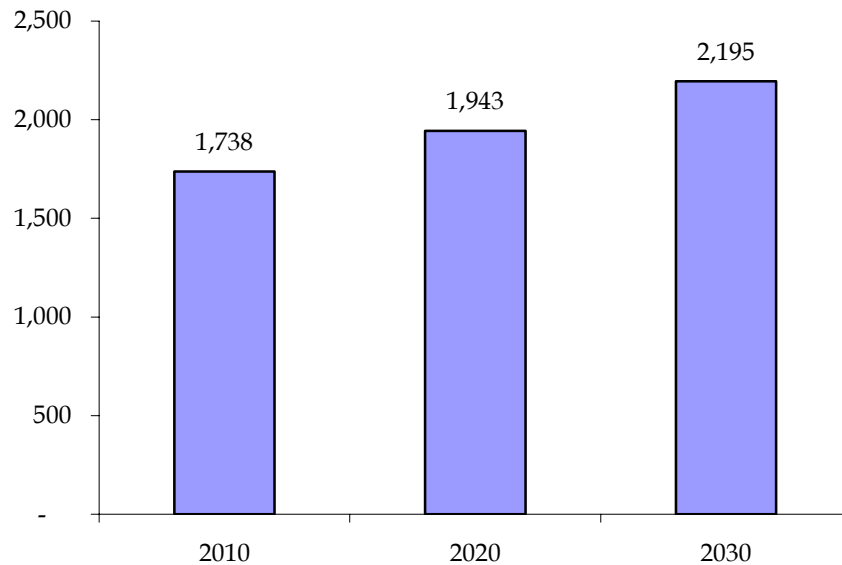
Source: California Department of Finance

San Francisco’s gender ratio will remain the same in the near future. However, by 2030 there will be slightly more females than males.

Although San Francisco’s total population may shrink by 2030, the growing proportion of elderly residents will result in a 26 percent increased demand for hospital acute care beds from 2010 to 2030 (Figure 3). Individuals over age 65 typically utilize more healthcare services than their younger counterparts due to the higher prevalence of chronic and acute disease at a later life stage. As key stakeholders pointed out in their interviews with Lewin, San Francisco healthcare providers must become adept at providing and coordinating chronic care and disease management programs in order to care for this aging population properly.

Acute Care Beds are for patients who are in an acute phase of illness but not to the degree which requires the concentrated and continuous observation and care provided in the intensive care units (ICU) of an institution.

Figure 3: San Francisco Projected Demand for Acute Care Beds in Service, 2010-2030⁸



Source: OSHPD, CA Department of Finance, Lewin Analysis

Maintaining and developing appropriate inpatient hospital capacity to meet projected demand is necessary. However, ongoing changes in medical practice patterns and technology signal a market shift toward transitioning elderly healthcare from institution or hospital-based to community-based services where clinically appropriate. This is driven by a desire to improve quality and patient satisfaction as well as to control costs.⁹

⁸ Assumes an 80 percent occupancy rate – the industry standard – for the projected number of acute beds in service (e.g., 100 acute beds in service with an 80 percent occupancy rate represents an average daily census of 80). The figures reflect acute care beds only and do not include beds licensed as psychiatric or skilled nursing facility (SNF) beds. The figures also do not include newborns or nursery bassinets.

⁹ Recent Medicaid financing trends reflects this evolving emphasis: from 1995 to 2005, Medicaid spending for non-institutional or home and community-based care nearly doubled from 19 percent to 37 percent. Source: Georgetown University Long-Term Care Financing Project. Fact Sheet 2007

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to explore short- and long-term planning options to best serve an aging population
- ✓ Continue to reduce demand for inpatient hospital services by ensuring revenue is allocated to community placements and services

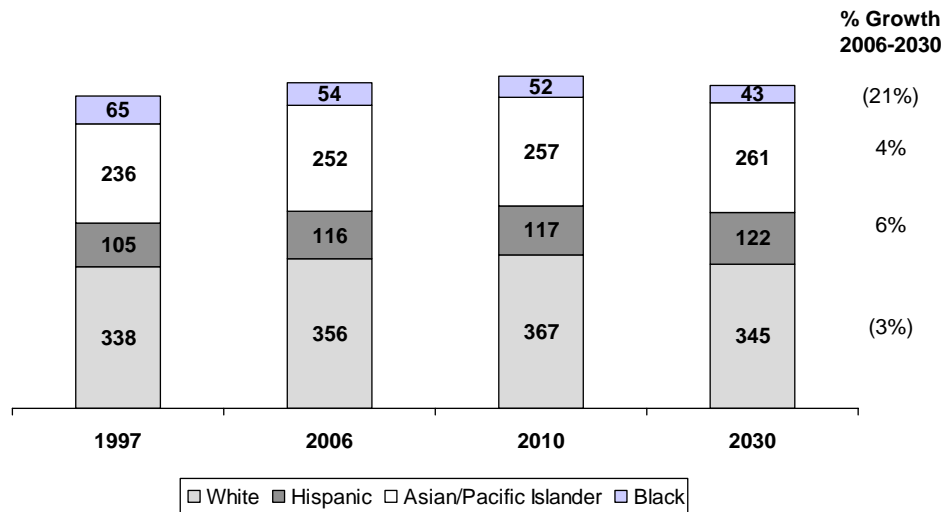
The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Community Living Fund Program, Direct Access to Housing Program, Expansion of Community-based Services with Mental Health Services Act Funding, Laguna Honda Hospital rebuild, and a new Long-term Care Coordinator position. Please see Appendix C for more information.

2. Ethnicity, Income, and Poverty

Among the more significant projected demographic changes in San Francisco is the racial and ethnic make-up of the city. The Hispanic and Asian/Pacific Islander populations are projected to grow modestly, six and four percent respectively, while the African-American population is projected to decline substantially (21 percent) (Figure 4).

Figure 4: San Francisco Population Estimates by Race (in thousands), 1997-2030

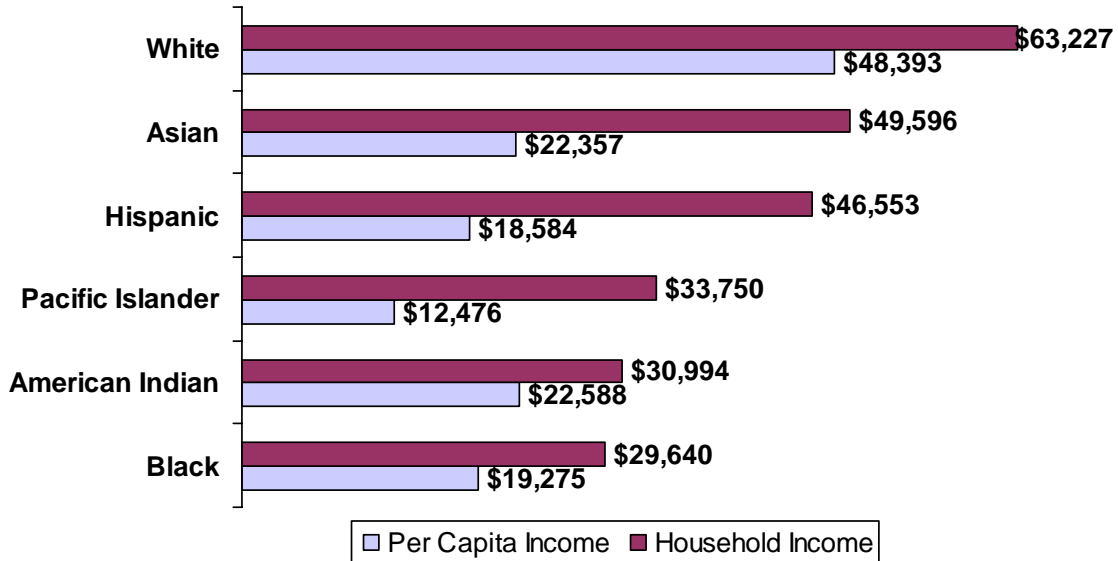


Source: California Department of Finance

Income levels in San Francisco are not evenly distributed among ethnic groups. White individuals and households are the most affluent. Pacific Islander, American Indian and African-American households earn almost 50 percent less than Whites (Figure 5). Nearly 40 percent of young African-American children and nearly 30 percent of Hispanic and Pacific Islander children under the age of five live in poverty. Poverty rates are

concentrated in the eastern and southeastern sections of San Francisco, specifically the Bayview, Tenderloin and South of Market areas.

Figure 5: San Francisco Median Income by Race per Capita and Household, 2000



Source: 2000 Census

There is a well documented correlation between poverty and health status. Higher income, better-educated people tend to live longer than their poorer, less-educated counterparts. People whose family income in 1980 was in the top five percent of incomes had a life-expectancy at all ages that was about 25 percent longer than those in the bottom five percent, according to the National Longitudinal Mortality Survey.¹⁰ The health status of San Francisco’s poorer residents is also impacted by a lack of access to housing, jobs, and education opportunities.

The Department of Public Health, particularly through San Francisco General Hospital, currently treats a disproportionate percent of the African-American population, a relatively impoverished cohort. As the African-American population continues to migrate out of the city, the safety net population the Department of Public Health serves will also evolve.

Through San Francisco General Hospital and its network of clinics, the Department of Public Health offers “wrap around” coordinated services to a population that would otherwise be forced to use fragmented service offerings from a number of uncoordinated providers. This is important because most of the population served by the Department face health, economic, and social issues that require both health and social services. The clinical effectiveness and cost-efficiency of these services are optimized when they are coordinated.

¹⁰ Agnes Deaton, “Health, Income, and Inequality,” National Bureau of Economic Research, Spring 2003

Key stakeholders highlighted race and ethnicity when discussing the healthcare needs of San Francisco with Lewin researchers. In order to achieve optimal health outcomes, providers must show cultural sensitivity as to when and how different populations access healthcare and for what type of illness and disease. Further, stakeholders feel there are linguistic challenges and enrollment barriers for San Francisco providers in identifying and incorporating new immigrants into the city's healthcare system. As one interviewee stated, "You can't just provide 'off-the-shelf' primary care."

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to assess Department of Public Health readiness to provide services to the city's changing safety net population
- ✓ Continue to explore opportunities to coordinate health services with other social service program offerings

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Charity Care Project, Direct Access to Housing Program, Healthy San Francisco, Medical Respite Program, San Francisco General Hospital's American Diabetes Association-certified Diabetes Education Program, and the Supplemental Security Income Advocacy Project. Please see Appendix C for more information.

3. Payer Mix and Insurance

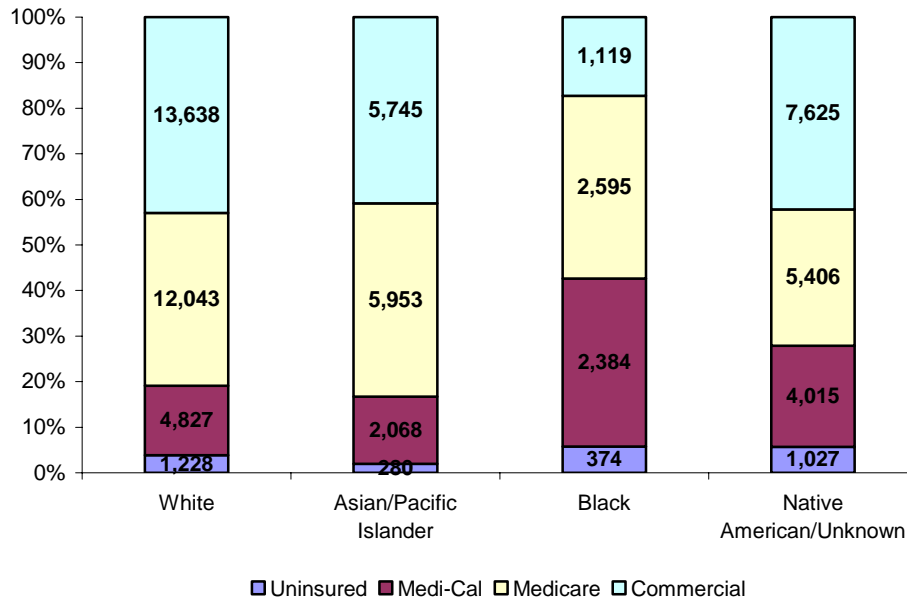
Over half of San Francisco's population receives health coverage from an employer and nine percent of the population is uninsured.¹¹ Many more San Franciscans are underinsured or face difficulty obtaining services.¹² Some demographic groups disproportionately lack adequate insurance coverage. For example, 40 percent of African American hospital discharges were either covered by Medi-Cal or uninsured (Figure 6). While only accounting for seven percent of the total San Francisco population, African-Americans account for 17 percent of the city's Medi-Cal or uninsured patients.

Payer Mix is defined as the ratio of various persons or payers funding the hospital for services rendered to patients. Payers can include the patient and/or third parties such as Medicare, Medi-Cal, managed care organizations, or other private insurance plans.

¹¹ Lewin Group analysis of the 2005 California Health Interview Survey (CHIS) inflated to 2007. Total San Francisco residents in 2007 acquired from the California Department of Finance, July 2006 projection. Insurance coverage presented as a point in time estimate, which is equivalent to an average monthly count.

¹² For example, individuals covered by Medi-Cal face difficulty finding providers who will accept them due to low reimbursement rates offered through Medi-Cal.

Figure 6: Payer Mix by Race for San Francisco Hospital Discharges In 2005¹³



Source: OSHPD 2005

There are proposed initiatives at both the state and local levels that may impact the number of people with insurance coverage and/or access to health services in the city. Healthy San Francisco will increase the number of residents with access to healthcare services provided by the Department of Public Health, San Francisco Clinic Consortium and other partners. Healthy San Francisco will increase demand for services, and the public health system will be expected to absorb more patients than it ever has before. At the state level, Governor Schwarzenegger's universal coverage proposal would increase the number of Californians with health insurance.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue planning for increased demand due to Healthy San Francisco implementation, including the incorporation of as many participant providers as necessary to meet the needs of the population

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Healthy San Francisco Management Plan and System Capacity Analysis and active monitoring of the Governor's plans to appropriately prepare for how an increasingly insured population might access the Department of Public Health resources. Please see Appendix C for additional information.

¹³ The uninsured category includes self pay patients, which encompasses those without insurance at all income levels.

4. Health Indicators and Incidence of Disease

San Franciscans are relatively healthier than other California residents and the nation as a whole. Between 2000 and 2004 there were steady and significant declines in the most common causes of mortality. Examples include heart disease, cancer and strokes. As a result, by 2004 San Francisco residents were less likely than others in California and throughout the nation to die of the most common causes (Figure 7). These factors contribute to lower hospital use rates in San Francisco compared to the national experience. Coincident with their overall health status, Lewin’s analysis shows San Francisco residents utilize hospital based services at a rate of 92 per 1,000 population compared to the national hospital use rate of 119 per 1,000 population.

Figure 7: Comparison of Key Health Status Indicators, per 100,000

| | San Francisco | | | | | California | U.S. | CA v. SF |
|----------------------------------|---------------|-------|-------|-------|-------|------------|-------|--------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2004 | 2004 | % Difference |
| Mortality Rate | 763.8 | 749.0 | 711.1 | 688.5 | 650.7 | 717.2 | 831.2 | 10% |
| Heart Disease | 207.7 | 202.6 | 193.7 | 176.1 | 161.7 | 207.8 | 232.1 | 9% |
| Malignant Neoplasms | 180.3 | 175.8 | 164.1 | 171.8 | 162.9 | 165.1 | 189.3 | 1% |
| Stroke (CVD) | 67.4 | 59.8 | 62.6 | 57.7 | 49.3 | 53.3 | 53.6 | 8% |
| Chronic Lower Resp. Dis. | 35.7 | 32.5 | 32.6 | 30.8 | 26.2 | 41.1 | 43.2 | 57% |
| Accidents | 34.0 | 33.6 | 26.3 | 26.5 | 24.7 | 29.7 | 36.1 | 20% |
| Influenza & Pneumonia | 33.6 | 31.7 | 32.1 | 27.6 | 26.2 | 24.5 | 21.9 | -7% |
| Diabetes | 13.5 | 17.9 | 14.3 | 16.1 | 15.8 | 21.5 | 25.2 | 36% |
| Alzheimer's | 14.1 | 16.6 | 14.2 | 12.7 | 13.6 | 19.7 | 21.4 | 45% |
| Chronic Liver Disease | 12.4 | 12.5 | 10.1 | 9.2 | 9.2 | 11.3 | 9.2 | 23% |
| Suicide | 2.8 | 5.4 | 3.4 | 4.1 | 3.7 | 9.6 | 10.5 | 161% |

Source: California Department of Health Services: Center for Health Statistics, Vital Statistics Data Query

San Franciscans also compare favorably to California and national health status indicators on the prevalence of chronic diseases. The exception to this is a high incidence of infectious disease. The rates of infectious disease such as AIDS, tuberculosis, and syphilis exceed state and national averages in addition to Healthy People 2010 national goals.¹⁴

The Department of Public Health plays a critical role in providing care to infectious disease patients due to its dual role as both a primary service provider as well as a public health department. No other entity in the market has an equal continuum of skills and service capacity across both the provider and public health spectrum. This positions the Department well to address treatment of infectious diseases among vulnerable populations.

¹⁴ San Francisco County Health Status Profile 2003-2006. California Department of Health Statistics. Center for Health Statistics.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Explore further ways to actively intertwine public health and provider roles in treating the at-risk, infectious disease patient population

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Health Alerts and Clinician Disease Reporting and Consultation, Hep B Free Campaign, and Vaccine Updates (Vax Fax). Please see Appendix C for more information.

B. San Francisco Delivery System Characteristics

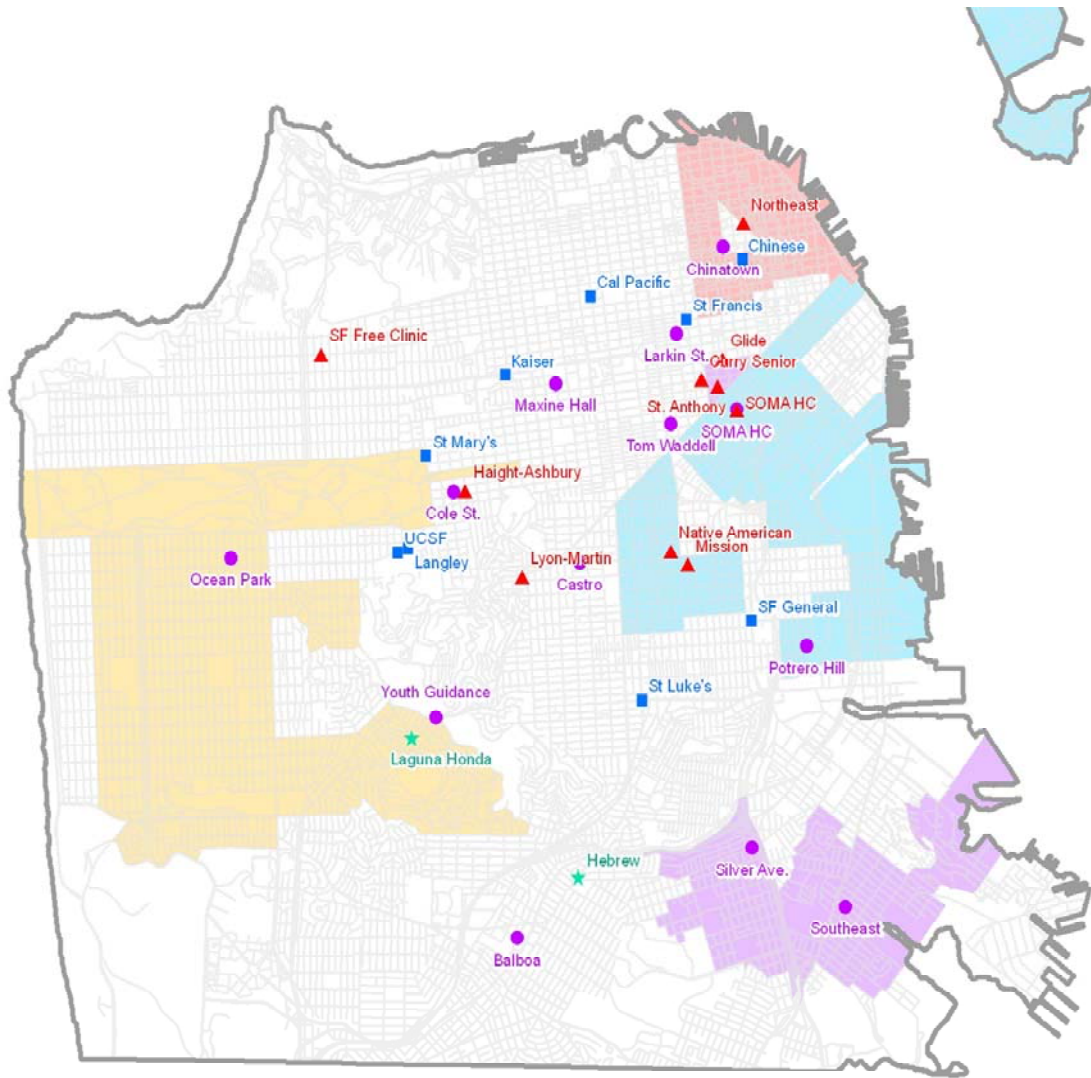
The San Francisco health delivery system includes eight acute care hospitals and two large clinic networks. The Lewin Group analyzed acute and primary care services provided, focusing on accessibility, capacity, payer mix, populations served, and types of services offered.

1. Medically Underserved Areas and Access to Health Services

Both the Department of Public Health and the San Francisco Community Clinic Consortium operate clinics that are strategically situated in high poverty, Medically Underserved Areas (MUAs), in which residents have a shortage of personal health services. Figure 8 depicts the correlation between MUAs and clinic locations. The Department of Public Health clinics of Ocean Park, Southeast, Silver Avenue, Potrero Hill, and Chinatown are all located in MUAs. Castro-Mission, Curry, and Tom Waddell are located adjacent to these areas as well. However, it should be noted that there are service gaps in the far western part of the city.

A Medically Underserved Area (MUA) may be a whole county or a group of counties, civil divisions, or urban census tracts that score below a 62 on the Health Resources and Service Administration (US Department of Health and Human Services) Index of Medical Underservice. This index is based on the ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over.

Figure 8: San Francisco Medically Underserved Areas and Healthcare Facility Locations



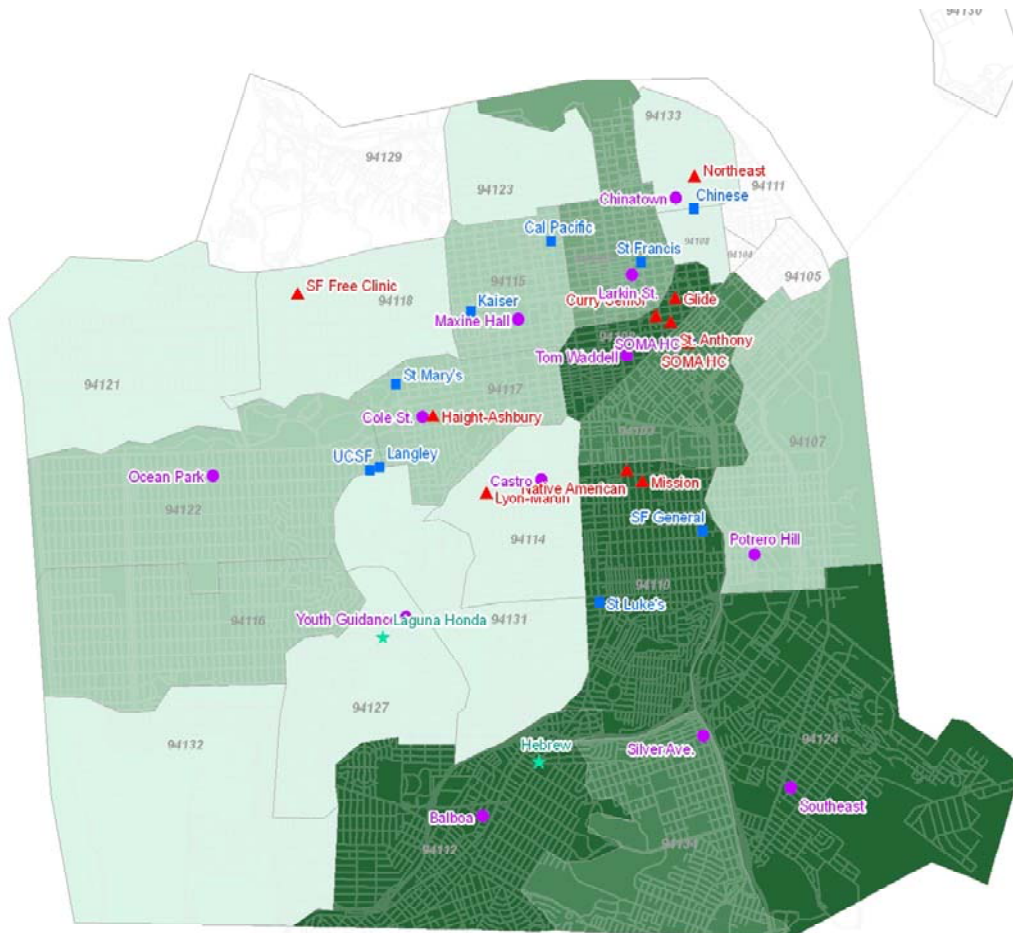
Medically Underserved Areas

| Medical Centers | | SF MUA | |
|-----------------|--------------------------------|--------|-----------|
| ■ | Acute Care Hospital | ■ | ID Number |
| ▲ | Community Clinic Consortium | ■ | 00351 |
| ● | Dept. of Public Health Clinics | ■ | 00352 |
| ★ | Skilled Nursing Facilities | ■ | 00353 |
| | | ■ | 07389 |

Source: Lewin analysis of MUA data, Health Resources and Services Administration (HRSA), OSHPD 1999-2005

While serving as a regional resource, the majority of San Francisco General Hospital's patients come from six zip codes located in the southeast and South of Market neighborhoods of the city (Figure 9). These areas have higher rates of poverty and are more ethnically and racially diverse than other areas of the city.

Figure 9: San Francisco General Hospital Citywide Acute Care Discharges By Zip Code



**SF General Discharges, 2005
by Zip Code**



Source: Lewin analysis of OSHPD 2005 data

San Francisco General Hospital is the most accessible hospital for residents of its primary service area, defined as zip codes in which the vast majority of its patients reside. Patients accessing services at other hospitals by public or private transportation would likely encounter increased travel time from their home to the provider location, thereby potentially encountering significant access barriers (Figure 10).

Figure 10: Average Driving Time to San Francisco Hospitals from San Francisco General Hospital’s Key Zip Codes 2007, Minutes

| Hospital | 94110 | 94124 | 94112 | 94102 | 94103 | 94134 | Average Drive Time | Increase (Decrease) in Average Drive Time |
|--------------|-------|-------|-------|-------|-------|-------|--------------------|---|
| SF General | 4 | 10 | 10 | 9 | 5 | 11 | 8 | - |
| St. Luke's | 3 | 11 | 9 | 12 | 8 | 11 | 9 | 1 |
| St. Francis | 12 | 18 | 17 | 6 | 9 | 18 | 13 | 5 |
| Chinese | 13 | 20 | 18 | 8 | 9 | 19 | 14 | 6 |
| CPMC Pacific | 16 | 21 | 20 | 10 | 12 | 21 | 16 | 8 |
| Kaiser | 15 | 21 | 21 | 10 | 11 | 21 | 16 | 8 |
| St. Mary's | 16 | 19 | 18 | 11 | 13 | 19 | 16 | 8 |
| UCSF | 14 | 20 | 16 | 14 | 12 | 20 | 16 | 8 |

Source: Lewin analysis using Google Maps

2. Citywide Acute Care Hospital Capacity and Utilization

Just over half of the 3,558 licensed hospital beds throughout San Francisco hospitals are reportedly staffed. However, this low ratio of staffed to licensed beds does not necessarily mean there is excess capacity. There are a number of reasons a licensed bed may not be staffed and therefore non-operational. Factors such as infrastructure (e.g., double rooms converted to private rooms, patient rooms converted to waiting or storage rooms), budget, and staffing impact the ability of hospitals to convert licensed beds into staffed beds.

The **Licensed Bed** count is the maximum number of beds for which a hospital holds a license to operate. Many hospitals do not operate all of the beds for which they are licensed.

The **Staffed Bed** count is the beds that are licensed and physically available for which staff is on hand to attend to the patient who occupies the bed. Staffed beds include those that are occupied and those that are vacant.

The national average of staffed beds per 1,000 residents is 2.8, and the rate in California is slightly lower at 2.0. San Francisco currently maintains a higher average than both benchmarks, with 3.4 staffed beds per 1,000 residents. This capacity will be crucial as the aging population’s hospital use rates increase. Based on current utilization rates, by

2030 the citywide demand for acute beds is projected to be 2,195, exceeding current market capacity of 1,662 acute beds by 24 percent (533 beds) (Figure 11).¹⁵

Figure 11: Comparison of Supply and Demand for San Francisco Staffed Acute Hospital Beds

| Staffed Beds | 2006 | 2010 | 2020 | 2030 |
|---|--------------|--|--------------|--------------|
| Projected Bed Demand | | 1,738 | 1,943 | 2,195 |
| Current Supply | | Availability (Shortage) of Beds | | |
| Total Acute Care Beds at San Francisco Hospitals | 1,622 | (76) | (281) | (533) |

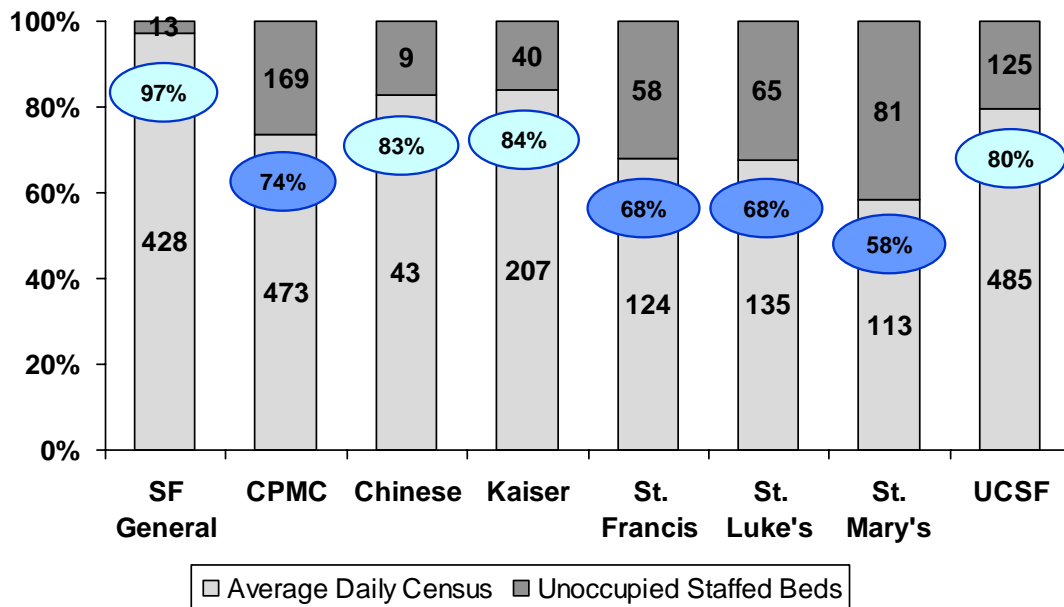
Source: Department of Public Health Bed Capacity Survey Administered March 2007. OSHPD 2005. Lewin Analysis

Half of the hospitals in San Francisco currently exceed the desired occupancy level of 80 percent, an industry standard,¹⁶ or 85 percent, which is typically considered full (Figure 12). San Francisco General Hospital’s occupancy rate is 97 percent, well above the 85 percent capacity utilization level. Chinese Hospital, Kaiser and the Medical Center at University of California San Francisco (UCSF) also have high occupancy rates of 83 percent, 84 percent, and 80 percent respectively. These statistics are reflective of average utilization. Should a significant emergency occur, key hospital facilities may lack adequate capacity to treat a surge in demand for inpatient care. The other four San Francisco hospitals, California Pacific Medical Center (CPMC), St. Francis, St. Luke’s and St. Mary’s fall below the 80 percent threshold, implying available capacity.

¹⁵ The bed count in Figure 11 is only for general acute inpatient beds and does not include Intensive Care Unit (ICU) inpatient beds.

¹⁶ The industry standard is that a hospital can be at maximum 80 percent occupied capacity before losing operational efficiencies.

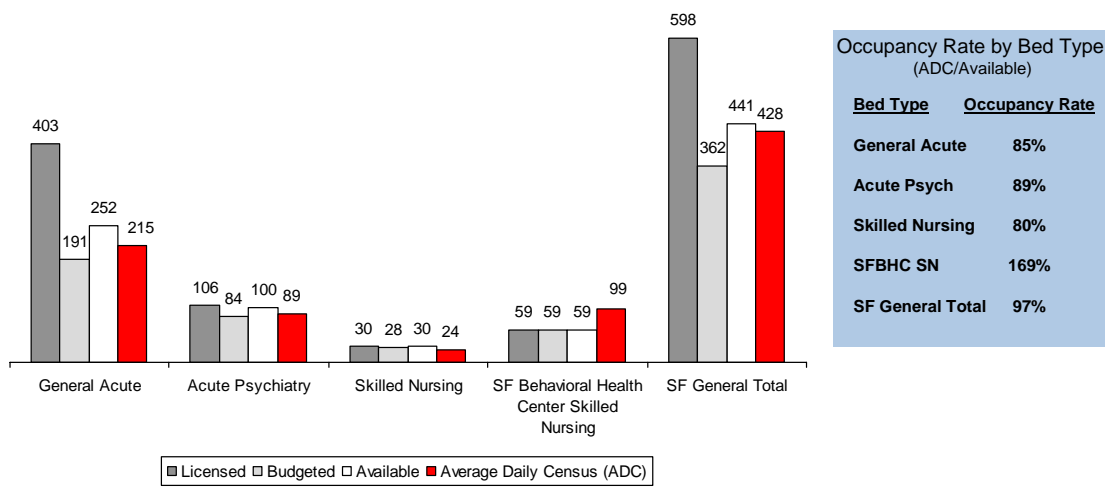
Figure 12: Average Daily Census and Unoccupied San Francisco Staffed Hospital Beds, March 2007



Source: Self reported data from Lewin survey March 2007

General Hospital provides over half of the psychiatric, HIV, and substance abuse care in the city, and serves a large majority of the homeless population seeking mental health services. Despite a fixed budget, the General will continue to admit patients beyond budget due to its role as a safety net provider, which is why the number of available beds is greater than budgeted beds in the table below (Figure 13). San Francisco General's Behavioral Health Center is beyond capacity with an average daily census well exceeding available beds. As a result, the hospital's total occupancy rate for available beds is close to 100 percent.

Figure 13: Average Daily Census and Staffed Beds at San Francisco General Hospital, Calendar Year 2005 -2006



Note: * Based on monthly averages for 05/06; Data not available for other SF Hospitals. **Licensed Beds** – Number of beds licensed by various departments of the State of California. **Budgeted Beds** – Number of beds SF General is budgeted by the City and County of San Francisco to operate. **Available Beds** – Number of physical beds set up for use.

Source: Data provided by San Francisco General Hospital

Full capacity of some San Francisco hospitals may be due to significant out-of-county patient use of San Francisco hospitals for specific services, like psychiatry and specialty care. See the section III.B.11, “Citywide Inpatient Utilization by Patients Originating from Outside San Francisco,” for a more detailed discussion of this issue. Some healthcare stakeholders interviewed by Lewin researchers feel that the lack of capacity is a result of a hospital-based delivery system. In their opinion, emphasis should be focused on providing care in a variety of outpatient settings to remove hospitals from the epicenter of care.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to explore options for hospital capacity optimization, including:
 - Ensure sufficient hospital capacity remains operational to serve area healthcare needs
 - Increase acute capacity through outsourcing services to private providers who have available capacity or through formal or informal collaborations
 - Expand community-based care settings

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Clinic Redesign Initiatives, Direct Access to Housing Program, Healthy San Francisco, Medical Respite Program, and San Francisco General Hospital rebuild. Please see Appendix C for more information.

3. Ambulatory Care Sensitive Hospitalizations

The average rate of Ambulatory Care Sensitive (ACS) hospitalizations for select conditions in San Francisco is consistently lower than statewide averages. However, San Francisco's ACS hospitalization trends by condition have been mixed since 1997 (Figure 14). In addition, similar to the national experience, ACS hospitalizations are highest in the city's impoverished neighborhoods.

An **Ambulatory Care Sensitive (ACS)** hospitalization is a condition for which outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complication or more severe disease. ACS hospitalizations can occur when there is insufficient access to primary care capacity, thereby forcing individuals to seek care either through the emergency room at a hospital or wait until the condition progresses in severity before seeking treatment.

Figure 14: Ambulatory Care Sensitive Discharges per 100,000 Persons, San Francisco v. California, 1997 - 2003

| Prevention Quality Indicator | San Francisco 1997 | San Francisco 2003 | Statewide 2003 | Variance from Statewide Average | Change in San Francisco Rate from 1997-2003 |
|--|--------------------|--------------------|----------------|---------------------------------|---|
| Adult Asthma | 139.3 | 92.3 | 97.7 | -5.4 | ↓↓ |
| Pediatric Asthma | 238.0 | 115.3 | 134.2 | -18.9 | ↓↓ |
| Chronic Obs. Pulmonary Disease (COPD) | 110.4 | 119.1 | 185.3 | -66.2 | ↑ |
| Congestive Heart Failure (CHF) | 373.3 | 332.2 | 408.0 | -75.8 | ↓↓ |
| Adult Diabetes - Short Term/Uncontrolled | 54.9 | 45.4 | 60.6 | -15.2 | ↓↓ |
| Adult Diabetes - Long Term | 74.8 | 85.3 | 112.4 | -27.1 | ↑↑ |
| Low Birth Weight* | 54.2 | 65.0 | 49.2 | 15.8 | ↑↑ |

* Per 1000 births

↑↑ Increase > 10% ↑ Increase 0 - 10%
 ↓↓ Decrease > 10% ↓ Decrease 0 - 10%

Source: Preventable Hospitalizations in California: Statewide and County Trends (1997-2003). OSHPD, November 2005. Lewin Analysis

Citywide, the average wait time for a primary care appointment in a Department of Public Health clinic is 35 days for new patients. This wait time for new patients is representative for safety net providers located in urban settings.¹⁷ However, the long wait time for a new primary care appointment and elevated levels of ACS hospitalizations may be indicative of insufficient primary care and outpatient capacity in select San Francisco neighborhoods. Increasing access to primary care and prevention services would likely reduce ACS hospitalizations, creating capacity for appropriate inpatient cases and improving surge capacity.

¹⁷ Source: Lewin discussion with National Association of Public Hospitals staff.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to make operational efficiency improvements in clinics to decrease wait time for new patient appointments (e.g., open access scheduling, group appointments), thereby decreasing ACS hospitalizations and freeing up inpatient capacity
- ✓ Establish a uniform measure of “wait time” for existing patients to allow for accurate comparisons of capacity across the system

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Clinic Redesign Initiatives. Please see Appendix C for more information.

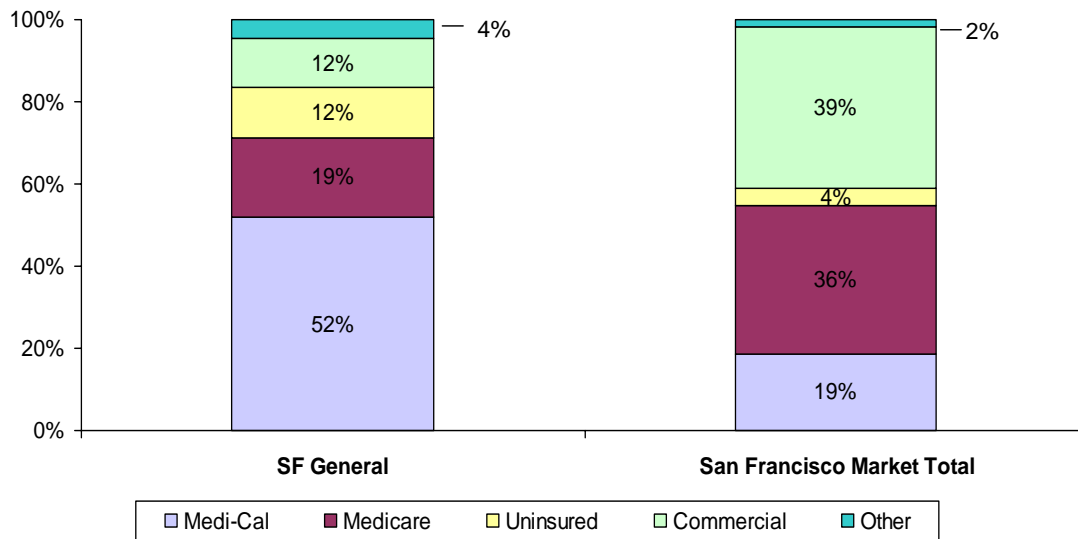
4. Department of Public Health Hospital and Clinic Payer Mix

The Department of Public Health, through San Francisco General Hospital, plays the primary role in caring for the underinsured and uninsured population of the city. The General serves a higher proportion of the city’s uninsured and Medi-Cal patients compared to other San Francisco hospitals (Figure 15). The Department of Public Health also serves the safety net population through its clinics; 35 percent of its primary care clinic patients are uninsured.¹⁸

Payer Mix is defined as the ratio of various persons or payers funding the hospital for services rendered to patients. Payers can include the patient and/or third parties such as Medicare, Medi-Cal, managed care organizations, or other private insurance plans.

¹⁸ Self reported from Lewin survey (March 2007) and Lewin analysis.

Figure 15: Payer Mix for San Francisco General Hospital v. Payer Mix for San Francisco Discharge Market, 2005^{19 20}



Source: OSHPD 2005

In addition to the Department of Public Health, there are other private entities that provide critical services that are beyond what the Department alone can provide with current resources. For example:

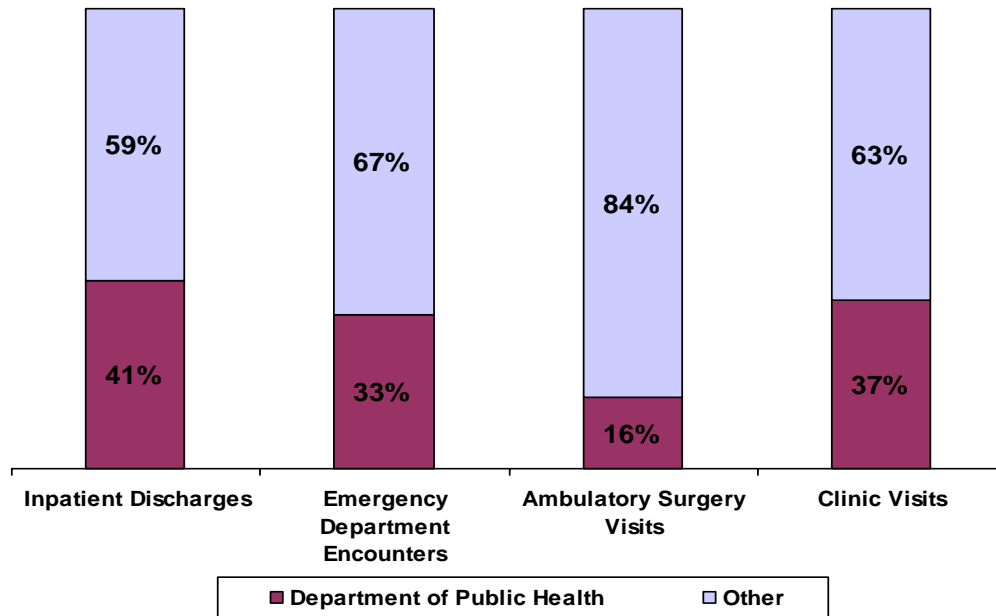
- The San Francisco Clinic Consortium is the other key primary care provider to the uninsured. Its citywide role is described in greater detail in section II.C.3 of this report.
- St Luke’s Hospital has a disproportionate and increasing share of Medi-Cal discharges, but its uninsured discharges have been decreasing since 2002.
- Other private hospitals also serve the uninsured population. For example, California Pacific Medical Center’s (CPMC) market share of San Francisco’s uninsured includes 13 percent of the citywide uninsured inpatient discharges, 29 percent of the citywide uninsured emergency department visits, and 69 percent of the citywide uninsured ambulatory surgery visits.

Figure 16 summarizes the Department of Public Health’s role in providing access to care for uninsured residents across levels of care as compared to all other providers.

¹⁹ San Francisco market is defined as San Francisco resident discharges from San Francisco hospitals

²⁰ The uninsured category includes self pay patients, which encompasses those without insurance at all income levels. Other includes patients covered by a variety of third-party contractual purchasers of health care (e.g. Short-Doyle, TRICARE (formerly CHAMPUS) and California Children's Services).

Figure 16: Department of Public Health 2005 Market Share of San Francisco Resident Uninsured Population by Level of Care²¹



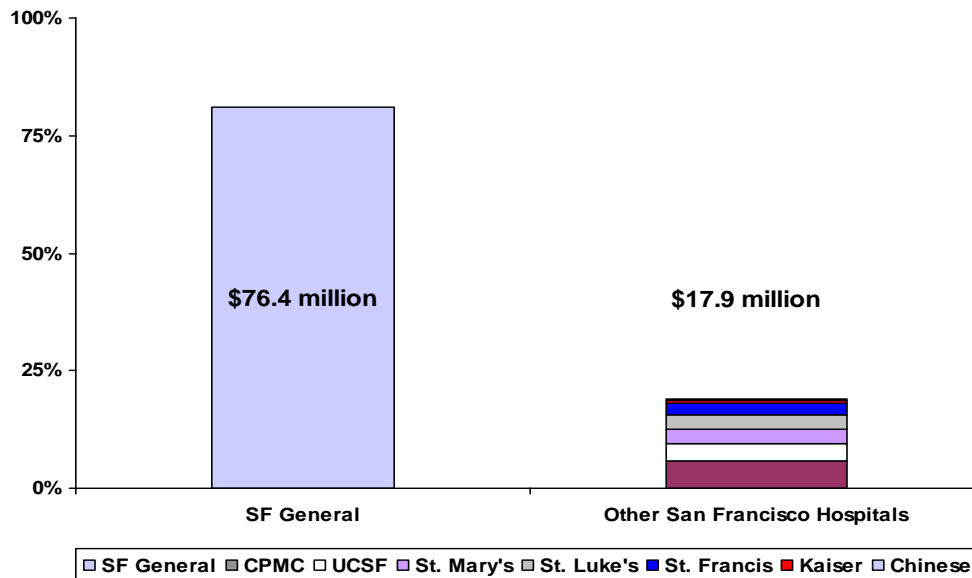
Source: OSHPD Clinic Data

As a result of its disproportionate share of the uninsured market, San Francisco General Hospital also absorbs a disproportionate level of uncompensated care, such as payment shortfalls and charity care (Figure 17).

Charity Care is defined by the City and County of San Francisco as emergency, inpatient or outpatient medical services provided without expectation of reimbursement.

²¹ The uninsured category includes self pay patients, which encompasses those without insurance at all income levels. Without self pay patients the Department of Public Health's uninsured market share would be: Inpatient Discharges = 69 percent; Emergency Department Encounters = 44 percent; Ambulatory Surgery Visits = 10 percent; and Clinic Visits = 43 percent.

Figure 17: San Francisco General Hospital's Charity Care Expenditures as a Percent of San Francisco's Total Charity Care Expenditures, Fiscal Year 2005



Note: Charity Care Expenditures = Charity Care Charges * Cost to Charge Ratio

Source: Fiscal Year 2005 San Francisco Hospital Charity Care Report Summary

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Through further analysis and discussions with partners, continue to explore the drivers behind referral patterns by payer type (e.g., self pay and Medi-Cal trends at St. Luke's and San Francisco General Hospital)
- ✓ Continue to explore formal and informal collaboration with other safety net providers to identify the most resource efficient way to deliver and coordinate care

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Charity Care Project and Healthy San Francisco. Please see Appendix C for more information.

5. Citywide Market Share by Ethnicity

The African-American population only accounts for about seven percent of the population but accounts for 17 percent of all Medi-Cal or uninsured patients in San Francisco. San Francisco General Hospital serves the largest share of the African-American population among San Francisco hospitals, fluctuating around 35 percent over the last seven years. In comparison, over the same time period California Pacific Medical

Center (CPMC) captured 35 percent of the white and Asian/Pacific Islander market, while the rest of the hospitals had market shares of 15 percent or lower for these ethnic groups. Chinese Hospital is a significant player in only the Asian/Pacific Islander demographic, holding around 11 percent market share.

Given that the African-American population is migrating out of the city and is projected to decrease, the Department of Public Health will need to evolve and tailor services to the “new” safety net population. This will likely include providing additional translation services for non-English speaking populations and disease management programs relevant to disease prevalence rates of certain ethnicities.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to modify or enhance programs to meet needs of the ethnically shifting population

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Healthy San Francisco, Cultural and Linguistic Competency Policy and Adoption of Culturally and Linguistically Appropriate Services Standards, and Video Medical Interpretation Services. Please see Appendix C for more information.

6. Citywide Market Share by Age Cohort

San Francisco General Hospital’s discharges in 2005 were concentrated among the 18-34 and 35-64 age cohorts and captured only six percent of the age 65 and over population (Figure 18). California Pacific Medical Center (CPMC) is the market leader in both newborn care and the age 65 and over cohort – service to these patients typically provides the best revenue to hospitals.

Figure 18: San Francisco General Hospital's Discharge Market Share by Age Cohort, 2005

| Age Cohort | SF Market Total | SF General | SF General Market Share |
|-------------|-----------------|------------|-------------------------|
| < 1 year | 577 | 138 | 23.9% |
| 1-17 years | 1,712 | 350 | 20.4% |
| 18-34 years | 9,842 | 2,536 | 25.8% |
| 35-64 years | 22,772 | 5,358 | 23.5% |
| 65+ | 25,809 | 1,611 | 6.2% |
| Unknown | 2,166 | 45 | 2.1% |

| | % of SF Total | % of SF General | Variation |
|-------------|---------------|-----------------|-----------|
| < 1 year | 0.9% | 1.4% | 0.5% |
| 1-17 years | 2.7% | 3.5% | 0.8% |
| 18-34 years | 15.7% | 25.3% | 9.6% |
| 35-64 years | 36.2% | 53.4% | 17.2% |
| 65+ | 41.0% | 16.0% | -25.0% |
| Unknown | 3.4% | 0.4% | -3.0% |

Note: Table features all hospital discharges including newborns

Source: OSHPD 2005

The population served by the Department of Public Health will become eligible for Medicare as it ages. Therefore, the Department's current patient base will have additional options of service providers given their increased insurance coverage. The Department may lose these patients and market share as these patients become eligible for Medicare unless greater efforts are made to market services and programs to them.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to make changes to adequately meet the healthcare needs of the aging population and seek to retain patients as they age
- ✓ Continue to consider opportunities to collaborate with other large Medicare providers to improve quality and efficiency of services
- ✓ Determine whether the Department of Public Health should more aggressively try to increase its market share of the aging and Medicare eligible population

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Laguna Honda Hospital rebuild and the Long-term Care Coordinator position. Please see Appendix C for more information. In addition, San Francisco General Hospital has recently expanded services to provide increased acute care for the elderly as well as palliative care, which will primary serve Medicare patients.

7. San Francisco General Hospital Market Share by Service Line

Analysis of market share by service line highlights key citywide trends impacting San Francisco General Hospital (Figures 19 and 20):

- San Francisco General Hospital's role as the core citywide psychiatry provider has increased dramatically in the last seven years. In 2005, the General discharged 59 percent of the psychiatric patients citywide, up from 40 percent in 1999. In contrast, the General's substance abuse cases have fallen even more sharply over the same period.
- Obstetrics and cardiology continue to be the two predominant services utilized by San Francisco residents.
- San Francisco General Hospital has been losing share in the obstetrics market but gaining in the cardiology market.
- San Francisco General Hospital has a greater mix of psychiatry and medicine services relative to the other hospitals in San Francisco, while other hospitals have a greater mix of surgical specialty services.

Examination of these trends confirms that San Francisco General Hospital is more than a community hospital, providing a broad range of services due to its role as both a public hospital and a trauma center.

Figure 19: San Francisco General Hospital Inpatient Market Share Trend, 1999-2005

| SERVICE | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | Change '99-'05 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|----------------|
| Cardiology | 12.2% | 12.6% | 13.0% | 13.6% | 13.9% | 14.8% | 14.2% | 2.0% |
| Dentistry | 49.5% | 53.6% | 45.6% | 48.5% | 48.7% | 41.7% | 42.6% | -6.9% |
| Endocrinology | 12.8% | 14.1% | 14.0% | 13.8% | 15.1% | 15.4% | 18.0% | 5.2% |
| Gastroenterology | 14.4% | 13.8% | 12.8% | 13.5% | 12.8% | 13.3% | 14.8% | 0.4% |
| General Surgery | 18.0% | 17.4% | 16.7% | 15.0% | 16.5% | 14.9% | 15.4% | -2.6% |
| Gynecology | 18.0% | 14.3% | 12.1% | 15.7% | 16.8% | 17.4% | 17.4% | -0.6% |
| Medicine | 30.7% | 27.8% | 23.8% | 25.9% | 24.7% | 24.1% | 25.1% | -5.6% |
| Neonatology | 20.2% | 20.7% | 22.4% | 18.5% | 19.3% | 18.7% | 18.3% | -1.9% |
| Neurology | 14.7% | 13.7% | 14.2% | 12.7% | 14.2% | 13.9% | 15.9% | 1.2% |
| Neurosurgery | 9.3% | 8.2% | 8.8% | 12.0% | 12.2% | 12.0% | 14.0% | 4.6% |
| Normal Newborn | 14.1% | 12.5% | 10.5% | 11.7% | 11.1% | 11.1% | 12.5% | -1.6% |
| Obstetrics | 16.7% | 15.5% | 15.6% | 15.0% | 14.5% | 14.9% | 15.0% | -1.7% |
| Oncology | 16.3% | 15.0% | 15.9% | 14.7% | 16.1% | 13.2% | 14.4% | -1.9% |
| Ophthalmology | 43.6% | 44.2% | 38.5% | 48.5% | 36.4% | 54.1% | 51.2% | 7.7% |
| Orthopedics | 22.5% | 21.5% | 18.9% | 18.4% | 19.6% | 19.0% | 19.5% | -3.0% |
| Otolaryngology | 41.4% | 32.9% | 27.4% | 30.7% | 29.2% | 29.0% | 28.8% | -12.6% |
| Psychiatry | 39.8% | 40.6% | 42.7% | 51.7% | 54.6% | 59.1% | 58.8% | 19.0% |
| Pulmonology | 17.4% | 16.5% | 15.7% | 16.1% | 14.6% | 16.1% | 17.2% | -0.2% |
| Renal/Urology | 19.1% | 16.4% | 17.5% | 17.2% | 15.8% | 16.0% | 16.4% | -2.7% |
| Substance Abuse | 55.2% | 61.5% | 39.4% | 29.7% | 36.9% | 30.1% | 33.7% | -21.5% |
| Thoracic and Cardiovascular | 7.0% | 7.5% | 6.6% | 6.2% | 6.8% | 5.5% | 5.6% | -1.3% |
| Trauma | 51.4% | 49.0% | 46.5% | 47.6% | 45.2% | 46.5% | 47.1% | -4.3% |
| Vascular Surgery | 12.4% | 12.6% | 10.5% | 13.2% | 15.7% | 15.3% | 12.4% | 0.0% |

Source: OSHPD 1999-2005

Figure 20: Relative Service Mix: San Francisco General Hospital v. All San Francisco Hospitals²²

| Service Line | Discharges | | Service Concentration | | Relative Variance |
|-----------------------------|------------|--------------|-----------------------|--------------|-------------------|
| | SF General | SF Hospitals | SF General | SF Hospitals | |
| Psychiatry | 3,461 | 6,138 | 21.5% | 6.7% | |
| Medicine | 1,880 | 5,027 | 11.7% | 5.5% | |
| Obstetrics | 1,396 | 12,066 | 8.7% | 13.1% | |
| Cardiology | 1,282 | 7,874 | 8.0% | 8.6% | |
| Orthopedics | 1,081 | 5,953 | 6.7% | 6.5% | |
| Pulmonology | 1,055 | 5,059 | 6.6% | 5.5% | |
| General Surgery | 868 | 7,999 | 5.4% | 8.7% | |
| Gastroenterology | 805 | 5,848 | 5.0% | 6.4% | |
| Trauma | 625 | 1,015 | 3.9% | 1.1% | |
| Renal/Urology | 574 | 5,105 | 3.6% | 5.6% | |
| Pediatrics | 524 | 6,964 | 3.3% | 7.6% | |
| Neurology | 518 | 3,241 | 3.2% | 3.5% | |
| Oncology | 425 | 4,113 | 2.6% | 4.5% | |
| Endocrinology | 333 | 1,552 | 2.1% | 1.7% | |
| Gynecology | 217 | 1,742 | 1.3% | 1.9% | |
| Neurosurgery | 211 | 3,969 | 1.3% | 4.3% | |
| Thoracic and Cardiovascular | 182 | 5,957 | 1.1% | 6.5% | |
| Other | 669 | 2,240 | 4.2% | 2.4% | |
| Total | 16,106 | 91,862 | 100.0% | 100.0% | |

> 3%
 1 to 3%
 -1 to 1%
 -1 to -3%
 < -3%

Source: OSHPD 2005

8. Citywide Comparisons of Case Mix

San Francisco General Hospital's relatively low case mix index (CMI) reflects its high concentration of lower acuity psychiatry, medicine, and obstetrics cases, as well as a lower concentration and absence of high acuity services, such as transplantation. Other local hospitals attract patients seeking higher acuity specialty services and therefore have higher CMIs (Figure 21).

While it is typical of public hospitals and safety net providers to have lower patient acuity than private providers, San Francisco General Hospital is below the average CMI calculated from comparable public hospitals. This is largely reflective of the unusually high number

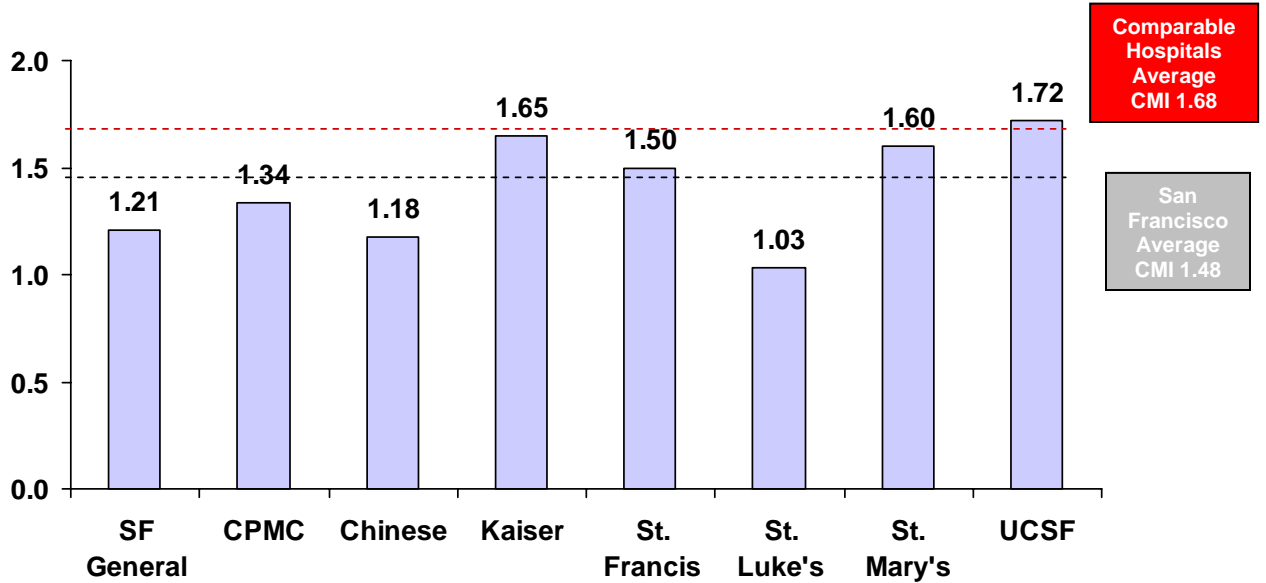
Case Mix is defined as the mix of cases being treated by a particular healthcare provider that is intended to reflect the patients' different needs for resources during a given period and may be measured by factors such as diagnosis, severity of illness, utilization of services, and provider characteristics.

Acuity is a measure of patient needs and nursing care requirements based upon the severity of the patient's illness and need for specialized equipment and technology; the intensity of nursing interventions required for each patient; and the complexity of the clinical nursing judgment needed to design, implement, and evaluate each patient's care plan.

²² Figures reflect select service lines for discharges from licensed acute care and psychiatric beds, and do not include newborns to eliminate double count on discharges from births. The total number of discharges for all licensed-bed types at San Francisco General Hospital was 17,877 (including newborns). "Other" represents services that comprised less than 1 percent of the General's total discharges in 2005.

of lower acuity mental health patients in San Francisco that are referred to and serviced by the General.

Figure 21: Case Mix Index (CMI) for San Francisco Hospitals Compared to Public Urban Hospitals, 2005



Note: Comparable Hospitals' CMI reflects Solucient's 2005 Government-owned (non-Federal), Urban, 400+ bed facilities

Source: OSHPD 2005

9. Citywide Emergency Department Utilization

In 2005, more than half of all area emergency department visits were concentrated at three area hospitals: San Francisco General, California Pacific Medical Center (CPMC), and the Medical Center at University of California San Francisco (UCSF). San Francisco General had nearly 45,000 visits in its emergency department (Figure 22). At current demand of 1,866 visits per station, the General is approaching the industry threshold level (2,000) for the average number of visits per emergency department station. Anything above 2,000 visits per emergency department station indicates the hospital's emergency department is operating at full capacity, and any surge in demand could not be absorbed with existing capacity.

San Francisco General was on diversion for 19 percent of operating hours in fiscal year 2007.²³ However, it should

Hospital Diversion is an occurrence communicated to community and Emergency Medical Services providers indicating that resources in a hospital are compromised due to relative shortages of available staff, equipment, or beds. It is a request for non trauma patients being transported by Emergency Medical Services to be taken to another hospital for service.

²³ Self Reported by San Francisco General Hospital

be noted that as the city's only trauma center, trauma patients are always accepted at the General and are never diverted. Among other efforts, the Department of Public Health has implemented an urgent care initiative to help address emergency department overcrowding by redirecting non-emergent patients at San Francisco General. Patients are medically screened and then triaged from the General's emergency department to its urgent care clinic. Fiscal year 2006 urgent care volume was 22, 865 visits.

Figure 22: San Francisco Emergency Department Capacity and Utilization

| Hospital | Emergency Dept. Visits | Emergency Dept. Stations | Visits/Station |
|-------------|------------------------|--------------------------|----------------|
| SF General | 44,779 | 24 | 1,866 |
| CPMC | 34,422 | 24 | 1,434 |
| Chinese | 5,719 | 5 | 1,144 |
| Kaiser | 25,821 | 24 | 1,076 |
| St. Francis | 19,292 | 11 | 1,754 |
| St. Luke's | 28,738 | 13 | 2,211 |
| St. Mary's | 18,056 | 13 | 1,389 |
| UCSF | 34,464 | 29 | 1,188 |
| Total | 211,291 | 143 | 1,478 |

Note: In accordance with Proposition Q, CPMC, which owns St. Luke's, announced plans to discontinue certain services at St. Luke's. As of November 6, 2007 the emergency department was not included.

Source: OSHPD 2005

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Collaborate with the city's hospitals in a study to assess current emergency department configuration and whether there is sufficient inpatient capacity to absorb all patients entering the system through the emergency department at each hospital
- ✓ Continue to analyze options for addressing inappropriate emergency department utilization. Examples include expanding current urgent care service capacity and exploring how to enhance other appropriate capacity elsewhere in the system to further reduce unnecessary emergency department visits

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Community-based Psychiatric Emergency Care Program, Emergency Department High User Case Management Program, Emergency Medical Service High User Project, Medical Respite Program, and Urgent Care Center. Please see Appendix C for more information.

10. Citywide Access to Trauma Services

San Francisco General Hospital has the only trauma center in the city and has treated over 3,000 trauma cases every year since 2001. The next closest trauma centers are Children’s Hospital Oakland (20 – 28 minutes away) and, for adult patients, Stanford University Hospital (35 – 48 minutes away). For Level 1 trauma services, the next closest is Santa Clara County Medical Center, approximately a one hour drive from San Francisco. During interviews with Lewin, key stakeholders throughout San Francisco acknowledged that they rely on San Francisco General Hospital for trauma care.

A **Trauma Center** is a designated, inpatient facility designed to provide specialized treatment for people who have experienced a physically damaging catastrophic event. The main focus of such centers is prompt, often emergency, treatment in order to prevent further damage and increase chances for recovery.

A **Level I Trauma Center** has a full range of specialists and equipment available 24-hours a day and admits a minimum required annual volume of severely injured patients. Additionally, a Level I center has a program of research, is a leader in trauma education and injury prevention, and is a referral resource for neighboring regions.

As a Level 1 trauma center, San Francisco General Hospital maintains highly advanced resources or “tertiary capability” in areas such as neurology and cardiology in order to appropriately address serious accidents and life threatening events. However, the General’s low overall case mix (see section III.C.8. above) suggests it is not able to fully utilize these advanced tertiary capabilities. As a safety net provider, the hospital meets a disproportionate share of the needs of patients presenting with mental health and lower severity conditions. Taking care of many non-trauma patients who need lower level care or behavioral health services limits the number of higher acuity patients the hospital can admit.

Tertiary Care is specialized consultative care, usually on referral from primary or secondary medical care personnel, by specialists working in a center that has personnel and facilities for special investigation and treatment.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ San Francisco General Hospital should continue expanding care delivery alternatives for lower acuity medical and psychiatric services to reduce emergency department congestion and high utilization of needed inpatient bed capacity. This would allow expansion of higher acuity services to support trauma volume and emergency surge capacity

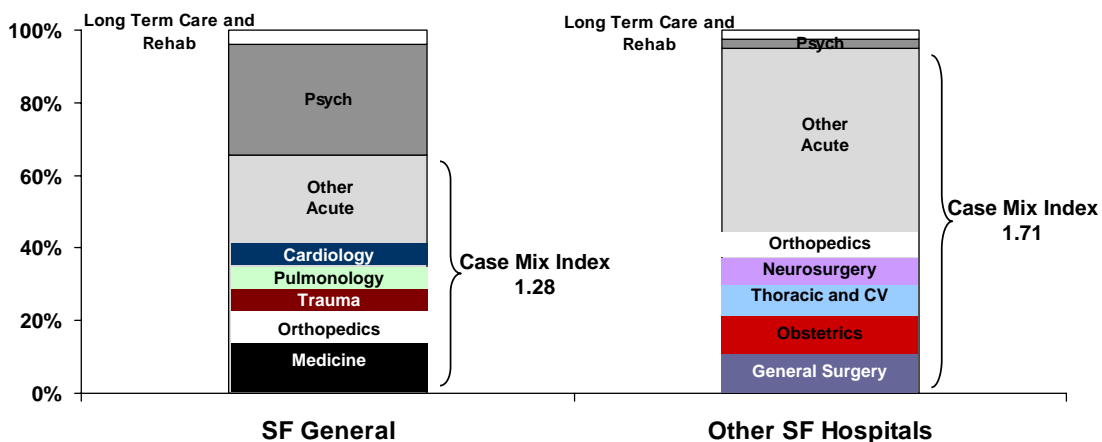
The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Community-based Psychiatric Emergency Care Program, Direct Access to Housing Program, Emergency Department High User Case Management Program, and Emergency Medical Service High User Project. Please see Appendix C for more information.

11. Citywide Inpatient Utilization by Patients Originating from Outside San Francisco

Out-of-county residents seek healthcare in the city at San Francisco General Hospital primarily for acute medical and psychiatric services. However, they also present at other San Francisco hospitals for higher acuity services such as cardiothoracic surgery, neurosurgery, and general surgery that are better reimbursed by both commercial and public payers (Figure 23). The non-residents who come for care at San Francisco General are also more likely to be Medi-Cal or uninsured patients. In contrast, non-residents seeking care at other San Francisco hospitals are more likely to be covered by commercial or Medicare insurance. For all San Francisco and out-of-county residents, trauma at San Francisco General remains a critical resource.

Figure 23: Discharges of Non-County Residents at San Francisco General Hospital v. Discharges of Non-County Residents at Other San Francisco Hospitals, 2005



Source: OSHPD 2005

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue to explore how the Department of Public Health can arrange payments from surrounding counties to provide services for out-of-county indigent populations

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

The Healthy San Francisco Program will help to address out of county utilization of non trauma services at San Francisco General Hospital through better tracking and sharing of patient information.

12. Department of Public Health Mental Health and Substance Abuse Services

In fiscal year 2008, the Department of Public Health's total mental health and substance abuse budget is \$321 million, representing 24 percent of its total budget. The majority of these funds (\$289 million) will be spent on community-based programs (i.e. non-hospital based), with mental health services receiving \$225 million and substance abuse receiving \$64 million. In addition, \$31 million will support services provided in San Francisco General Hospital, including the Rehab Facility, inpatient beds, psychiatric emergency, and the methadone clinic.

In fiscal year 2006, the Department of Public Health's Community Behavioral Health Services provided substance abuse care to 10,552 unique patients, most of whom were white and African-American males between the ages of 26 and 54. Mental health services were provided to 24,105 unduplicated clients, most of whom were white or African-American and between the ages of 19 and 64.²⁴

General Hospital has the city's only emergency psychiatric ward and serves 59 percent of the city's psychiatric hospital patients. Mental health services are also provided in Department of Public Health community-based clinics. However, most mental health and substance abuse services are provided through Department of Public Health contractors. In fiscal year 2008, the Department allocated \$58 million to private and nonprofit contractors to provide substance abuse treatment and \$155 million to contractors to provide mental health services.

The Department of Public Health's approach to substance abuse and mental health seeks to maximize the strengths of clients and families and support their highest level of functioning in the community. Institutional care is geared to help clients exit institutional care as quickly as possible and be served at the most appropriate level of care in the community. The majority of behavioral health care is direct service to clients and their families. However, additional services include consultation to primary care and other providers and prevention services, which will help to reduce the need for future institutional care.

²⁴ Of the total mental health clients, 19 percent were 18 and under, 73 percent were between the ages of 19 to 64, and 1 percent was 65 or older. Ethnic distribution was as follows: White (34 percent), African-American (24 percent), Latino (14 percent), Chinese (11 percent), and Other (17 percent)

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ Continue efforts to allocate funds for mental health and substance abuse to contractors based on performance. While some contractors currently can offer performance outcome data, others do not have this ability; the Department of Public Health should work to create incentives for contractors to increase this and more generally to improve data collection and reporting
- ✓ Continue to shift funding for behavioral health care to community-based settings and away from institutional ones for quality and cost control reasons in alignment with best practices
- ✓ Assess the ability of San Francisco General Hospital and Department of Public Health clinics to treat Alzheimer's, dementia, and behavioral health issues in the growing aging population

The following Department of Public Health initiatives are examples of efforts planned and/or underway that speak to the above recommendations:

Clinicians' Gateway, Community Behavioral Health Services Quality Assurance Action Plan, expansion of community-based services with Mental Health Services Act funding, expansion of community-based substance abuse services, and treatment of behavioral health issues related to Alzheimer's and other dementias as well as behavioral health issues in the growing aging population. Please see Appendix C for more information.

C. San Francisco Primary Care Providers

1. Department of Public Health Primary Care Clinics

The Department of Public Health primary care clinic network provides culturally competent, primary care to the underserved, uninsured, and at-risk populations throughout the city who otherwise may not have access to any healthcare services. The Department's clinic services are critical, serving 37 percent of uninsured clinic visits in San Francisco.²⁵ The San Francisco Community Clinic Consortium meets nearly all of the remaining uninsured outpatient service demand. In acknowledgment of the critical role the Department of Public Health clinics play in providing primary care for the city, other providers are looking to the Department to set benchmark standards in treating underinsured and uninsured patients both clinically and operationally.

²⁵ Department of Public Health clinic data was gathered from the Department of Public Health community-based clinics and primary care San Francisco General Hospital clinics. San Francisco Community Clinic Consortium clinic information was gathered from 2005 OSHPD clinic data. If "self pay" patients are excluded from the analysis, the Department of Public Health clinics are shown to serve 43 percent of patient visits whose financial class was county indigent, free, other county programs, and all other payers.

The Department of Public Health operates a network of 18 community-based primary care clinics in San Francisco (Figure 24).

Figure 24: Department of Public Health Clinic Providers in San Francisco

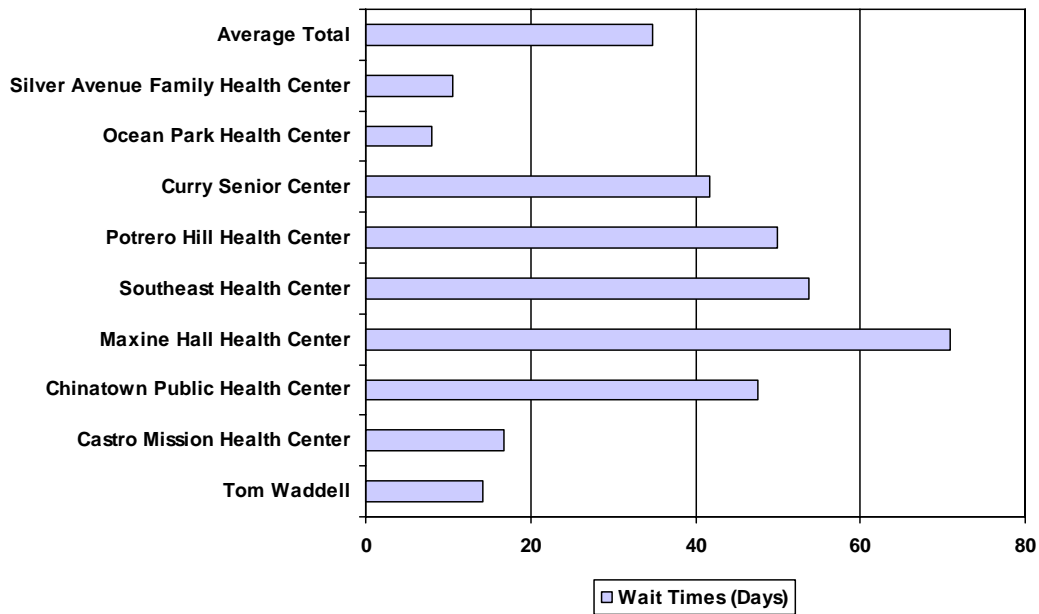
| | | |
|--|-----|---|
| Department of Public Health Primary Care Clinics | 1. | Balboa Teen Health Center |
| | 2. | Castro Mission Health Center |
| | 3. | Children’s Health Clinic (San Francisco General Hospital) |
| | 4. | Chinatown Public Health Center |
| | 5. | Cole Street Youth Clinic |
| | 6. | Curry Senior Center |
| | 7. | Family Health Center (San Francisco General Hospital) |
| | 8. | General Medical Clinic (San Francisco General Hospital) |
| | 9. | Larkin Street Youth Clinic |
| | 10. | Maxine Hall Health Center |
| | 11. | Ocean Park Health Center |
| | 12. | Positive Health Program (San Francisco General Hospital) |
| | 13. | Potrero Hill Health Center |
| | 14. | Silver Avenue Family Health Center |
| | 15. | Special Programs for Youth/Youth Guidance Center |
| | 16. | Southeast Health Center |
| | 17. | Tom Waddell Health Center |
| | 18. | Women’s Health Clinic (San Francisco General Hospital) |

These clinics offer a broad array of primary care and mental health services including youth health, senior health, infectious disease, and family planning. While many Department clinics serve a unique ethnic and racial population, all clinics assist vulnerable, at risk patients who have limited access to healthcare services.

Clinics are located throughout the city, but there are areas, most notably low income communities, where demand for services exceeds the capacity of existing providers. As discussed above in section III.B.3 on Ambulatory Care Sensitive Hospitalizations, this is evident by the average wait time for a new appointment of 35 days at select Department of Public Health clinics (Figure 25).²⁶

²⁶ Such wait times for new patient appointments are typical for public safety net providers in urban areas. Data on appointment wait times for existing patients at primary care clinics are not currently systematically collected by the Department of Public Health. However, the average wait time for new and existing patients at surgical specialty clinics is 17 days.

Figure 25: Average Wait Times for First Appointment at Select Department of Public Health Primary Care Clinics, Days



Source: Lewin analysis of wait time data from Next Available New Appointment Community Health Network Reports between November '06 and February '07

The primary service area of the community-based Department of Public Health primary care clinics mirrors San Francisco General Hospital's core service area. Over 77 percent of the patients are below the federal poverty level, and less than one percent has private insurance. The population is 50 percent Asian/Pacific Islander or African-American, with many non-English speaking monolingual patients. The only other network with a similar patient population is the San Francisco Community Clinic Consortium.

In its 18 community-based primary care clinics, the Department of Public Health served over 60,000 unique patients in fiscal year 2006 and operated a total of 214 exams rooms. Except for Children's Health and Curry Senior Center, the remaining 16 clinics serve a percentage of uninsured patients ranging from 12 to 81 percent. On average, 35 percent of patients served at the Department of Public Health clinics are uninsured (Figure 26).

Figure 26: Department of Public Health Primary Care Clinics Key Metrics, Fiscal Year 2006

| Health Center | Medical Visits | Unique Patients | Exam Rooms | % Unique Uninsured | Target Population |
|--------------------------------|----------------|-----------------|------------|--------------------|---|
| Balboa Teen Health Center | 2,690 | 850 | 3 | 12% | All high school youth (Balboa High School) |
| Castro-Mission Health Center | 20,502 | 3,897 | 11 | 46% | Latinos, gay/lesbian, HIV-positive and psychiatric patients |
| Children's Health Clinic | 12,448 | 5,230 | 24 | 5% | Underserved children ages 0-21 |
| Chinatown Public Health Center | 19,340 | 3,922 | 8 | 28% | Patients living in northeast San Francisco |
| Cole Street Youth Clinic | 2,800 | 800 | 2 | 12% | Ages 12-24 citywide |
| Curry Senior Center | 11,354 | 1,164 | 7 | 5% | Those 55 and older |
| Family Health Center | 38,102 | 8,004 | 36 | 32% | Low income families, children, pregnant women, and refugees |
| General Medical Clinic | 24,755 | 5,499 | 9-18 | 41% | Low-income adults with complex medical conditions |
| Larkin Street Medical Center | 3,400 | 1,189 | 2 | 81% | Homeless and runaway youth, ages 12-24 |
| Maxine Hall Health Center | 10,830 | 2,205 | 16 | 41% | Western Addition uninsured; African American |
| Ocean Park Health Center | 12,395 | 3,043 | 8 | 15% | Medically underserved in western San Francisco |
| Positive Health Clinic | 22,842 | 2,404 | 13 | 34% | HIV-positive adults. Largest HIV primary care provider |
| Potrero Hill Health Center | 10,053 | 1,810 | 7 | 40% | All ages and families in poverty |
| Silver Avenue Health Center | 8,911 | 1,873 | 16 | 24% | Low income, often immigrants |
| Southeast Health Center | 14,773 | 2,601 | 10 | 34% | Bayview/Hunters Point residents |
| Tom Waddell Health Center | 50,173 | 9,043 | 15 | 55% | Homeless, HIV-positive, transgender, substance abuse |
| Special Programs for Youth | 1,171 | - | 5 | - | Youth in detention, ages 12-18 |
| Women's Health Clinic | 25,511 | 6,628 | 17 | 21% | Women of all ages, general OB/Gyn and Gyn sub-specialties |
| TOTAL | 292,050 | 60,162 | 214 | 35% | |

Source: Self-reported fiscal year 2006 data requested from Lewin Survey (March 2007) and Lewin analysis

2. Department of Public Health Primary Care Clinic Survey Results

Lewin designed a written survey tool to obtain quantitative and qualitative information about the Department of Public Health primary care clinics. Department clinic representatives who completed the surveys provided their perceptions of the strengths, weaknesses, opportunities, and threats confronting both their individual clinics and the Department clinic system as a whole. Following is a consolidated summary of these perceptions. To place these responses in context, it is important to note that most of the perceived weaknesses and threats are consistent with those encountered by the great majority of safety net providers nationwide.

a. Perceived Strengths of the Department of Public Health Primary Care Clinics

- Highly dedicated professionals who care deeply about their patients and neighborhoods
- Physician, case management, and support staff with deep knowledge of how to link primary care with other “wrap-around” services (mental health, substance abuse, domestic violence, etc.) to provide the total care package their patients require
- Providers of care to populations who otherwise would not have local access to healthcare services
- Providers of culturally competent care
- Access to linguistic services to serve non-English speaking populations
- Creative affiliations with other public and private providers in an attempt to fill gaps in care
- Adept at offering non-western medicine care to appropriate populations (e.g., yoga, t'ai chi, acupuncture)

b. Perceived Weaknesses of the Department of Public Health Primary Care Clinics

- Lack of sufficient primary care physicians
- Significant wait lists for new primary care appointments
- Limited access to non-primary care services (dental, specialty, diagnostics)
- Operational inefficiencies due to understaffing and lack of funding, coupled with a patient population that is difficult to manage
- Lack of information systems to help track patients, both within one clinic as well as across inpatient and outpatient facilities
- Lack of health educators who could focus on preventative care at a lower cost than a physician in the office can during a visit
- Lack of transportation causing access obstacles
- Insufficient access to aggregate data limits ability to provide population-based approach to health prevention or disease management

c. Perceived Opportunities for the Department of Public Health Primary Care Clinics

- Create a care model in the clinics that helps clinicians provide coordinated preventative care and disease treatment care for a patient at all stages of his/her life (called a “longitudinal care model”)
- Encourage a greater emphasis on health prevention education
- Explore implementation of an “open access” model in the clinics. This model aims to improve utilization of real-time, existing resources available at the

doctor's office by having patients make same-day appointments with their personal physician for any problem, whether urgent, routine or preventive

- Coordination on a city level of private hospitals' contributions to charity care to ensure access to a continuum of specialty and diagnostic services²⁷
- Increase linkages with other providers – both public and private – to optimize use of existing resources at a system level
- Bulk purchasing of electronic medical records across clinic sites, allowing for coordination of services and resources across the provider continuum
- Use of adjunct staff (health educators, nutritionists) to address long-term patient needs
- Train existing providers such as nurses and social workers as group facilitators to offer cost effective delivery of care
- Promote system-wide sharing of best practices in clinic redesign, chronic illness management, and operation and human resource management

d. Perceived Threats to the Department of Public Health Primary Care Clinics

- Aging facilities are not constructed to provide efficient primary care processes (patient flow, room utilization, etc.)
- Many healthcare issues are related to poverty. Improvement in health status is difficult to achieve if there is not also job training, parenting training, social work counseling, housing, access to education, etc.
- Clinic utilization optimization requires concurrent efforts. For instance, expanded clinic space must be met with additional physicians and support staff in order to meet patient demand
- Burnout of existing staff, difficulty recruiting and retaining new staff
- Potential downward spiral of health status stemming from a lack of access to affordable healthcare. This causes patients to come to the clinics later with increased disease and infection rates, causing demand for expensive inpatient care. Lack of appropriate funding for follow-up or prevention causes the pattern to repeat itself.

²⁷ Charity care is the difference between full charges for services rendered to patients who are not able to pay for all or part of the services provided and the amount paid by or on behalf of the patient, if any. Charity care services are provided without expectation of repayment.

RECOMMENDED ACTION ITEMS FOR THE DEPARTMENT OF PUBLIC HEALTH

- ✓ The Department should continue its efforts in the following areas:
 - Ensure resource allocations and legislative support is maintained and increased in response to the area's aging and diversifying population
 - Ongoing, multi-year clinic redesign initiative (including such programs as open access) as well as the clinic reconfiguration initiative (including relocating clinics near diagnostic services) to improve patient flow and provider productivity
 - Transportation improvement programs, such as the Lifeline Transportation Grant which funds transportation from the Bayview to San Francisco General Hospital as well as taxi vouchers
 - Chronic care disease models, such as San Francisco General Hospital's Diabetes Education Program, in which chronic care / diabetic patients are automatically called and surveyed about their status – depending on the patient's response, nurses may initiate a contact with the patient to follow up as needed (please see Appendix C for details)
 - Efforts to establish continuity of care through a medical home approach, such as Healthy San Francisco and the Charity Care Project (please see Appendix C for details)
 - Seek additional financial resources for health educators and support staff in order to facilitate efficiency, increase prevention, and decrease the demand for emergency and acute care services

3. *Other City Primary Care Providers*

In addition to the Department of Public Health, there are other provider groups in San Francisco that play an important role in providing community-based care to both the safety net and non-safety net populations (Figure 27). The San Francisco Community Clinic Consortium and other community-based clinics are a crucial component of the safety net in San Francisco. The Brown & Toland and Kaiser networks are clustered in the northern and less impoverished areas of the city and primarily serve higher income populations with commercial insurance.

Figure 27: Other City Primary Care Providers in San Francisco

| Network Category | Individual Clinics/Organizations |
|---|--|
| San Francisco Community Clinic Consortium (SFCCC) | <ol style="list-style-type: none"> 1. Glide Health Center 2. Haight Ashbury Free Medical Clinic 3. Lyon-Martin Women’s Health Services 4. Mission Neighborhood Health Center 5. Native American Health Center 6. North East Medical Services 7. St. Anthony Free Medical Clinic 8. San Francisco Free Clinic 9. South of Market Health Center |
| Other Primary Care Clinics in San Francisco | <ol style="list-style-type: none"> 10. St. Luke’s Health Care Center 11. St. Mary’s Philippa Health Center |
| Other Major Providers in San Francisco | <ol style="list-style-type: none"> 12. Brown & Toland 13. Kaiser Permanente |

a. San Francisco Community Clinic Consortium

The San Francisco Community Clinic Consortium (SFCCC) is a network of autonomous clinics forming a 501(c)(3) nonprofit organization. The SFCCC clinics were created in underserved neighborhoods to help people who are at the greatest risk for poor health outcomes due to lack of insurance, low income, or homelessness (Figure 28).

Given this mission alignment with the Department of Public Health, the sentiment among many healthcare stakeholders interviewed by Lewin researchers is that the Department should seek to establish more collaboration with the SFCCC and other similar organizations. This includes seeking their input into initiatives such as Healthy San Francisco and generally treating them as collaborators rather than competitors. In addition, according to some stakeholders, the Department does not recognize private providers, financially or otherwise, for their contribution to the provision of safety net care and lacks transparency concerning their decisions to provide funding to private clinics.²⁸

²⁸ The Department of Public Health reports that funding decisions for private clinics are determined through a public RFP (Request for Proposals) process and are publicly discussed at Health Commission and Board of Supervisor hearings.

Figure 28: San Francisco Community Clinic Consortium Network

| Health Center | Medical Visits | Patients | % Patients Uninsured | Target Population |
|------------------------------------|----------------|----------|----------------------|---|
| North East Medical Services | 111,587 | 36,482 | 53% | Asian community and other ethnicities |
| Mission Neighborhood Health Center | 29,257 | 11,266 | 39% | All populations with emphasis on Latino |
| South of Market Health Center | 14,027 | 4,708 | 59% | Low income residents of South of Market & Tenderloin |
| St Anthony Free Medical Clinic | 11,874 | 3,825 | 100% | Homeless, low income, uninsured and children |
| Haight Ashbury Clinic | 11,410 | 4,544 | 54% | Low-income and uninsured; ages 17 -64. |
| Glide Health Services | 5,056 | 3,170 | 81% | Low income and uninsured; ages 18-64 |
| Native American Health Center | 3,735 | 3,313 | 20% | Native Americans and the Mission district community |
| San Francisco Free Clinic | 3,054 | 1,450 | 100% | All uninsured; Asian and Russian immigrants |
| Lyon-Martin Women's Clinic | 1,877 | 866 | 87% | Uninsured women and transgender, HIV positive; age 18 and older |
| TOTAL | 191,877 | * | 54% | |

Note: Total unique patient statistic is unavailable. Patients may have used more than one clinic and therefore totaling overstates the number of patients across all SFCCC clinics

Source: OSHPD 2005; San Francisco Community Clinic Consortium website (www.sfccc.org).

b. St. Luke's and St. Mary's Health Centers

The clinics operated by St. Luke's and St. Mary's Health Centers serve important roles in providing the city with primary care capacity for vulnerable populations (Figure 29).

Figure 29: St. Luke's and St. Mary's Primary Care Clinics

| Health Center | Medical Visits | Patients | Exam Rooms | % Unique Uninsured | Target Population |
|--|----------------|---------------|------------|--------------------|---|
| St. Luke's Health Care Center (Pediatric and Neighborhood) | 19,647 | 8,136 | 15 | 9% | Low Income & underserved in the South of Market community |
| St. Mary Phillipa Health Center | 11,071 | 3,400 | 26 | 21% | Under and uninsured residents age 16 or older |
| TOTAL | 30,718 | 11,536 | 41 | 14% | |

Source: Clinics' self-reported fiscal year 2006 data as requested in Lewin Survey (March 2007)

c. Brown & Toland

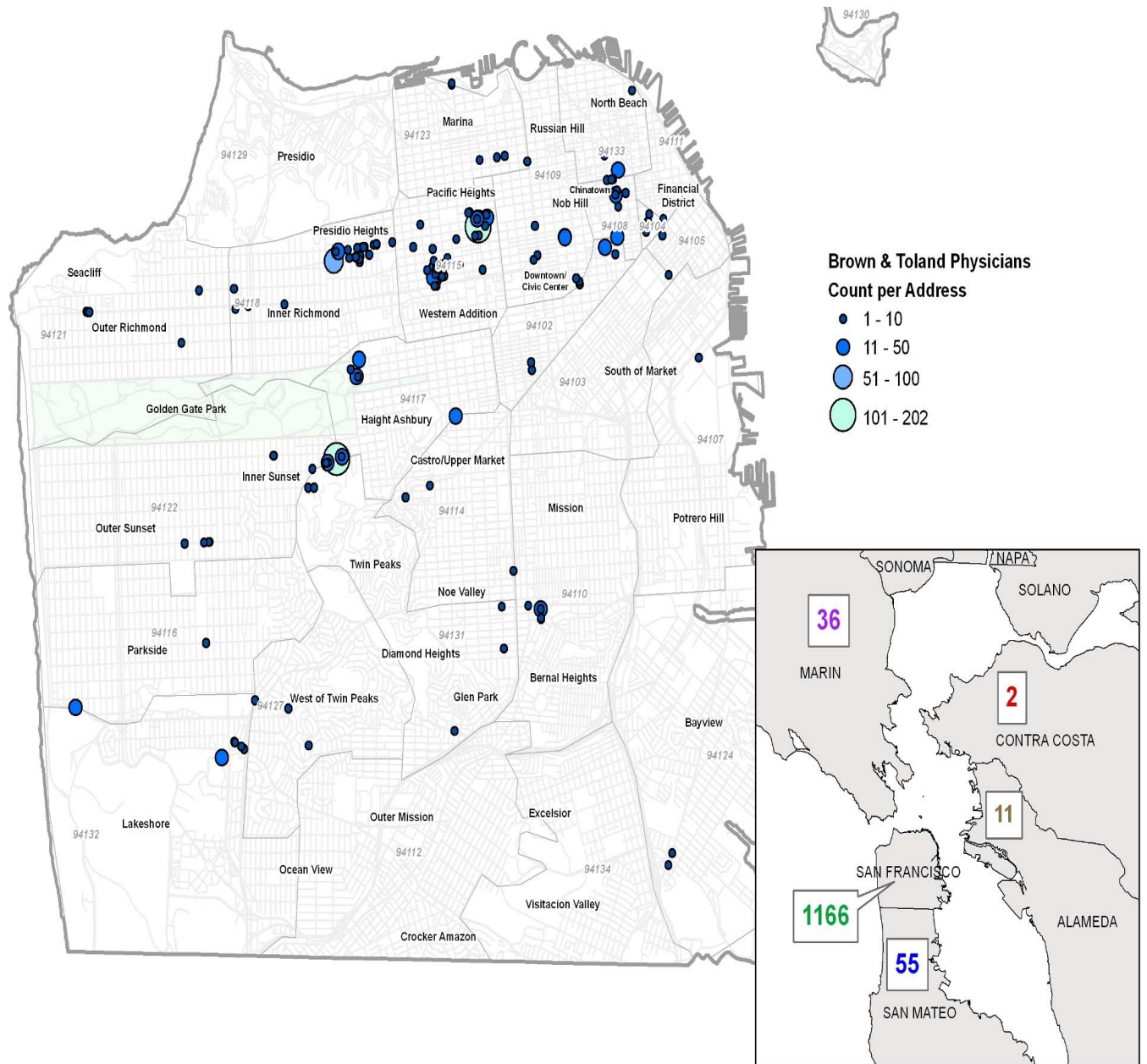
Brown & Toland is the largest practice group in San Francisco. The system was created in 1997 with the unification of physicians from the California Pacific Medical Group and the University of California – San Francisco. Brown & Toland is an Independent Practice Association comprised of multi-specialty practices. The medical group has 1,500

contracted physicians, seven contracted health plans, and 275,000 patient enrollees. Of their total enrollees, 72 percent are ages 19-64, 18 percent are age 18 or under, and 10 percent are over 65 years old. Brown & Toland is contractually affiliated with five hospitals in San Francisco (UCSF, CPMC, St. Mary's, St. Francis, and St. Luke's),²⁹ and thus refers patients to beds and services in these hospitals.

Brown & Toland physicians are clustered in the more affluent northern San Francisco neighborhoods. One-third of their physicians practice in physician member groups of over 50 (Figure 30).

²⁹ Data collected from Brown & Toland annual report 2005, Brown & Toland website (www.browntoland.com), and interviews with Brown & Toland staff.

Figure 30: Brown & Toland Physician Office Locations³⁰



Source: Brown & Toland Physician Directory, 2006

³⁰ While these physicians are located at the same address, they are in multiple suites and therefore may not be part of a group practice.

Brown & Toland has over 1,100 primary care and specialty physicians in San Francisco proper. Thirty-five percent of all San Francisco physicians are associated with Brown & Toland (Figure 31).

Figure 31: Volume of Brown & Toland Physician Specialties in Comparison to San Francisco Overall

| Specialty Category | Total Physicians (in San Francisco) | Brown & Toland Physicians (in San Francisco) | % San Francisco Physicians in Brown & Toland |
|--|-------------------------------------|--|--|
| Otolaryngology | 59 | 34 | 58% |
| Ophthalmology | 120 | 67 | 56% |
| Cardiology | 112 | 52 | 46% |
| OB/GYN | 210 | 92 | 44% |
| Orthopedic Surgery | 132 | 55 | 42% |
| Dermatology | 87 | 36 | 41% |
| Gastroenterology | 97 | 36 | 37% |
| Total Physicians (in San Francisco) | 3,292 | 1,166 | 35% |
| Neurology | 135 | 46 | 34% |
| Internal Medicine | 669 | 217 | 32% |
| Nephrology | 56 | 18 | 32% |
| Oncology | 130 | 37 | 28% |
| Family Practice | 208 | 57 | 27% |
| Endocrinology | 85 | 20 | 24% |
| Pediatrics | 328 | 75 | 23% |
| Pulmonology | 69 | 15 | 22% |
| Infectious Diseases | 68 | 9 | 13% |
| Psychiatric Care | 323 | 40 | 12% |

Specialties in which Brown & Toland has more than its average (35%) concentration of physicians

Specialties in which Brown & Toland has less than its average (35%) concentration of physicians

Source: Brown & Toland counts from 2006 physician directory; San Francisco physician counts from San Francisco Department of Public Health Communicable Disease Control & Prevention HAND Provider Database

From 2000-2005, Brown & Toland experienced decreasing commercial HMO enrollment. However the medical group experienced a 16 percent increase in Senior HMO enrollment in 2005 (Figure 32). Since 2002, total enrollment across all products has declined, but the Brown & Toland 2005 annual report forecasts that more Medicare Advantage HMO plans are expected to enter the market in 2007, giving Brown & Toland additional opportunities to increase senior membership.

Figure 32: Brown & Toland Enrollment



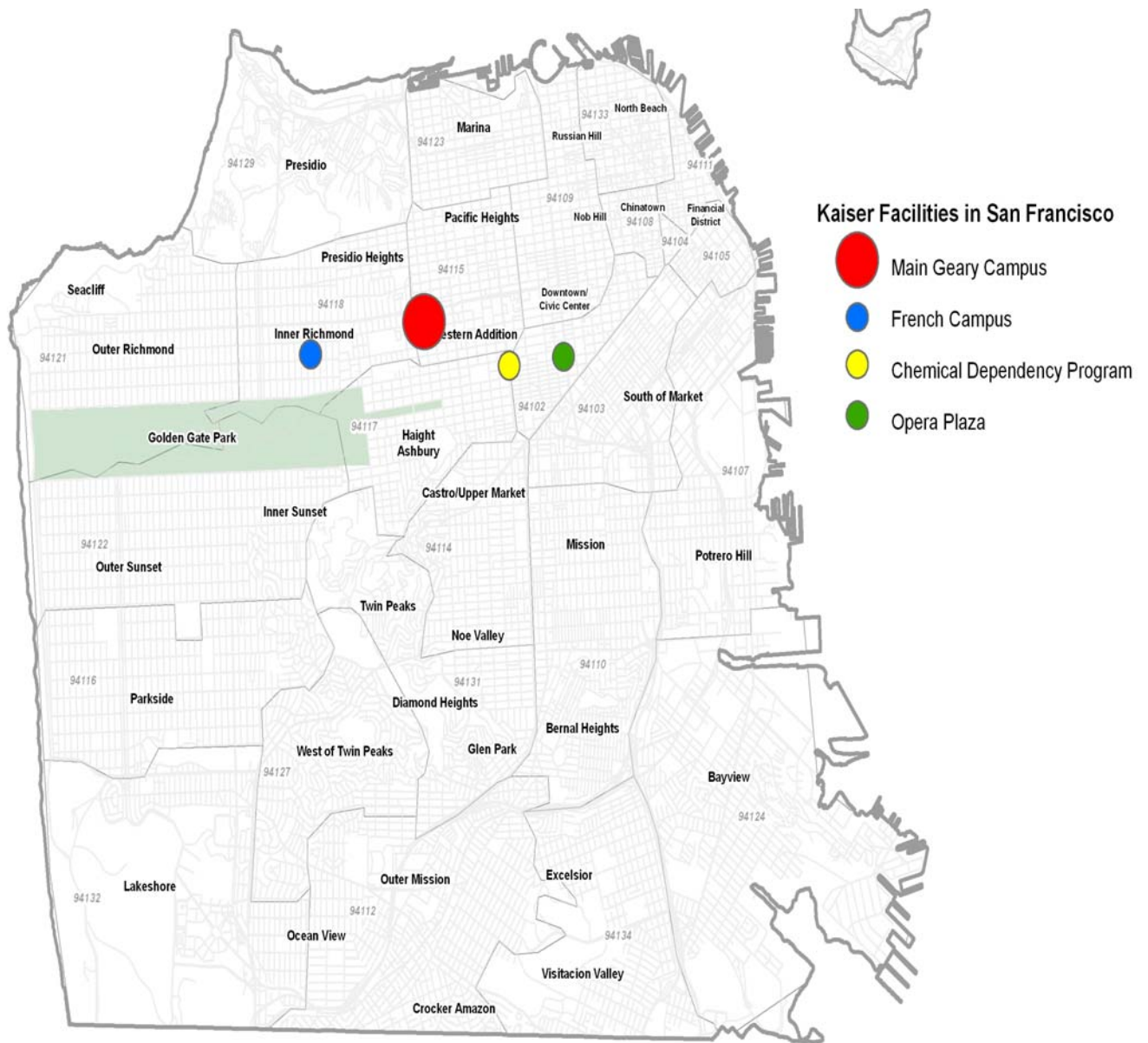
Source: Brown & Toland Annual Report 2005

d. Kaiser Permanente

Kaiser Permanente is the largest nonprofit health plan in the United States and has a significant presence in San Francisco. Founded in 1945, the organization is comprised of the Kaiser Foundation Health Plan, Inc., Kaiser Foundation Hospitals and their subsidiaries, and the Permanente Medical Groups. Kaiser has 8.6 million members nationally and 3.2 million members in its Northern California³¹ regional health plan. There are approximately 13,000 Kaiser physicians nationally, 740 of whom practice in Kaiser’s San Francisco facilities. Kaiser Permanente provides healthcare to one in five San Franciscans. There are two hospital campuses, Geary and French, and two other facilities, all located in the north central portion of San Francisco (Figure 33).

³¹ Kaiser’s Northern California region encompasses Alameda, Amador, Contra Costa, El Dorado, Fresno, Kings, Madera, Marin, Mariposa, Napa, Placer, Sacramento, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, Sonoma, Stanislaus, Sutter, Tulare, Yolo, and Yuba counties.

Figure 33: Kaiser Facilities in San Francisco



Source: Practice locations identified from Kaiser Physician Directory, 2006

Kaiser’s 740 physicians practicing in San Francisco account for 23 percent of the total physician supply in the city (Figure 34).

Figure 34: Kaiser Physician Specialties Compared to San Francisco Overall and Brown & Toland

| Specialty Category | Total Providers (in SF) | Kaiser Providers (in SF) | % SF Providers in Kaiser | % of Total Kaiser Providers | B&T Providers (in SF) | % of Total B&T Providers |
|--|-------------------------|--------------------------|--------------------------|-----------------------------|-----------------------|--------------------------|
| OB/GYN | 210 | 61 | 29% | 8% | 92 | 8% |
| Cardiology | 112 | 27 | 24% | 4% | 52 | 4% |
| Total Physicians (in San Francisco) | 3,292 | 742 | 23% | 100% | 1,166 | 100% |
| Psychiatric Care | 323 | 67 | 21% | 9% | 40 | 3% |
| Internal Medicine | 669 | 135 | 20% | 18% | 217 | 19% |
| Nephrology | 56 | 11 | 20% | 1% | 18 | 2% |
| Pediatrics | 328 | 53 | 16% | 7% | 75 | 6% |
| Dermatology | 87 | 12 | 14% | 2% | 36 | 3% |
| Orthopedic Surgery | 132 | 17 | 13% | 2% | 55 | 5% |
| HIV | 177 | 22 | 12% | 3% | N/A | 0% |
| Ophthalmology | 120 | 11 | 9% | 1% | 67 | 6% |
| Gastroenterology | 97 | 6 | 6% | 1% | 36 | 3% |
| Pulmonology | 69 | 3 | 4% | 0% | 15 | 1% |
| Oncology | 130 | 4 | 3% | 1% | 37 | 3% |
| Neurology | 135 | 4 | 3% | 1% | 46 | 4% |
| Infectious Diseases | 68 | 2 | 3% | 0% | 9 | 1% |

Kaiser has a similar physician specialty distribution as B&T (e.g., OB/GYN, Cardiology, and Internal Medicine presence)

Note: Kaiser only provides information on the above specialties

Source: Kaiser Physician counts from Kaiser web directory; San Francisco physician counts from San Francisco Department of Public Health Communicable Disease Control & Prevention HAND provider database

IV. BENCHMARKING ANALYSIS

Lewin compared the performance of San Francisco General Hospital to five benchmark hospitals across indicators that assess efficiency and effectiveness. The analysis below first presents a summary of findings and profiles of the benchmark hospital systems. Lewin's analysis of clinical quality measures, financial metrics and ratios, and productivity indicators is then followed by a discussion of best practices that General Hospital could adopt in order to enhance performance further.

A. Summary of Benchmarking Analysis by Key Performance Area

The following is a summary of key findings presented in this section:

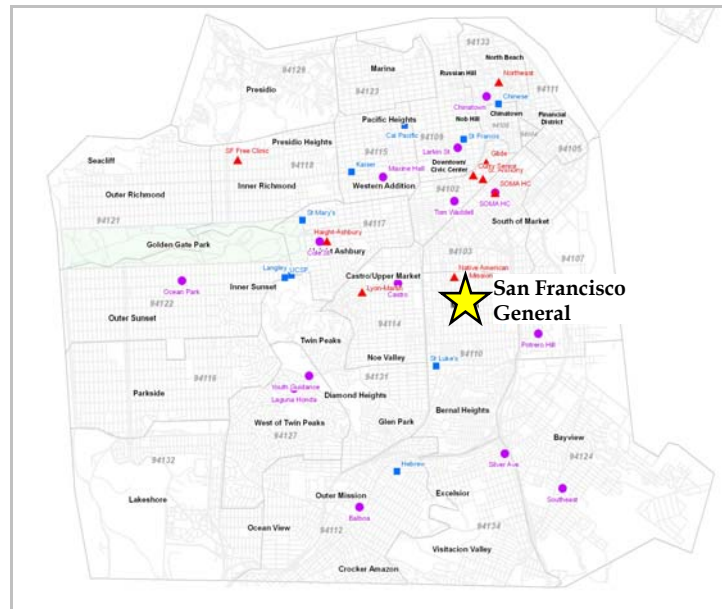
- *San Francisco General is near the top of the benchmark range in overall clinical quality.* This is based upon comparisons across widely accepted and validated indicators of clinical quality and effectiveness related to heart attacks, congestive heart failure, pneumonia, and surgical infections prevention.
- *San Francisco General delivers cost-efficient inpatient care.* Cost-efficient delivery of patient care coupled with the strong clinical outcomes noted above may make General Hospital increasingly attractive to public and private health plans and employers. This may favorably position the General to diversify and enrich funding streams and strengthen its local market position.
- *San Francisco General is much older than all other benchmark hospitals.* An intriguing aspect of General Hospital's relatively strong performance in clinical quality and inpatient cost-efficiency are these infrastructure challenges around which it must work. Age has a negative effect on efficiency and effectiveness because older physical infrastructure has problems accommodating advances in medical and information technology and operating efficiencies.
- *San Francisco General has improved its operational efficiency.* This is demonstrated by improved productivity and efficient revenue cycle management compared to benchmarks. The General is relatively efficient in collecting payments for the services it provides and has leaner staffing levels than benchmarks, producing annualized savings of about \$3.2 million in salaries and direct contract labor expense.
- *San Francisco General receives significant and growing funding from the City and County of San Francisco.* This demonstrates a long-term public commitment to ensuring access to high quality care for all residents.

B. Benchmark Hospital Summary Profiles

Below are summary profiles of San Francisco General Hospital and the public hospitals selected for purposes of benchmarking trends, efficiency, and effectiveness. All of the benchmarks are hospitals with over 300 beds, staffed by county employees, home to trauma centers and graduate medical education residency training programs, and serve a disproportionate share of Medicaid patients (greater than 31 percent of total discharges).

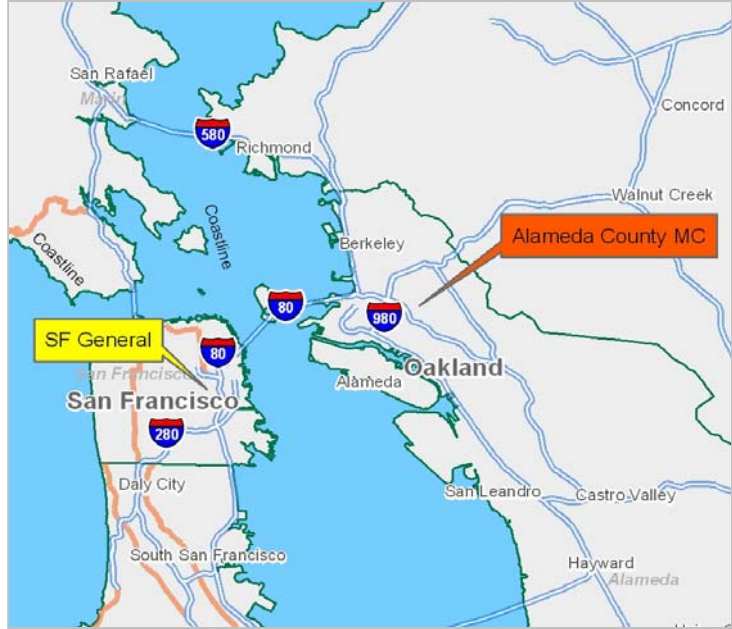
1. San Francisco General Hospital

San Francisco General Hospital is a 598 licensed-bed hospital located in San Francisco, a growing and aging city. Owned by the City and County of San Francisco, General Hospital is a part of the Department of Public Health and receives funding from the city's general fund. This funding helps General Hospital care for the city's residents, of which nine percent are uninsured. General Hospital offers the city's only trauma center and emergency psychiatric services and provides over half of the psychiatric, HIV and substance abuse care in the city.



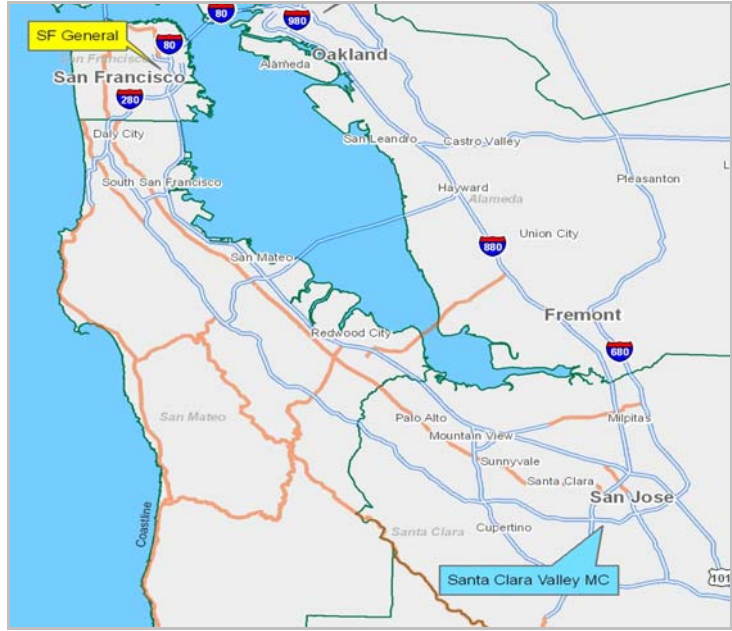
2. Alameda County Medical Center

Alameda County Medical Center is a 311 licensed-bed hospital located across the bay from San Francisco in Oakland, California. Alameda County Medical Center's governance structure is unique compared to most public hospitals. Originally, under a more traditional arrangement, the Alameda County Board of Supervisors governed the hospital. However, in fiscal year 1998, it became a public hospital authority with its own governing board of trustees. As a result, the County is no longer responsible for the hospital's financial health. Instead, a large portion of Alameda County's share of the state sales tax revenue is allocated to the hospital. Fourteen percent of the county population is uninsured.



3. *Santa Clara County Medical Center*

Santa Clara County Medical Center is a large facility with 510 licensed beds located approximately one hour south of San Francisco in San Jose, California. Santa Clara County Medical Center is owned by the County and governed by an executive director and an executive management team. The County has recently approved funding for a replacement facility costing \$1.2 billion. Twelve percent of the county population is uninsured.



4. *Riverside County Regional Medical Center*

Riverside County Regional Medical Center is a 359 licensed-bed facility located in southern California in the Moreno Valley. Considered its own county department, Riverside County Medical Center has been under the direct control of the County Board of Supervisors for over 100 years. The hospital CEO reports to the County Executive who reports to the Board of Supervisors. In 1998, Riverside County Medical Center built a new seismically compliant 520,000 square foot building. The hospital's rural setting has limited the presence of competitors, contributing to its robust financial health. Ten percent of the county population is uninsured.



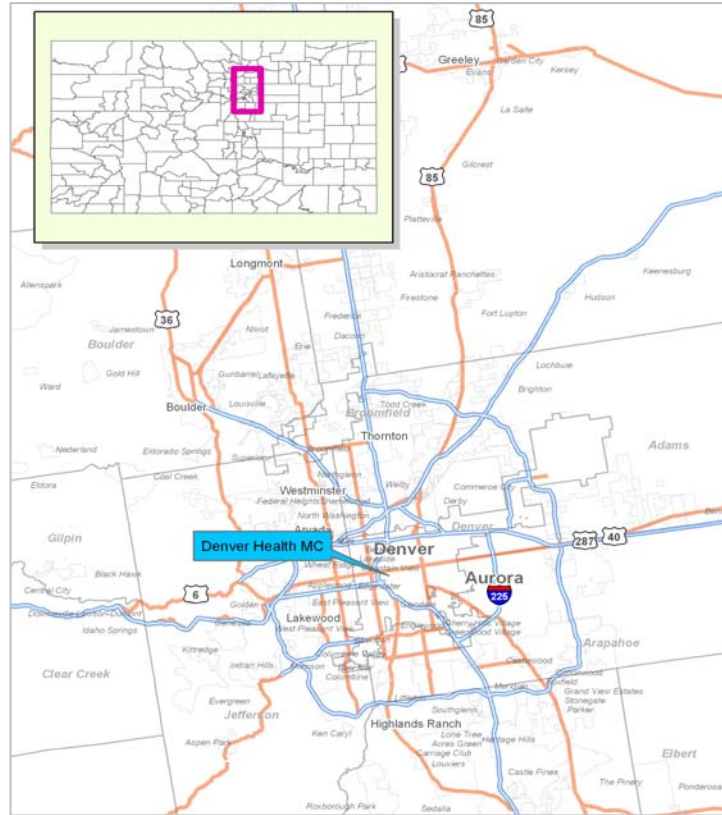
5. *University Medical Center (Las Vegas, Nevada)*

University Medical Center (UMC) is Nevada's largest hospital with 577 licensed beds. UMC is a county-owned medical center, under the governance of the Clark County Board of Commissioners. Everyday operations are run by a CEO, who is hired by the County Commissioners. Considered one of the fastest growing counties in the nation, Clark County's population increased over 24 percent from 2000 to 2005. Over 16 percent of the population is uninsured.



6. *Denver Health (Denver, Colorado)*

Denver Health, a 385 licensed-bed facility, operates in a manner similar to Alameda County Medical Center. In 1997, Denver Health and all public hospital assets (\$50 million) were transferred from city/county control to a hospital authority. The Denver Health Hospital Authority functions independently, but with a board appointed by the mayor and confirmed by the City Council. Also, the city/county contracts with the Hospital Authority to continue to provide certain public health services (e.g., clinics, pre-natal care, and health education). Eighteen percent of the county is uninsured.



C. Clinical Quality Measures

Clinical quality measures focus on the most important component of hospital effectiveness: the quality of care delivered to patients and outcomes achieved. Focusing on quality measures is important for a number of reasons. Consumers increasingly use them when selecting a hospital for services such as elective surgery or delivering a baby. Public and private payers are also increasingly using them in a range of pay-for-performance initiatives.³² Quality measures contribute to a culture of care that emphasizes patient safety and reduces quality and safety concerns that lead to longer hospitalizations and/or legal liability.

Many indicators of quality exist and are promoted by professional societies. For this analysis, Lewin selected a set of validated, extensively used quality measures developed by the Hospital Quality Alliance and reported publicly by the Centers for Medicare & Medicaid Services (CMS).³³ Lewin measured and benchmarked hospital inpatient quality of care across 19 widely accepted and validated indicators of clinical quality and

³² For example, effective in July, 2007, hospitals that receive payments for inpatient services from Medicare must participate in the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) in order to receive their full annual payment updates. The HCAHPS is a survey designed to measure patients' perspectives of hospital care.

³³ <http://www.hospitalcompare.hhs.gov>.

effectiveness. Lewin then consolidated these 19 measures into four key quality benchmarks for purposes of comparison across benchmark systems (Figure 35):

- Treatment of heart attacks (six measures);
- Treatment of congestive heart failure (four measures);
- Treatment of pneumonia (seven measures);
- Prevention of surgical site infections (two measures).

Figure 35: Clinical Quality of Care Measures Algorithm

| CMS Quality Measures Combined for Analyses* | |
|--|---|
| Heart Attack | Average of hospital's rates for the following measures: |
| | Percent of Heart Attack Patients Given angiotensin-converting enzyme Inhibitor or angiotensin receptor blocker for Left Ventricular Systolic Dysfunction (LVSD) |
| | Percent of Heart Attack Patients Given Aspirin at Arrival |
| | Percent of Heart Attack Patients Given Aspirin at Discharge |
| | Percent of Heart Attack Patients Given Beta Blocker at Arrival |
| | Percent of Heart Attack Patients Given Beta Blocker at Discharge |
| | Percent of Heart Attack Patients Given Smoking Cessation Advice/Counseling |
| Congestive Heart Failure | Average of hospital's rates for the following measures: |
| | Percent of Heart Failure Patients Given angiotensin-converting Inhibitor or angiotensin receptor blocker for Left Ventricular Systolic Dysfunction (LVSD) |
| | Percent of Heart Failure Patients Given an Evaluation of Left Ventricular Systolic (LVS) Function |
| | Percent of Heart Failure Patients Given Discharge Instructions |
| | Percent of Heart Failure Patients Given Smoking Cessation Advice/Counseling |
| Pneumonia | Average of hospital's rates for the following measures: |
| | Percent of Pneumonia Patients Assessed and Given Influenza Vaccination |
| | Percent of Pneumonia Patients Assessed and Given Pneumococcal Vaccination |
| | Percent of Pneumonia Patients Given Initial Antibiotic(s) within 4 Hours After Arrival |
| | Percent of Pneumonia Patients Given Oxygenation Assessment |
| | Percent of Pneumonia Patients Given Smoking Cessation Advice/Counseling |
| | Percent of Pneumonia Patients Given the Most Appropriate Initial Antibiotic(s) |
| | Percent of Pneumonia Patients Whose Initial Emergency Room Blood Culture Was Performed Prior To The Administration Of The First Hospital Dose Of Antibiotics |
| Surgical Infection Prevention | Average of hospital's rates for the following measures: |
| | Percent of Surgery Patients Who Received Preventative Antibiotic(s) One Hour Before Incision |
| | Percent of Surgery Patients Whose Preventative Antibiotic(s) are Stopped Within 24 hours After Surgery |
| * Time period for analysis: Oct., 2005 through Sept., 2006 | |

San Francisco General Hospital ranks second among the public hospital benchmark systems in overall clinical quality based on this consolidation of quality measures into the four areas. The General also ranks second across all but one individual measure of benchmark hospital performance (Figure 36).

Why Clinical Quality Measures? This metric measures good patient results and contributes to a culture of care that emphasizes patient safety and shorter hospital stays.

Figure 36: Summary Clinical Quality of Care Indicator Results (Rank), 2005-2006

| | Heart Attack | Congestive Heart Failure | Pneumonia | Surgical Infection Prevention | All 4 Clinical Areas |
|-------------------------|--------------|--------------------------|-----------|-------------------------------|----------------------|
| Denver Health | 92.7% (3) | 82.5% (2) | 85.5% (1) | 77.1% (3) | 84.4% (1) |
| SF General | 93.2% (2) | 81.6% (3) | 71.3% (2) | 81.9% (2) | 82.0% (2) |
| Santa Clara | 89.5% (4) | 70.5% (5) | 61.4% (6) | 85.6% (1) | 76.7% (3) |
| UMC- Southern NV | 96.1% (1) | 88.0% (1) | 61.7% (5) | 56.0% (6) | 75.4% (4) |
| Riverside County | 84.5% (6) | 74.8% (4) | 69.3% (3) | 58.3% (5) | 71.7% (5) |
| Alameda County | 89.2% (5) | 62.2% (6) | 62.4% (4) | 60.5% (4) | 68.6% (6) |

Ranked 1 or 2
Ranked 3 or 4
Ranked 5 or 6

Source: Lewin analysis of Center for Medicare and Medicaid Services;
www.hospitalcompare.hhs.gov

These comparative outcomes demonstrate a high level of clinical effectiveness by San Francisco General Hospital. They demonstrate in clinical terms a positive return on the ongoing investments made in the General by the City and County of San Francisco.

D. Financial Metrics and Ratios

This section highlights and compares five key contributors to financial performance across benchmark public healthcare delivery systems. These include:

1. *Profitability measures*, which include comparative trends in benchmark hospital overall financial performance, measured as total and operating margins;
2. *Liquidity measures*, which assess comparative efficiency of hospital revenue cycles;
3. *Cost-efficiency measures*, which include comparisons of inpatient costs when adjusted for factors outside the control of benchmark hospitals such as patient populations and local wage levels;
4. *Revenue and payer mix measures*, which include trends in hospital revenue streams and revenue diversification by payer; and
5. *County financial contributions* to benchmark public hospitals, which identify trends in the magnitude of County financial support of benchmark public healthcare delivery systems.

1. Profitability

Trends in total and operating margins, or “profit,” are traditional core measures of hospitals’ financial health. Total margins reflect the difference between all hospital revenue sources and all expenses, or the overall profitability of a health system (Figure 37). Operating margins (Figure 38) reflect hospital profits or losses that are only related to revenues and costs generated by patient care – the core operations of the hospital.

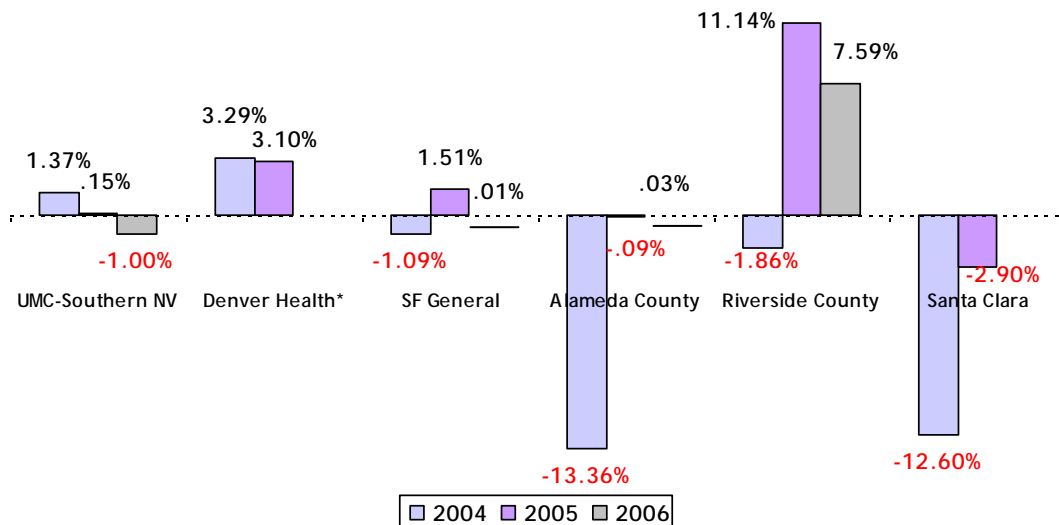
Low margins among safety net providers are largely related to the high levels of poorly reimbursed mission driven services such hospitals provide to vulnerable populations. One major disadvantage associated with low margins is a limited ability to fund significant capital investments or other operational enhancements without seeking additional public funding.

As depicted in Figure 37 below, San Francisco General Hospital’s total margins, while consistently low over the past three years, have remained more stable over time than most of the benchmarks. Moreover, the General’s total margins fall within the middle of a wide range. Across the benchmarks, total margins in fiscal year 2006 ranged from a profit of about eight percent at Riverside County to a loss of almost three percent at Santa Clara. As a point of comparison, 58 percent of National Association of Public Hospital members reported total margins below two percent in 2004.

Riverside County credits its superior performance in total margins to a combination of efficiencies stemming from a relatively new physical plant, a relative shortage of competitors within its local market, and sizable revenue from a contract to provide prison health services for the state of California.

Why Total Margin? This metric reflects the overall profitability of the health system. Higher margins are associated with the ability to fund capital investments.

Figure 37: Trends in Total Margin, Fiscal Year 2004 - 2006

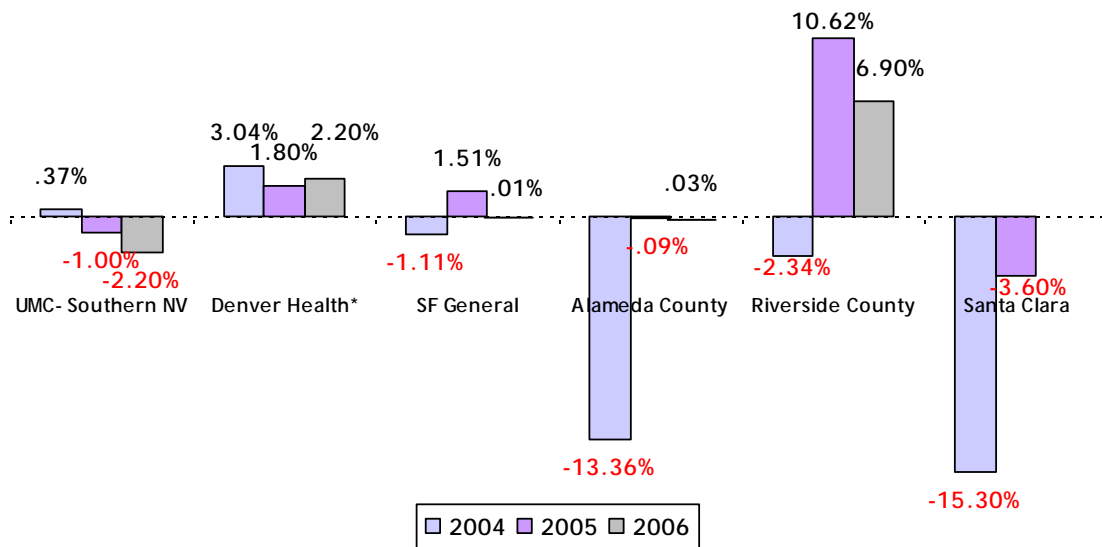


Source: Ingenix Financial Benchmarks * Calendar Year

Trends in operating margins also varied greatly across benchmarks (Figure 38). In 2006, San Francisco General Hospital's operating margin was near the middle of the benchmark range. The close similarity across benchmarks between trends in total and operating margins suggests that these public healthcare delivery systems have limited access to sources of non-patient care revenue typically available to the nations' voluntary and for-profit systems. Examples include investment income, contributions, endowments and grant-related income.

Why Operating Margin? This metric reflects profit margins in relation to the core operating (patient care) revenues and costs of the organization. Higher margins are associated with the ability to fund capital investments.

Figure 38: Trends in Operating Margin, Fiscal Year 2004 - 2006



Source: Ingenix Financial Benchmarks * Denver 2006 data from Fitch Ratings;

2. Financial Liquidity

Financial liquidity measures assess the ability of benchmark hospitals to meet their short-term obligations and to collect payments promptly and efficiently for the services they provide. Inability or delays in collecting payments or paying short-term obligations may create a liquidity crisis or, in extreme cases, future insolvency. Lewin examined two measures of liquidity: *Days in Patient Accounts Receivable* and *Days Cash On Hand*.

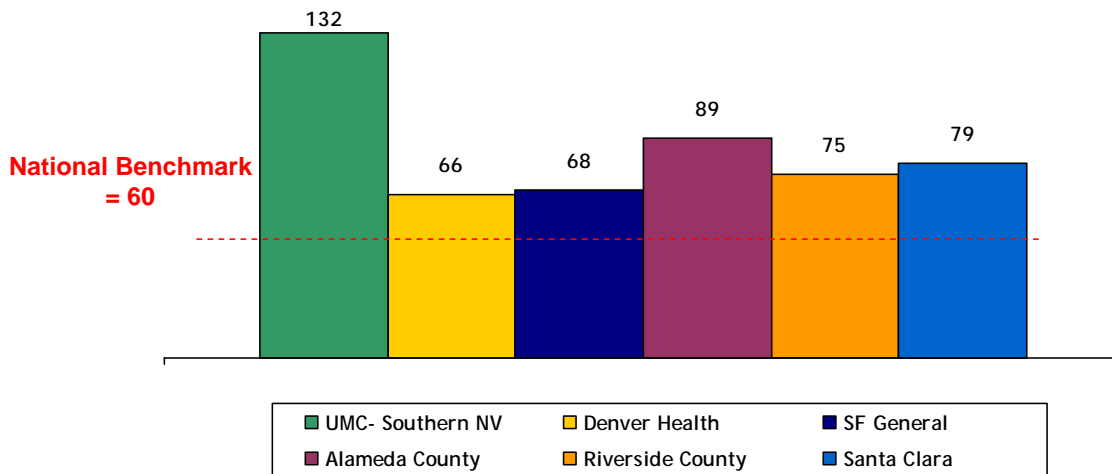
Days in Patient Accounts Receivable constitutes a useful metric for comparing the efficiency of revenue cycle management across hospitals. It measures how many days, on average, hospitals take to collect third-party and other patient revenue for which the hospital has billed. This metric also represents the amount of hospital revenue tied up by outstanding bills. Therefore, increases in this measure can create cash flow problems

for hospitals, and it is important that this measure be kept as short as is pragmatically feasible.

As depicted in Figure 39 below, San Francisco General Hospital exhibits the second lowest days in accounts receivable compared to all other benchmark hospitals and the lowest among its California peers. This suggests that San Francisco General collects its bills more rapidly than the California benchmarks and is relatively efficient in its patient revenue cycle management. However, none of the benchmark hospitals in this report meet the national benchmark among non-federal public hospitals of about 60 days in accounts receivable.

Why Days In Accounts Receivable? This metric represents the amount of net revenue dollars tied up in the hospital's accounts receivable. It is a proxy for the efficiency of revenue cycle management. Excessive days in receivables is an indication of poor working capital efficiency.

Figure 39: Days in Accounts Receivable, Fiscal Year 2006



Note: National Benchmark = 50th percentile (median) among 250-399 bed, government owned (non-federal), urban facilities

Source: Lewin County Health System Benchmark Survey 5/07; Alameda and Riverside Medicare Cost Reports 12/31/04; and the Comparative Performance of U.S. Hospitals: The Sourcebook 2005.

Days Cash on Hand measures the number of days of average cash expenses, such as payroll, that a hospital maintains in cash or marketable securities. Therefore, it represents the organization's ability to meet its short-term obligations, with more days cash on had representing a stronger ability. According to bond rating organizations, this is among the most important financial metrics considered in evaluating the credit worthiness of a hospital.

However, Days Cash on Hand is not critical to San Francisco General Hospital and most other benchmark hospitals included in this report as they are able to access county funding to avoid major liquidity crises. This is unlikely to change unless these hospitals seek to access capital markets in the future to help fund capital acquisitions, as do

private hospitals. For informational purposes, a comparison of Days Cash On Hand across benchmark hospitals can be found in Appendix G.

Lewin's findings regarding the relative efficiency of the General Hospital's revenue cycle management are further supported by a recent independent revenue maximization assessment conducted at the request of the San Francisco Department of Public Health and Controller's Office.³⁴ The assessment concluded that:

- San Francisco Department of Public Health revenue cycle processes and procedures are among the most complete and effective as compared with other large public health systems with whom the contractor has worked;
- Key revenue cycle leaders within the General's department of patient financial services have effectively implemented structural and procedural changes throughout the city healthcare system to greatly enhance revenue cycle functions;
- Overall organizational structure, policies and procedures, and work flow processes are in line with industry best practices;
- Although much of the information technology and systems used within the revenue cycle are progressive and up-to-date as compared with other public systems, the current general ledger information system used by the city limits the amount of real-time budget information available to departmental managers; and
- Some operational opportunities exist to maximize revenue through point-of-service collections, account follow-up, strategic pricing and Medi-Cal process management.

3. Hospital Cost-efficiency

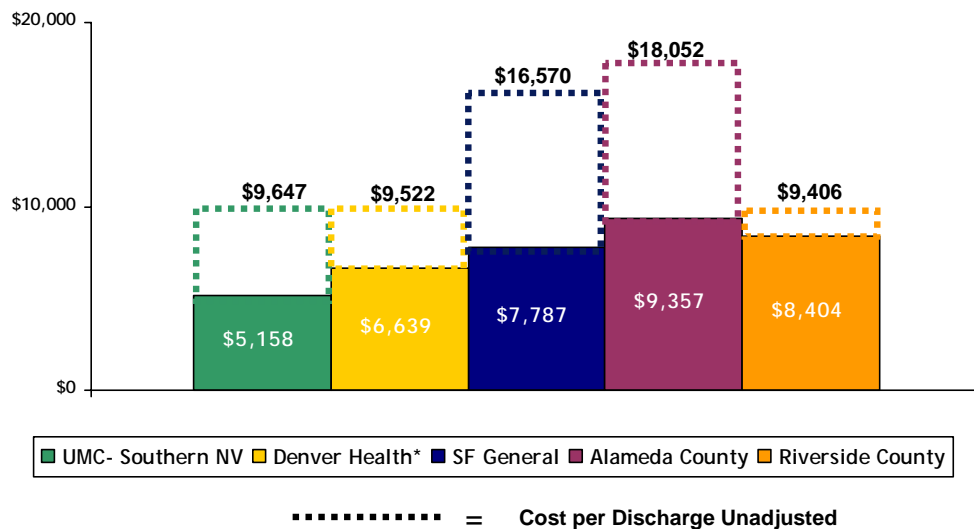
Lewin's analysis of cost-efficiency looks at the relative costs incurred by benchmark hospitals in treating patients for conditions requiring an inpatient stay while controlling for factors beyond the control of individual hospitals. Such factors include regional wage levels as well as patient acuity, that is, the type and severity of patient health problems. By adjusting for these factors, comparing differences in average cost per discharge across benchmark hospitals can yield more meaningful conclusions regarding efficient delivery of inpatient care.

³⁴ *Revenue Maximization Project Summary*, Phase 2 Consulting, Presentation to the San Francisco Health Commission, September 25, 2007

As highlighted in Figure 40 below, compared to other California benchmark facilities, San Francisco General Hospital performs well in terms of cost-efficient delivery of inpatient care when costs per discharge are adjusted. This efficiency is particularly notable given that General Hospital hosts a residency training program that is larger than all but one of the benchmark hospital systems.³⁵ Teaching hospitals such as the General incur additional costs both directly and indirectly associated with training future physicians. Examples of direct medical education costs include salary and benefit costs for interns, residents, fellows, and supervising physicians. Indirect costs include lower productivity and increased use of hospital resources associated with resident training activities.

Why Case Mix and Wage Adjusted? Cost indicators can lose some of their relevance if the benchmark facilities treat patients with varying severities or are located in areas that require higher wages. By adjusting for these factors, cost indicators can again speak to efficiency in patient care. Low costs per discharge suggest more efficiency.

Figure 40: Comparison of Costs per Discharge, Case Mix and Wage Adjusted, Fiscal Year 2006



Source: Ingenix Financial Benchmarks * as of 12/31/04; Santa Clara unavailable

4. Net Revenue by Payer Mix

The net revenues by payer metric examines variations in hospitals’ mix of payment sources, including Medicaid, Medi-Cal, Medicare, commercial, uninsured, and other

³⁵ One measure of the size of a residency training program is the number of interns and residents per staffed hospital bed. Based upon this metric, the General (0.56) and Denver Health (0.56) have much larger training programs than Alameda County (0.27), Riverside County (0.23) and UMC - Southern NV (0.17).

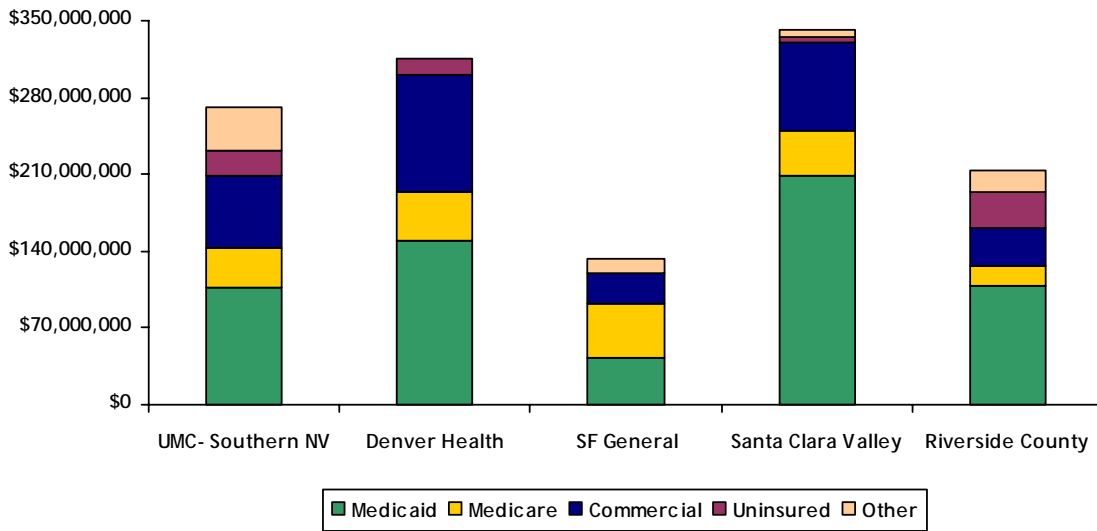
miscellaneous payers. Net revenue is defined as established rates charged for inpatient services minus any contractual allowances, payer discounts, and bad debt.³⁶

Figure 41 below depicts the fiscal year 2006 distribution of inpatient net revenue by payer across the benchmark hospital systems. Generally speaking, Medicaid remains the primary payer. This is a financial reflection of the role these safety net hospitals play in serving financially vulnerable populations. However, there are significant variations in payer mix across the benchmarks which reflect both their missions and attempts to diversify funding sources to improve financial performance.

San Francisco General Hospital has a higher proportion of Medicare revenue compared to the benchmark hospitals and has seen recent growth in commercial payer revenue (Figure 42). These factors have created an inpatient payer mix at San Francisco General that is somewhat more balanced than most of the other benchmark hospitals. General Hospital's recent efforts to open additional operating rooms have likely contributed to the growth in commercial payer revenue.

Why Inpatient Net Revenue by Payer?
 This metric shows the diversity of hospitals' revenue streams. Higher proportions of commercial revenue are associated with greater financial flexibility and performance.

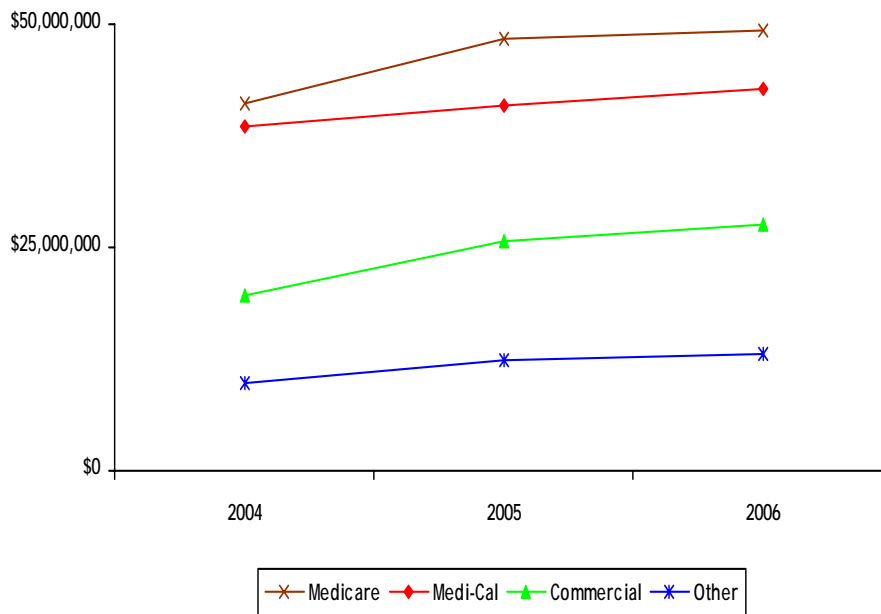
Figure 41: Comparison of Inpatient Net Revenue by Payer, Fiscal Year 2006



Source: Lewin County Health System Benchmark Survey 5/07. Data unavailable for Alameda County. San Francisco General Hospital does not separately report uninsured/ self pay revenue.

³⁶ Bad debt is an instance where a provider anticipated but did not receive payment for services rendered.

Figure 42: Trends in Inpatient Net Revenue by Payer, San Francisco General Hospital, Fiscal Year 2004 - 2006



Note: County Indigent included in Other. No reported Uninsured/ Self Pay Net Revenue for 2004-2006

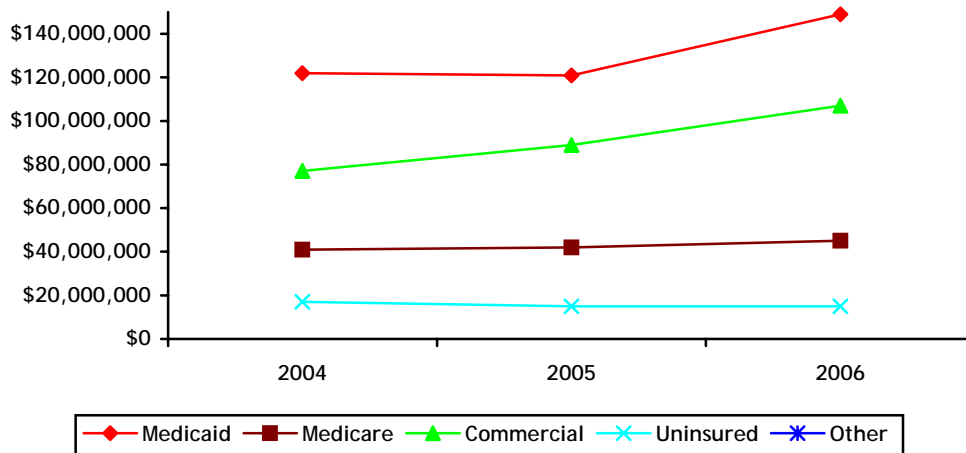
Source: Lewin County Health System Benchmark Survey 5/07

Among the benchmark systems, Denver Health has the most diversified payer mix across public and private payers and has achieved sustained growth in commercial inpatient revenue in recent years (Figure 43). This reportedly reflects a management strategy to achieve sizable growth in commercial payer revenue by diversifying into selected niche markets, or “centers of excellence,” that are highly regarded in the market and attract insured patients.

Examples of Denver Health’s niche markets include:

- Establishing a contract with Kaiser Permanente to operate a cardiac ablation program;
- Establishing and expanding the Rocky Mountain Regional Poison and Drug Center and the Denver Health Nurse Line Call-Center. Revenue from these programs grew from \$600,000 in 2000 to \$20 million in 2006; and
- Out-sourcing trauma surgeons to nearby communities, including ski resorts.

Figure 43: Trends in Inpatient Net Revenue by Payer, Denver Health, Fiscal Year 2004 - 2006



Source: Lewin County Health System Benchmark Survey 5/07

5. County Financial Contributions

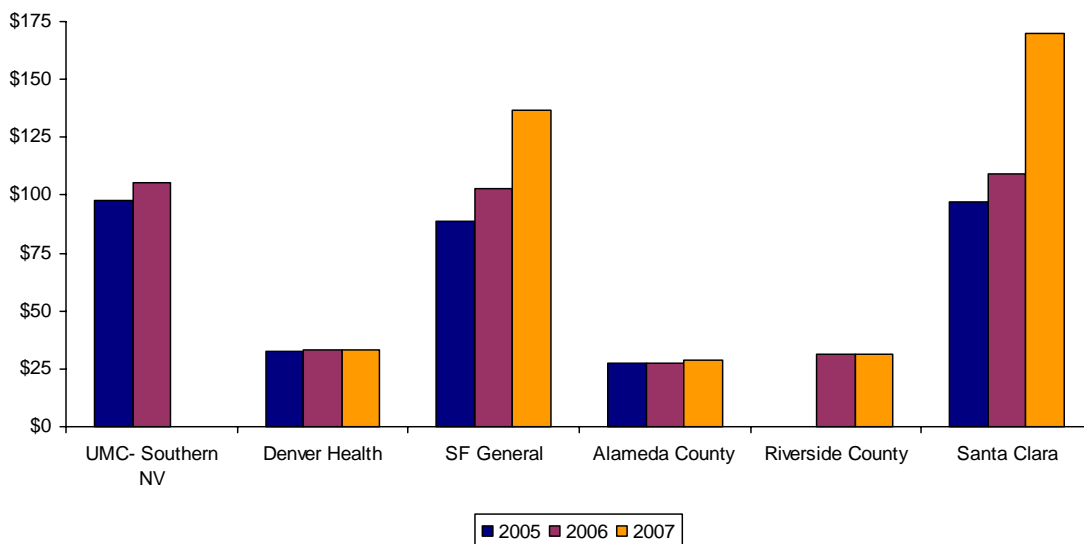
As noted above, safety net healthcare delivery systems that provide a substantial amount of care to vulnerable populations usually collect patient revenues that fall short of their operating costs. The gap between internally generated – or operating – revenues and expenses forces safety net providers to rely on federal, state, and local subsidies in varying degrees to remain viable. As depicted in Figure 44 below, both the magnitude and growth of county subsidies between fiscal year 2005 and fiscal year 2007 vary greatly across benchmarks.

San Francisco General Hospital and Santa Clara County Medical Center receive substantial and growing contributions from their county general funds, reflecting strong and consistent support for the high levels of mission-driven services each provides (Figure 44). In fiscal year 2006, San Francisco General (22 percent) and UMC – Southern NV (21 percent) led all benchmarks in county financial contributions measured as a percent of total hospital expenditures.

By way of comparison, Alameda County (seven percent) and Denver Health (eight percent) are organized as hospital districts. Such hospitals operate more independently from their respective counties and receive consistently lower levels of local financial support (Figure 45). As demonstrated by Denver Health, this level of independence may provide greater operating flexibility to hospital management and encourage entrepreneurial approaches to grow revenue and compete effectively within their local markets.

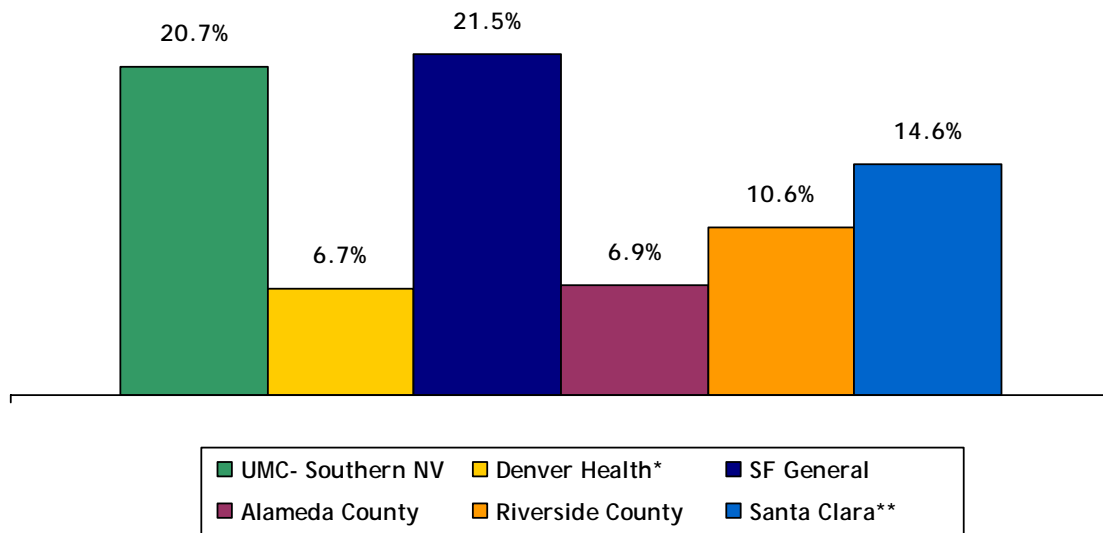
Why Trends in County Contributions? This metric shows the reliability of county support, with lower levels suggesting more local independence which is associated with greater operational flexibility.

Figure 44: Trends in County Contributions, Fiscal Year 2005 - 2007



Source: University Medical Center, Basic Financial Statements and Independent Auditors' Reports, Years Ended June 30, 2002-2006. Denver Health, Denver 2006 Adopted Budget. SF General, Department of Public Health Budget Summaries Department of Public Health website: <http://www.dph.sf.ca.us>, Alameda, Alameda County Healthcare Services Agency, ACMC indigent funding, fiscal year 2003-fiscal year 2007. Riverside, interview with David Runke 7.13.07. Santa Clara, 2007 County Budget. Some years of data from UMC - Southern NV and Riverside County not available.

Figure 45: County Contributions as a Percent of Total Expenses, Fiscal Year 2006



Source: Ingenix Financial Benchmarks * As of 12/31/05; ** As of 6/30/05

6. Capital Structure

As depicted in Figure 46 below, San Francisco General Hospital’s physical plant is much older than those of other benchmark systems. Older physical plants are usually less efficient, have lower levels of patient and staff satisfaction, and face competitive disadvantage in local markets. According to a San Francisco General Hospital administrator, the General is aging and has not been subsidized for upkeep. As a result, the current physical plant has problems accommodating advances in medical and information technology and achieving operating efficiencies.

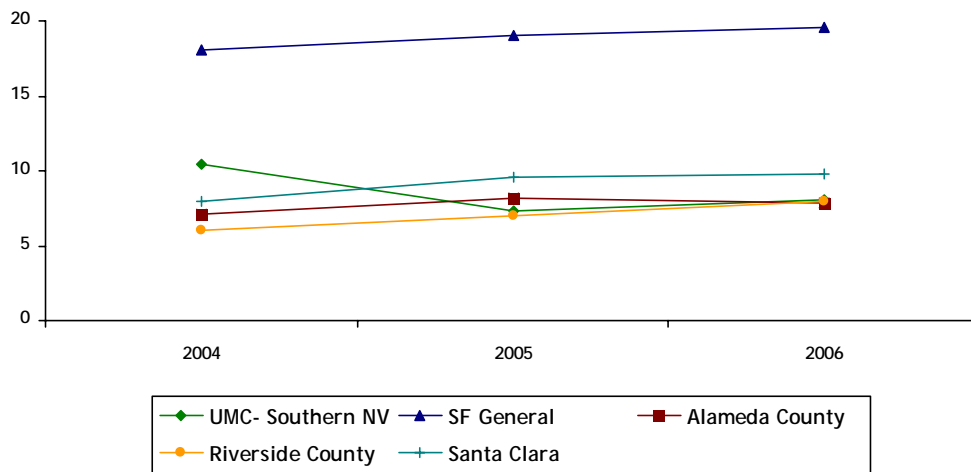
During the 1990’s, Santa Clara County faced similar issues and came to a decision to rebuild its public hospital. The reasons that prompted this reflect the circumstances of other safety net healthcare systems. They were unable to find other local providers willing to commit to meeting the county’s responsibility to care for the indigent or willing to provide services to vulnerable populations at an affordable cost to the county. Moreover, their old physical plant had capacity constraints which were leading to diminishing federal Medicaid Disproportionate Share (DSH) funding over time.³⁷ Since its rebuild, quality of care at Santa Clara County Medical Center has reportedly improved. Moreover, capacity has been expanded and technological advancements and hospital redesign have led to better care, more accessible services, and improved overall customer satisfaction.

³⁷ The Federal Medicaid Statute requires that states make DSH adjustments to the amounts they pay to hospitals treating large numbers of low income and Medicaid patients. To qualify for DSH payments, hospitals must have a Medicaid inpatient utilization rate greater than one standard deviation above the mean rate for the state or a low income utilization rate of 25 percent. As an aging hospital’s capacity to provide care to Medicaid and other patients declines, so too will their Medicaid DSH funding given that it is based upon Medicaid patient volume.

San Francisco General Hospital faces many of the same issues confronted by Santa Clara County Medical Center and will likely reap many of the same benefits associated with a new facility. In addition, state seismic standards require that the General be rebuilt. Given San Francisco General's relationship with the City and County of San Francisco, a general obligation bond is planned in 2008 and will be the primary source of funding for the rebuild of the General.

Why Average Age of Plant? This metric shows the relative age of hospital facilities and equipment. It is often used to help determine hospitals' current year capital budget, with older facilities requiring more investment.

Figure 46: Trends in Average Age of Hospital Plant, Fiscal Year 2004 - 2006



Source: Lewin County Health System Benchmark Survey 5/07

E. Productivity Indicators

This section highlights and compares productivity indicators across benchmark public healthcare delivery systems. Productivity improvements in hospitals help limit the growth of costs and enhance operational efficiency. In order to evaluate this across hospitals, Lewin measured the labor used to produce a constant product, such as number of patient visits, discharges, and days in the hospital.³⁸ Lewin used the following productivity metrics for this report: *Numbers of Full Time Equivalents (FTEs) per Occupied Bed*, *Hospital Person Hours per Discharge*, *Hospital Inpatient Length of Stay*, and *Patient Complexity and Severity*. In addition, Brady and Associates completed a more detailed analysis of departmental-level staffing at San Francisco General Hospital which provides further insight into the General's workforce efficiency.³⁹

³⁸ In the case of hospitals, such metrics must be interpreted cautiously because patient days, discharges, and visits vary due to quality of care as well as labor used

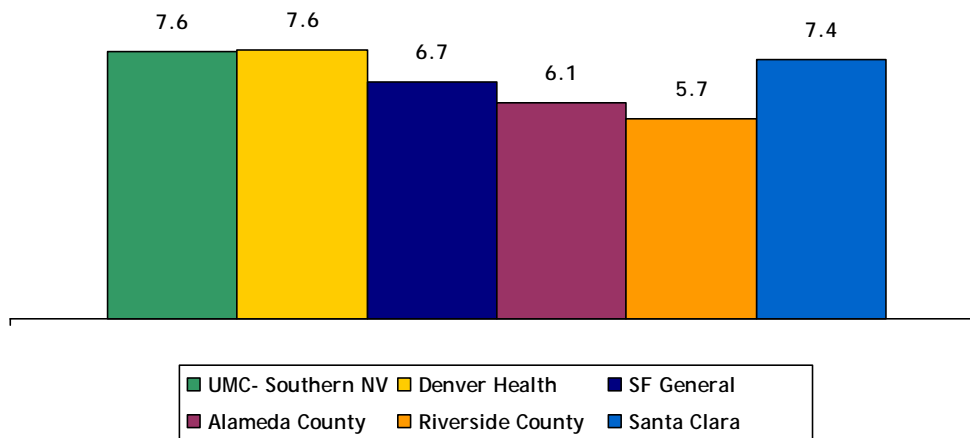
³⁹ *San Francisco General Hospital Staffing Review: Executive Summary*, Brady & Associates, July 13, 2007

1. Full Time Equivalents per Occupied Bed

As depicted in Figure 47, San Francisco General Hospital occupies the mid-point of the benchmark range in numbers of full time equivalents per occupied bed. This finding, along with the data reported by other California benchmarks, may be influenced by California's mandated nurse staffing ratios.⁴⁰

Why FTEs per Occupied Bed? If quality remains high, lower staffing levels may represent efficient use of staffing and resources, with a lower number representing more efficient outcomes.

Figure 47: Full Time Equivalents (FTEs) per Occupied Bed, Fiscal Year 2006



Source: Lewin County Health System Benchmark Survey 5/07. Santa Clara from OSHPD 2005 FTEs/Adjusted per Occupied Bed.

2. Hospital Person Hours per Discharge

Another useful metric to consider when evaluating productivity is hospital person hours per discharge. This indicates the ability of hospital staff to minimize labor costs in inpatient settings and is a measure of efficient deployment of resources. However, lower hospital person hours per discharge are only favorable if they do not adversely affect the quality of care provided to patients and health outcomes of those patients.

Why Hospital Person Hours per Discharge?

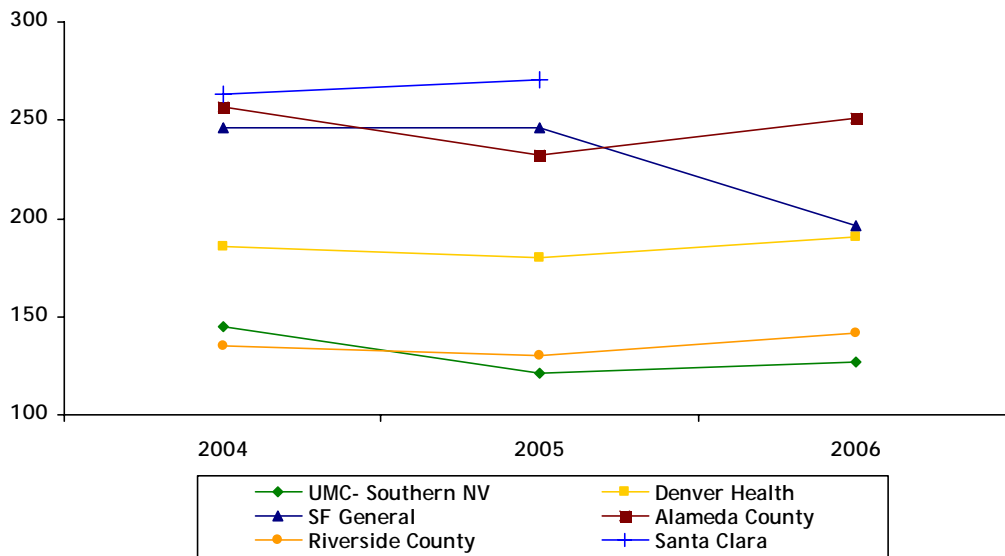
This indicator is a measure of efficiency in resource deployment in hospital inpatient settings, with lower hours indicating better efficiency.

As depicted in Figure 48 below, in recent years the California benchmark systems continue to incur a greater number of labor hours per discharge compared to their

⁴⁰ The California Department of Health Services mandates that general acute care hospitals maintain a nurse-patient staffing ratio of 1:5. California is the only state with a nurse-patient ratio mandate.

national counterparts. This finding may be influenced by California’s mandated nurse staffing ratios⁴¹, differences in the average length of patient hospital stays, or other factors. Despite this overall trend, San Francisco General has shown a recent sharp decline in labor hours per discharge compared to benchmarks. This is notable given the General’s high number of mental health patients who cannot be discharged unless they have a home or other available housing or residential care options available to them. The decline in labor hours per discharge suggests that San Francisco General is improving its operational efficiency.⁴²

Figure 48: Trends in Hospital Person Hours per Discharge, Fiscal Year 2004 – 2006



Note: California hospitals are subject to mandated nurse staffing levels.

Source: Ingenix Financial Benchmarks. 2006 data unavailable for Santa Clara

3. Hospital Inpatient Length of Stay

The average length of a patient’s hospital stay is a measure that incorporates both patient severity and hospital efficiency in managing the length of patient stays. From a financial perspective, the benefits of low hospital lengths of stay include decreased total costs per patient. More rapid patient turnover may also enhance hospital operating revenue under per-case payment systems. Clinically, shorter hospital stays often signify improved ability of hospitals to stabilize patients more quickly or discharge them earlier to more appropriate outpatient, home, and other non-hospital settings. Such earlier

⁴¹ The California Department of Health Services mandates that general acute care hospitals maintain a nurse-patient staffing ratio of 1:5. California is the only state with a nurse-patient ratio mandate.

⁴² Such data trends can also indicate staffing shortages, but this is unlikely in the case of the General: the General’s staffing levels remain within the mid-point of the benchmark range, and it demonstrates strong performance on clinical quality measures which typically suffer in the presence of staffing shortages.

discharges reflect advances in medical practice patterns and technology as well as better health outcomes for patients.

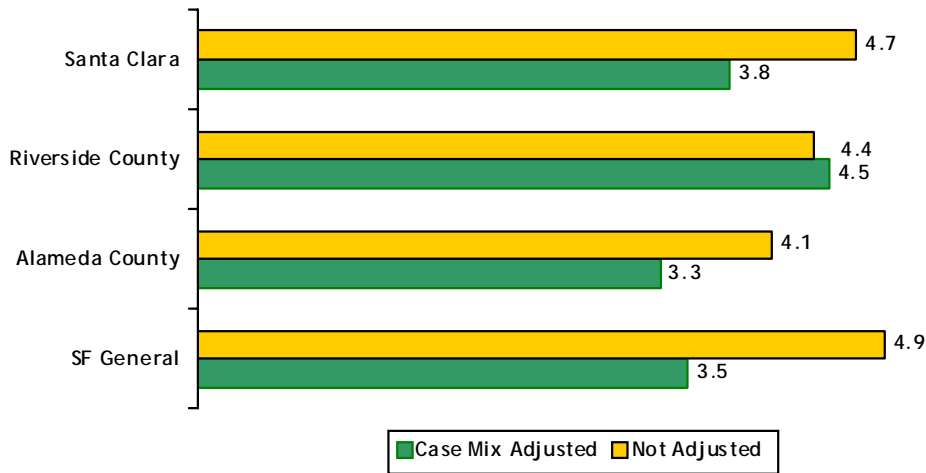
For this benchmarking analysis, Lewin adjusted each California benchmark hospital⁴³ for the impact of differences in case severity, thus correcting for differences in patient populations. This produced more robust findings about regional hospital efficiency by removing a key factor influencing average length of stay that is outside the control of hospitals.

Why Average Length of Stay?

Shorter average lengths of stay indicate more efficient use of hospital resources. Adjusting for case mix - or the types of patients treated by a hospital - allows a fair comparison across different hospitals.

As depicted in Figure 49 below, San Francisco General Hospital’s average length of stay of 3.5 days in fiscal year 2006 compares favorably to other California benchmarks. This finding is consistent with reported efforts by San Francisco General to improve patient throughput utilizing process redesign and enhanced coordination of care across access points into the system. For example, the General has developed e-Referral, an online specialty care referral system. The General has also recently developed an on-line bed tracking system to refer patients more efficiently to appropriate clinics and reduce wait times for patients requiring admission.

Figure 49: Average Length of Stay, Case Mix Adjusted, California Benchmark Hospitals, Fiscal Year 2006



Source: Lewin County Health System Benchmark Survey 5/07, Ingenix Financial Benchmarks

4. Other Workforce Efficiency Analysis

As part of this report Lewin engaged Brady and Associates to conduct a detailed independent analysis which benchmarked San Francisco General Hospital departments against those with comparable functions and workloads in similar urban teaching

⁴³ Data to adjust for differences in case severity was unavailable for the national benchmarks.

hospitals.⁴⁴ The purpose of the analysis was to assess workforce efficiency by comparing staffing levels and productivity at San Francisco General with similar hospitals across the country. The key findings support Lewin's overall conclusions about General Hospital's efficiency and include:

- San Francisco General Hospital's benchmarked departments employed a total of 61 fewer full time equivalent employees than the average of peer departments at comparable hospitals nationwide at comparable workload levels;
- The General's leaner staffing levels produce an annualized savings in salaries, wages, and direct contract labor expense of about \$3.2 million compared to the peer group average, plus additional benefits savings;
- The General outperformed the peer group average with respect to overtime, using about 26 percent less overtime than the average used by peer departments in similar hospitals nationwide. This resulted in about \$2.5 million in additional annual savings;
- The General under-performed the peer group average with respect to the number of labor hours paid compared to the number of productive hours. An above average ratio suggests that the General is incurring a greater expense for sick, vacation or other paid time off than peer hospitals. This finding may be related to the design of local public employee benefit programs.

Several performance limiting factors were also identified by Brady and Associates. The General's ability to significantly improve department-level staff productivity is constrained by the age and design of its physical plant. Many departments operate in multiple locations that create duplicative overhead functions, add to staffing requirements, and impede effective operations. Absence of a productivity management information system also hinders management's ability to monitor department-level labor and activity data on a regular basis.

5. *Patient Complexity and Severity*

Patient complexity and severity in inpatient and emergency department settings is measured using the Medicare inpatient case mix index. The Medicare case mix index is the average diagnosis-related acuity – or relative severity – for all of a hospital's Medicare patients. The more severe the conditions, the higher the index will be. The case mix index is useful because it is readily available, relatively current, and allows for consistent measurement of patient severity across benchmarks.

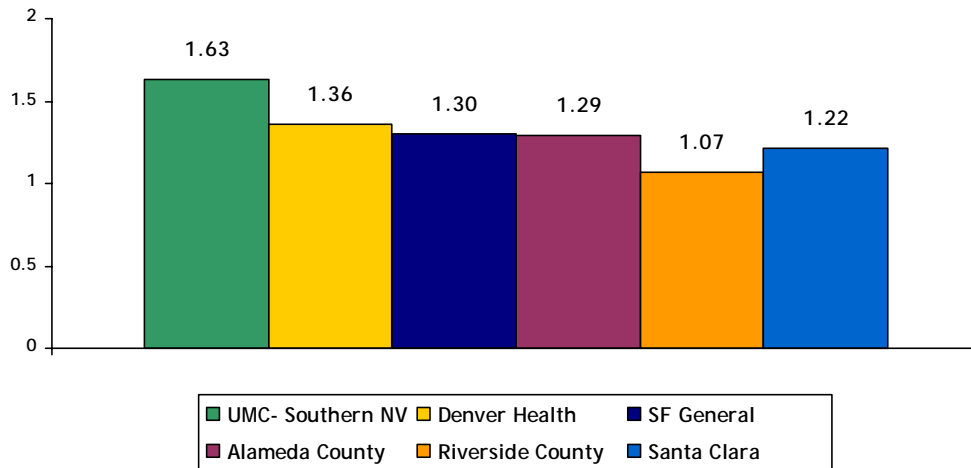
Why Medicare Case Mix Index? This index indicates the relative severity of a patient population and is directly proportional to resources consumed and hospital payments. A higher case mix index number is associated with higher severity and costs.

In fiscal year 2006, San Francisco General Hospital's Medicare Case Mix (Figure 50) was in the middle of the benchmark range. As a Level 1 trauma center, San Francisco General receives a significant number of high acuity patients, meaning those with injuries and

⁴⁴ San Francisco General Hospital Staffing Review: Executive Summary, Brady & Associates, July 13, 2007

conditions requiring complex and expensive medical services. However, the General’s overall patient acuity suggests that the higher acuity normally associated with patients admitted to a Level 1 trauma center is being offset by a mix of patients that includes a high volume of lower acuity behavioral health cases. See section III.B.7 of the Market Analysis in this report for further discussion of the General’s case mix.

Figure 50: Medicare Case Mix Index, Fiscal Year 2006



Source: Lewin County Health System Benchmark Survey 5/07, Ingenix Financial Benchmarks

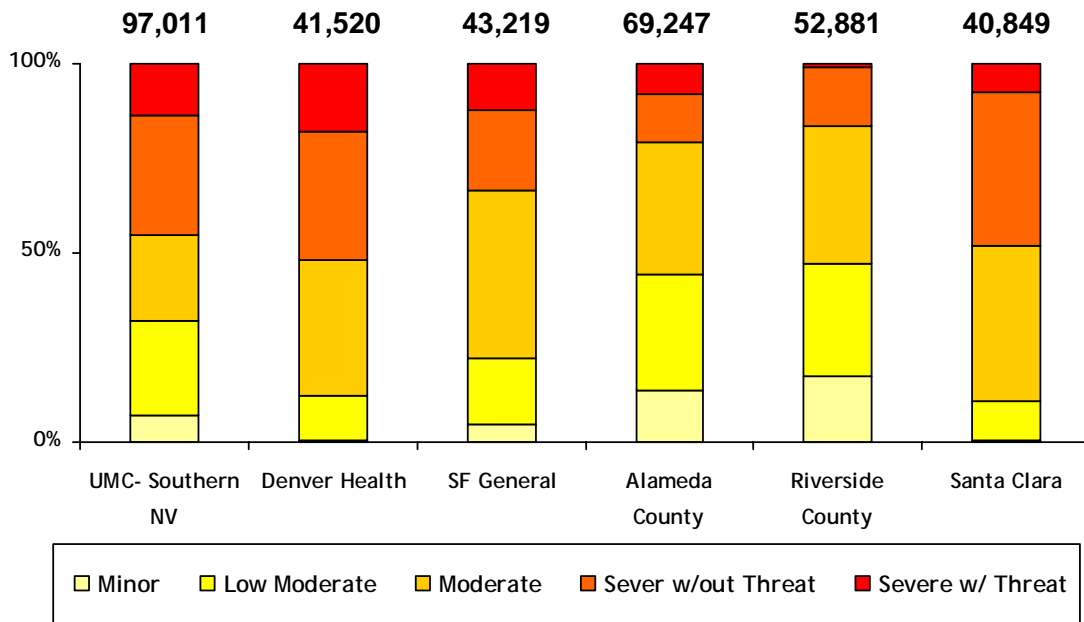
Emergency departments are high cost service settings with significant stand-by capacity. This capacity is designed to meet the needs of “high acuity” patients, meaning those presenting with severe conditions requiring immediate care that is often high cost and found only in emergency department settings. Trends in patient severity in emergency departments are useful indicators of the extent to which appropriate access to primary, diagnostic and specialty care is available to local residents. Generally speaking, less severely ill patients presenting at emergency departments are more appropriately and efficiently treated in less costly settings such as physician offices, community health centers and urgent care centers. Redirecting non-emergent patients to more appropriate levels of care also reduces emergency department overcrowding and improves surge capacity by creating more capacity to treat severely ill patients.

Why Emergency Department Visits by Acuity Level? This is an important indicator of the extent to which appropriate access to primary, diagnostic and specialty care is available to community residents. Lower acuity emergency department visits (minor, low moderate, and moderate) are usually more appropriately treated in settings such as physician offices, community health centers or urgent care centers.

Comparing emergency department visits by acuity level, San Francisco General Hospital occupies the middle of the benchmark range (Figure 51). Denver Health reports the lowest proportion of low acuity inappropriate emergency department use (minor to

moderate in 2006) and Riverside County the highest. Denver Health’s strong performance reportedly reflects the availability of multiple points of patient access and coordination throughout that healthcare system. These include school-based health centers, community-based family health centers, the Rocky Mountain Regional Poison and Drug Center, and the Nurse Line Referral Center.

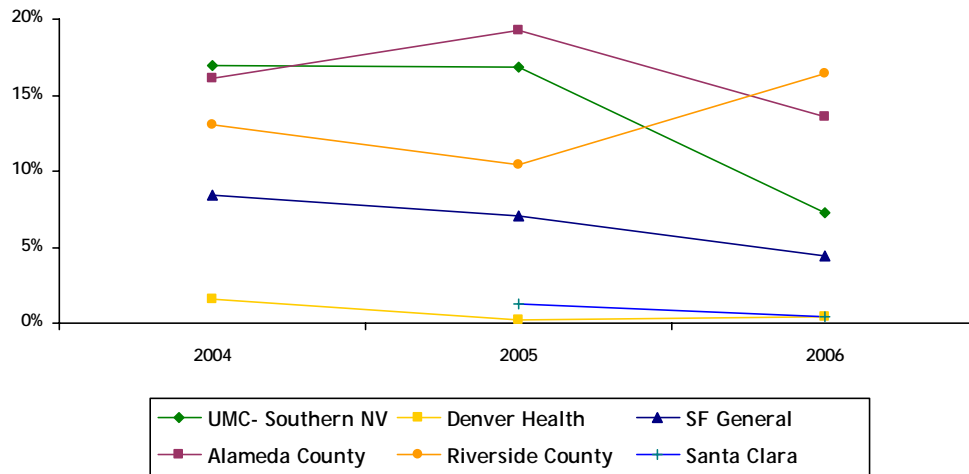
Figure 51: Emergency Department Visits by Acuity Level, Fiscal Year 2006



Source: Lewin County Health System Benchmark Survey 5/07

Figure 52 depicts recent trends in low acuity emergency department visits across benchmarks. Since fiscal year 2004, the proportion of these inappropriate visits has declined across all but one of the benchmarks. San Francisco General Hospital has been successful at reducing its proportion of minor emergency department visits to a low of five percent of all visits by fiscal year 2006. The General has reportedly been successful in directing this patient cohort to more appropriate and less costly settings, including existing and new urgent care and other community-based centers. The General is anticipating further improvements in this area as community care is expanded through the Healthy San Francisco initiative.

Figure 52: Trends in Proportion of Minor Emergency Department Visits, Fiscal Year 2004 - 2006



Note: Alameda opened a new emergency department in 2004

Source: Lewin County Health System Benchmark Survey 5/07.

F. Best Practices

The Lewin Group identified the following examples of best practices in efficiency and effectiveness among the benchmark public healthcare systems participating in this report. These practices are relevant to San Francisco General Hospital as they are in place at hospitals with similar missions, capacity, and patient populations. It should be noted that Lewin identified a number of best practices in San Francisco General Hospital as well. However, such best practices at the General are not highlighted in this report given that this report's purpose is to highlight best practices from other systems for potential transferability to the General.

We have organized the best practices below by size, scope, and impact, starting with system-wide approaches. A brief description of what San Francisco General Hospital is doing in each area is also included.

1. Health Information Technology

Information technology applications are improving efficiency in all service industries, healthcare included. Automation of key tasks often allows work to be done quicker and with better quality. As described below, a number of benchmark hospitals included in this report have invested in new technologies resulting in improved clinical and operational efficiency.

Denver Health

Description of Best Practice

Denver Health has systematically implemented well-funded information technology initiatives, investing \$259 million since 1997. Their approach was first to develop an integrated information technology infrastructure and then focus on applications using one primary vendor. The incremental approach Denver Health adopted began with a computerized physician order entry system in its intensive care unit. It was perfected there for 18 months before being replicated throughout the hospital and clinics. High ranking physicians and nurses guided departmental information technology development. Currently, computers in all patient rooms also include disease specific treatment recommendations for physicians and medical staff.

Outcomes

A recent report on the effectiveness of Denver Health's standardized, computer-aided disease treatment recommendations reportedly found that its use reduced the average length of patient stays by 35 percent.⁴⁵

Riverside County

Description

Riverside County has determined that upgrading its information technology will represent the single greatest positive influence on its future efficiency and productivity. As a result, the hospital plans to spend \$50 million on information technology in 2008. The hospital will also launch a three-year integration of electronic medical records across care settings and a physician order entry system in the fall of 2007.

Outcomes

These planned information technology initiatives will better integrate medical staff across inpatient and community-based outpatient primary and specialty care settings. Integrating medical records across care settings will provide efficient access to patient information regardless of physician practice location.

Santa Clara

Description

Santa Clara County provided generous support to its public hospital system in funding a new \$1.2 billion dollar replacement facility and three new clinics. While there is limited funding available for information technology, the county nonetheless recently launched an automated physician referral system. Other current information technology initiatives focus on implementing an electronic medical records system throughout its clinics and optimization of its patient accounting system. Santa Clara County is particularly focused on business office operations, including use of a rules-based system to streamline front-end patient registration.

⁴⁵ Source: Interview with Dr. Patricia Gabow, Denver Health CEO.

The County is also upgrading to Siemens' new automated eligibility system to match eligibility information more accurately with appropriate payment plans.

Outcomes

Focus on system-wide electronic medical record integration and adoption of upgrades to existing patient accounting systems will improve system-wide coordination and revenue cycle efficiency.

San Francisco

Investments in health information technology in San Francisco General Hospital to date have been hampered by the aging facility which makes technology upgrades more expensive and time intensive. In the past two years, only \$1.9 million has been budgeted for technology upgrades. However, the hospital has implemented an e-Referral system with the help of grants from the San Francisco Health Plan. Information technology plans for the new facility have not yet been established.

2. Methods to Improve Operational Efficiency

Denver Health

Description

Denver Health brought in members of Toyota, the car manufacturing company, to customize the Toyota Production System (TPS) to fit their hospital facility needs. Launched in 2004, Denver Health's TPS improves operational efficiency by methodically removing non-value added activities, or "waste", from the system by examining how tasks are performed and finding ways to improve operations.

TPS practices include:

- ***Eliminate waste:*** Waste is anything that uses resources but does not "add value" from the end user's (or patient's) perspective. This focus speeds the time from when a patient or physician requests a service to the time the service is provided. This process also takes a hard look at error prone aspects of hospital processes, such as the number of patient hand-offs among staff or medical staff rewrites of medical notes. As a result, better quality and safety are common by-products of waste reduction.
- ***Ensure quality at the source:*** TPS seeks to identify and correct errors as close as possible to the point they were made and never to pass on an error to the next step in the process. Mistake-proofing strategies used by process improvement teams include eliminating steps, reducing hand-offs, and standardizing work.
- ***Standardize operations:*** Without standardization, a process cannot have stable predictable output.
- ***Engage and respect everyone's expertise:*** TPS relies on rapid process improvement workshops. In these workshops, staff members observe and analyze work processes, apply TPS principles, and implement improvement

within the week. Focused physician and staff engagement and rapid implementation of new ideas and processes can be an effective catalyst for achieving improvement.

Denver Health selected several primary areas for TPS transformation. These included patient clinic flow, patient flow through the hospital, patient billing, credit collection, and operating room processes. Hospital managers involved every member of the hospital through short, structured daily staff meetings and incentive programs for particular actions over and above normal responsibilities. The hospital intends to continue broadening and deepening the TPS initiative.

Outcomes

Removing non-value added processes reportedly saved Denver Health an estimated \$7 million in fiscal year 2006 according to the hospital's executive staff. The savings target for fiscal year 2007 is \$10 million, with more savings anticipated as the hospital continues to broaden and deepen the TPS initiative.

San Francisco

Lack of funding has limited San Francisco General Hospital's ability to implement operational efficiency models like TPS. System redesign initiatives include the General's chronic care management, which has attracted private grant support, and the diabetes management program, which received American Diabetes Association certification. General Hospital is also considering redesign and other efficiency initiatives in its hospital-based clinics. Please see "San Francisco General Hospital's American Diabetes Association-certified Diabetes Education Program" and "Clinic Redesign Initiatives" in Appendix C for more information.

3. One-Stop Preoperative Center

Riverside County

Description

Established in 2005, Riverside County's One-Stop Preoperative Center significantly reduces the time needed for patients to complete the preoperative process by providing services in a centralized location. Such services include admitting and registration, pre-anesthesia assessment, radiology, laboratory, and preoperative consent and instruction. The time saved improves surgical throughput efficiency without sacrificing quality of care.

Prior to implementing this model, preoperative patients at Riverside County averaged about six hours to complete their preoperative activities and procedures. Believing that time and quality of care are key contributors to patient satisfaction, hospital leadership allocated space to the initiative. Hospital leadership also committed financial resources and support for both new project staff and for anesthesia physician residents in staffing the preoperative center.

Outcomes

It now takes patients about one hour on average to complete their preoperative activities. Riverside County reports improved patient flow and productivity, increased staff morale, and improved patient satisfaction stemming from this initiative.

San Francisco

General Hospital has established a One-Stop Preoperative Clinic for ophthalmology and vascular surgery patients – patients identified as having the highest rates of cancellation on the day of surgery. In the One-Stop clinic, ancillary and medical assistants work collaboratively to see the patient a week before the surgery to facilitate all diagnostic tests needed to proceed with surgery. The hospital is planning to expand the clinic to increase the volume of patients seen.

V. Conclusion

The San Francisco healthcare market landscape is rapidly changing. A growing senior citizen population – which requires unique hospital and ambulatory services for a range of acute, chronic, and multiple diagnosis disease conditions – will affect future demand for health services. The city also has a changing ethnic and racial make-up that will require providers to update their understanding of what it means to offer “culturally competent” care.

With the implementation of Healthy San Francisco, an initiative designed to provide increased healthcare services to local uninsured adult residents, more residents will have access to a broad spectrum of care, creating a potential surge in demand. As a result, the current supply and mix of health services should evolve to align with expected shifts in demand. While appropriate inpatient capacity should be maintained, continued efforts should be made where appropriate to move inpatient care to outpatient, residential and other settings, for both quality and cost reasons. The outstanding array of wraparound services currently provided by the Department of Public Health should continue to be funded and expanded.

A critical means to optimize use of service capacity is for all stakeholders to know the full extent of existing resources. To that end, the Department of Public Health should continue its efforts to publicize its programs and services. Special emphasis should be placed on private and public sector collaboration in allocating local service delivery. Under the Healthy San Francisco initiative, effectively and efficiently providing healthcare services to safety net populations will be dependent on the ability of the Department of Public Health and other local providers to collaborate and coordinate on service offerings and broader health policy initiatives.

San Francisco’s Department of Public Health is among the nation’s leading public health departments in terms of the scope of services provided as well as broader public health initiatives, like the Healthy San Francisco program. Playing on these strengths, the community is reportedly looking for the Department to continue setting a gold standard of care. In doing so, stakeholders hope to see the Department operate as a performance-driven organization with a transparent agenda and public health metrics on its performance.

The Department of Public Health recognizes that in order to face these challenges, San Francisco General Hospital, its flagship facility, must operate as efficiently and effectively as possible. Today, however, San Francisco General faces many challenges. Its aging physical plant has a negative impact on efficiency and effectiveness because it limits the introduction of additional service capacity and new medical and information technology. The General must also be able to seamlessly align with City and County implementation of Healthy San Francisco. Therefore, in addition to the local market assessment, this report also benchmarked San Francisco General Hospital to a sample of similar public hospitals located in the Bay area, regionally and nationally. The purpose

was to assess the General's relative performance and identify opportunities for improvement across a range of relevant performance measures.

The benchmarking analysis concluded that, overall, San Francisco General performs well compared to benchmarks across many of the performance measures Lewin examined. Particularly worthy of note is San Francisco General's high relative levels of performance related to inpatient clinical quality, cost-efficient delivery of inpatient care, and efficient patient revenue cycle management. San Francisco General's performance in these areas was achieved in the absence of financial or other incentives to optimize performance that are often found in the private healthcare sector. This report also identified several possible opportunities to further enhance the Department of Public Health's future overall efficiency and effectiveness. These include:

- **Rebuild San Francisco General Hospital's aging physical plant.** This is required to meet state seismic standards and should enhance the General's ability to achieve operating efficiencies associated with new facilities while improving patient and staff satisfaction levels. It is also likely to better position the system to be an active and effective partner with the City and County in implementing Healthy San Francisco.
- **Provide San Francisco General Hospital management with greater flexibility to capitalize on local market opportunities, such as special initiatives or program enhancements.** As demonstrated by Denver Health, the ability to identify and pursue specialized programs and niche markets opportunistically can help diversify and increase hospital revenue. Developing such centers of excellence would also enhance the future competitive position of the General in a local healthcare environment where the city's residents may have more choice in care providers in the future.
- **Consider best practice initiatives that have been successful in other comparable public hospital systems for General Hospital's continual improvement.** These include optimal information technology enhancements and operational efficiency methods such as Lean Toyota Production Systems (TPS).

VI. Appendix

A. List of Clinics Surveyed and Responses Received

| Primary Care Network | Survey Administered by Lewin | Survey Completed by Clinic |
|--|------------------------------|----------------------------|
| San Francisco Community Clinic Consortium | | |
| Haight Ashbury Free Medical Clinic | ✓ | |
| Lyon-Martin Women's Health Services | ✓ | |
| Mission Neighborhood Health Center | ✓ | |
| Native American Health Center | ✓ | |
| North East Medical Services | ✓ | |
| St. Anthony Free Medical Clinic | ✓ | |
| San Francisco Free Clinic | ✓ | |
| South of Market Health Center | ✓ | |
| Glide Health Center | ✓ | |
| Department of Public Health | | |
| Southeast Health Center | ✓ | ✓ |
| Castro Mission Health Center | ✓ | ✓ |
| Ocean Park Health Center | ✓ | ✓ |
| Maxine Hall Health Center | ✓ | ✓ |
| Chinatown Public Health Center | ✓ | ✓ |
| Curry Senior Center | ✓ | ✓ |
| Tom Waddell Health Center | ✓ | ✓ |
| Potrero Hill Health Center | ✓ | ✓ |
| Silver Avenue Family Health Center | ✓ | ✓ |
| Larkin Street Youth Clinic | ✓ | ✓ |
| Cole Street Youth Clinic | ✓ | ✓ |
| Balboa Teen Health Center | ✓ | ✓ |
| Children's Health Clinic | ✓ | ✓ |
| Positive Health Clinic | ✓ | ✓ |
| Family Health Center | ✓ | ✓ |
| General Medical Clinic | ✓ | ✓ |
| Women's Health Clinic | ✓ | ✓ |
| Special Programs for Youth | ✓ | ✓ |
| St. Luke's Health Care Center | | |
| St. Luke's Health Care Center | ✓ | ✓ |
| St. Mary's Medical Center | | |
| St. Mary's Philippa Health Center | ✓ | ✓ |

B. List of Interviewed Stakeholders

Stakeholder perceptions were gathered from the 25 interviews Lewin conducted with a broad range of participants. Interviewees included:

- Helen Archer-Duste, Director of Quality, Patient Safety, and Compliance, Kaiser Permanente
- Linda Bien, Executive Director, North East Medical Services
- Scott Campbell, MD, Emergency Medicine, Kaiser
- Ed Chow, MD, Commissioner, San Francisco Health Commission
- Michael Drennan, MD, Director Community Oriented Primary Care, Community Programs, Department of Public Health
- Steve Falk, CEO, San Francisco Chamber of Commerce
- Jean Fraser, CEO, San Francisco Health Plan
- Gordon Fung, Immediate Past President, San Francisco Medical Society
- Barbara Garcia, Director of Community Programs, Department of Public Health
- Mark Ghaly, MD, Medical Director, Southeast Health Center
- Emily Gordon, Assistant Director of Research, SEIU UHW and Ravi Kumar
- Dick Hodgson, Vice President for Policy, San Francisco Clinic Consortium
- Ken Jacobs, Chair, UC Berkeley Labor Center
- Mitch Katz, MD, Department of Public Health Director
- Talmadge King, MD, Chief of Medical Services San Francisco General Hospital Hospital
- Allan Lacayo, Economist, Controller's Office
- Barry Lawlor, Director of Community Health, St. Mary's Medical Center
- Judi Li, Chief Administrative Officer, St. Luke's Hospital
- Belinda Lyons, President, Mental Health Association
- Sandy Mori, Development Director, Kimochi, Inc.
- Gene O'Connell, Executive Administrator, San Francisco General Hospital
- Roland Pickens, Hospital Associate Administrator, San Francisco General Hospital
- Kelly Robinson, Vice President & Chief Development Officer, Brown & Toland
- Gary Robinson, Executive Director for the Union of American Physicians and Dentist (UAPD)
- Wayde Roe, Vice President of External and Government Relations, Catholic Healthcare West
- Mark Smith, MD, CEO, California Healthcare Foundation
- John Willrich, Vice President for Strategy, California Pacific Medical Center

C. Department of Public Health Initiatives

The following is a list of initiatives planned or underway by or with the San Francisco Department of Public Health which are relevant to Lewin's recommendations. The Department provided this information to the Lewin Group as a sample of relevant initiatives. Some of the initiatives listed below are led by other city departments or partners, as noted in the text.

Charity Care Project

The Charity Care Project is a public-private partnership founded by the Department of Public Health in 2002 to improve the delivery of free and low-cost healthcare to poor and underserved populations in San Francisco. The three primary objectives are to: (1) analyze and report annually charity care policies and expenditures on both charity care and other community benefits for San Francisco hospitals; (2) coordinate planning and delivery of free and low-cost healthcare, as well as other programs and services; and (3) plan the distribution of specific healthcare treatment and services for poor and underserved populations to increase their access to healthcare.

Clinic Redesign Initiatives

The Family Health Center Clinic at San Francisco General redesigned chronic care for its diabetes patients by adopting a diabetes registry, promoting patient self management, expanding staff roles, and developing multilingual group medical visits and group diabetes education classes. Monthly reports track care measures, showing rates of interventions to prevent long-term complications, such as foot exams, retinal exams, and lipid control. There was also a primary care redesign at Tom Waddell Health Center, a Department of Public Health community-based clinic, through a collaborative with the California Association of Public Hospitals. The Department of Public Health is currently planning to expand such improvements to its other primary care clinics.

Clinicians' Gateway

The Department of Public Health's Community Behavioral Health Services is implementing Clinicians' Gateway, a new electronic clinical records system that is better linked to billing and data collection. This program is being implemented throughout Department of Public Health civil services programs and will be available to contractors in 2008. The forms and other data collection instruments are available electronically through a program called Clinicians' Tracking, linked to Clinicians' Gateway, which will also foster better data collection and reporting.

Community Behavioral Health Services Quality Assurance Action Plan

The Department of Public Health's Community Behavioral Health Services (CBHS) is revamping its Quality Assurance Action Plan to be more data driven. All contractors and civil service programs will be required to provide more comprehensive data. In addition, CBHS now focuses program objectives more closely on client and family outcomes, such as improvements in quality of life, more stable housing, employment, reduced use of emergency and crisis services, and reduced use of institutional care.

Community-based Psychiatric Urgent Care Program

The Community-based Psychiatric Urgent Care Program is currently being planned in collaboration with the Progress Foundation. The goal of the program is to reduce the burden on San Francisco General Hospital's psychiatric emergency department by providing another place in the city to care for patients in crisis.

Community Living Fund Program

Established in 2007, the Community Living Fund Program fund targets individuals who are currently or at risk of being institutionalized. The program funds home and community-based long-term care goods and/or services, including housing and homecare. San Francisco's Department of Aging and Adult Services in the Human Services Agency administers this \$3 million fund.

Cultural and Linguistic Competency Policy and Adoption of Cultural and Linguistic Services Standards

On January 8, 2002 the San Francisco Health Commission unanimously passed a resolution adopting the Culturally and Linguistically Appropriate Services (CLAS) standards as general guidelines to provide a uniform framework for developing and monitoring culturally and linguistically appropriate services. The Commission also approved the formation of a Cultural Competency Task Force to address issues surrounding cultural competency and implementation of associated policy and procedures.

Direct Access to Housing Program

The Department of Public Health's Direct Access to Housing Program provides permanent housing with on-site supportive services for formerly homeless adults, most of whom have concurrent mental health, substance abuse, and chronic medical conditions. Finding appropriate housing for individuals who have few family or community connections is a major challenge for staff of public or community-based organizations. Without access to a stable residential environment, the trajectory for chronically homeless individuals is invariably up the "acuity ladder" in expensive acute hospital settings, causing isolation for the individual and driving up healthcare costs.

Emergency Department High User Case Management Program

The Emergency Department High User Case Management Program is a collaborative effort between the University of California San Francisco (UCSF) and the Department of Public Health. The program provides intensive case management for a group of patients who frequently rely on General Hospital's emergency department to address medical, substance abuse, social service, or psychological problems. Such patients have multiple chronic illnesses, often complicated by substance abuse and/or psychiatric co-morbidities, which contribute to inappropriate and frequent inpatient admissions given poor adherence with medications and outpatient care. When patients are referred from San Francisco General, the program links them with a multi-disciplinary team comprised of social worker, psychiatry, nursing, and medical consultant staff. After discharge, the team continues to work closely with patients and their primary care and specialty

providers. As part of the intensive case management approach, the team provides outpatient healthcare and pharmacy coordination, education, outreach and home visits, psychosocial support, crisis intervention, and advocacy for housing and entitlements. The program goal is to improve quality of life for this group of challenging patients and decrease inappropriate and costly use of inpatient services. The program received the prestigious 1998 Annual Award of the National Association of Public Hospitals for the most innovative safety net program in the country and was awarded Top Honors by the California Association of Public Hospitals in 1998.

Emergency Medical Service High User Project

The Emergency Medical Service High User Project is a cross-departmental initiative led by the San Francisco Fire Department's Homeless Outreach and Medical Evaluation Team along with the Department of Public Health and the Human Services Agency. The project seeks to reduce high use of emergency medical services and emergency departments. It identifies high users, analyzes their pick-up sites and reasons for pick-up by using data gathered from 911 calls, responds to calls and requests from emergency medical service and hospital emergency department staff, and deploys in areas with a high concentration of street-homeless people. The top 35 users of emergency medical services who received case management during the project's pilot phase have significantly decreased their usage of emergency medical services. Long-term benefits of this intervention include reduction in inpatient stays and better health outcomes for the target population.

Expansion of Community-based Services with Mental Health Services Act Funding

Mental Health Services Act (MHSA/Prop 63) funding has allowed an increase in intensive case management programs so more clients and families can be helped through community resources instead of institutional care. The Department of Public Health has expanded peer-run drop-in and support centers for various age groups. Funding has also supported wellness and recovery programs in the community which use peer-run and professional staff services to help clients and families obtain better functioning and break reliance on institutional care. All MHSA services are evidence-based best practices. Such programs will continue to expand with additional assigned levels of MHSA funding to San Francisco.

Expansion of Community-based Substance Abuse Services

The Department of Public Health has recently expanded community-based substance abuse services such as opiate-addiction and methamphetamine treatments with a view to reducing the need for hospital-based medical detoxifications.

Health Alerts and Clinician Disease Reporting and Consultation

The Department of Public Health's Communicable Disease Control and Prevention Section sends out Health Alerts, Advisories and Updates regarding communicable disease outbreaks, immunization updates, and emerging infectious diseases to San Francisco clinicians. Clinicians working in San Francisco can sign-up or update their information to receive Health Alerts from the San Francisco Department of Public Health. All contact information is kept confidential. More information is available

at: <http://www.sfcddcp.org/index.cfm?id=57>, and a link to disease reporting numbers, lab forms, and legally reportable diseases may be found at: <http://www.sfcddcp.org/index.cfm?id=16>.

Healthy San Francisco

Healthy San Francisco is a new program created by the City and County of San Francisco that makes healthcare services accessible and affordable for uninsured residents. The goal of the program is to expand services and restructure the city's safety net system from a crisis delivery approach to an emphasis on primary care. Healthy San Francisco is available to all San Francisco adult residents, regardless of immigration status, employment status, or pre-existing conditions. It provides a medical home and primary physician to each participant, allowing a greater focus on preventive care, as well as specialty care, urgent and emergency care, mental healthcare, substance abuse services, laboratory, inpatient hospitalization, radiology, and pharmaceuticals. The program launched with two pilot clinics on July 1, 2007 and is now present at 22 centers throughout the city. Administered by the Department of Public Health, Healthy San Francisco is financed through a combination of employer, individual, City and County of San Francisco contributions, and other public sources including state Healthcare Coverage Initiative monies. The program works in close partnership with other safety net providers, such as the San Francisco Community Clinic Consortium. More information can be found at: <http://www.healthysanfrancisco.org/>

Healthy San Francisco Management Plan and System Capacity Analysis

From January – August 2007, the Lewin Group worked under contract to the San Francisco Controller's Office to provide expert analysis, modeling and recommendations to assist with the Department of Public Health's planning and launch of Healthy San Francisco. Key areas of the Lewin Group's work performed for the City were: projecting demand for health services under Healthy San Francisco, analyzing the Department of Public Health's capacity to take new patients and meet the service demands, modeling the impact of changes in fees for the safety net population, and analyzing a 'one-stop' web-based eligibility and enrollment system called One-e-App, which is used by other California counties for health and welfare client program management.

Hep B Free Campaign

In April 2007, the San Francisco Department of Public Health, the Asian Liver Center at Stanford University, and the *Asianweek* Foundation launched a campaign to turn San Francisco into the first Hepatitis B free city in the United States. The Hep B Free Campaign is a two-year-long effort to screen, vaccinate, and treat all Asian and Pacific Islander (API) residents for hepatitis B (HBV). The campaign puts San Francisco at the forefront of America in fighting chronic hepatitis and will be the largest healthcare campaign to target APIs in the United States. APIs have the highest risk of HBV of any ethnic group, with an infection rate of 100 times that of Caucasian Americans. API residents of San Francisco comprise 34 percent of the city's population and bear a disproportionate burden of liver disease and liver cancer as a result of undetected chronic hepatitis B infection. This campaign provides

convenient free or low-cost testing venues at healthcare settings and local events. The Hep B Free campaign includes advertisements in local ethnic publications that communicate the importance of getting tested for Hepatitis B. The campaign also features a website, www.SFHepBFree.org, where individuals can get information on testing, treatment and other services.

Laguna Honda Hospital Rebuild

The Laguna Honda Hospital and Rehabilitation Center is a 1,100 bed acute care licensed skilled nursing facility owned and operated by the San Francisco Department of Public Health. The hospital is in the process of constructing a new facility designed with the newest technology, equipment, and furnishing to create a better quality of life and more home-like environment for each resident. The new Laguna Honda building is expected to open in fiscal year 2010 and has an expected capacity of 720 beds.

Long-term Care Coordinator Position

In 2005 the Department of Public Health created a new position to coordinate long-term care across the Department's continuum of services in response to a consultant report.⁴⁶ The new Long-term Care Coordinator is responsible for research, analysis and development of long-term care options. The Coordinator is also responsible for identifying persons at Laguna Honda Hospital, or at risk of entering Laguna Honda, who wish to receive community-based services as an alternative to institutional care.

Medical Respite Program

The goal of the Medical Respite Program is to interrupt the costly and harmful cycle of frail homeless people cycling in and out of acute medical services unnecessarily. The program includes approximately 60 respite beds located in two sites to provide temporary housing for medically frail homeless persons leaving San Francisco General Hospital. It provides further stabilization services to homeless people to ensure that their health status continues to improve. In addition to temporary housing and basic medical care, clients receive transportation to healthcare appointments, case management, benefits counseling, referral to substance abuse treatment, referral to mental healthcare treatment, and housing placement services.

San Francisco General Hospital's American Diabetes Association-certified Diabetes Education Program

Diabetes is a chronic disease requiring intensive ongoing education and maintenance that can prove especially challenging for safety net patients. San Francisco General's Diabetes Education Program provides automated telephone diabetes management and group medical visits to patients with poor control of Type 2 diabetes. It targets patients with low health literacy and/or limited English, as studies have shown that such patients are less likely to receive appropriate medical care without special patient support and communication efforts. Both the telephone intervention and

⁴⁶ *San Francisco Department of Public Health: Its Effectiveness as an Integrated Health Care Delivery System and Provider of a Continuum of Long-term Care Services*, Health Management Associates, July 2005.
http://www.sfgov.org/site/controller_page.asp?id=33411

the group medical visits seek to empower patients to provide better self-management of their disease. Patients are called each week at their preferred time over nine months and then complete a survey on aspects diabetes self-care. Group medical visits take place each month for two hours and focus on patient experiences, group discussion, and patient-identified goals. The Department of Public Health developed this program with the support of The Commonwealth Fund, The California Endowment, and the Agency for Healthcare Quality and Research. Please see the following website for more information:
http://www.commonwealthfund.org/innovations/innovations_show.htm?doc_id=228393

San Francisco General Hospital Rebuild

California Senate Bill 1953 requires that all California acute care hospitals, which includes San Francisco General Hospital, meet seismic standards or be rebuilt by 2013. The law was a direct response to the 1994 Northridge earthquake, which damaged many hospitals, requiring temporary closure and eventual replacement. Senate Bill 1953 focuses on replacing older hospitals or bringing them up to current seismic standards and mandates a strict set of deadlines for hospitals to meet these enhanced requirements. There is no state funding available to meet the seismic requirements, thus public hospitals must fund the required work through the passage of bonds. The City and County of San Francisco plans to finance the rebuilding of General Hospital's acute care building through a general obligation bond, the least expensive form of bond funding available to the City. A ballot measure for the bond is planned for November 2008.

Supplemental Security Income Advocacy Project

The Supplemental Security Income (SSI) Advocacy Project helps disabled and uninsured clients to win claims for SSI and SSI-linked Medi-Cal. The project also provides comprehensive training to staff of Department of Public Health programs on effective SSI advocacy tools. Such tools include appropriate screening for SSI eligibility; the mode of referral to the project; the SSI application process; medical evidence needed to win a disability claim; and the role of substance use, incarceration, and immigration status on public benefits. The project serves patients of Department of Public Health mental health programs living with disabilities who are not actively receiving federal disability benefits. Emphasis is on reaching individuals with open cases in the mental health system and typically includes multiply-diagnosed people, people who have been or are currently incarcerated, active substance users, and homeless individuals. One component of the project focuses specifically on hospitalized mental health patients and clients in supportive housing and primary care clinics. Since fiscal year 2004, the SSI Advocacy Project has secured disability benefits for over 2,000 clients and has generated a significant return on investment.

Treatment of Behavioral Health Issues Related to Alzheimer's and Other Dementias as well as Behavioral Health Issues in the Growing Aging Population

The behavioral health needs of clients served through Department of Public Health primary care clinics have gained increased attention for all ages of clients, including the elderly. Behavioral health assessments and care are provided directly at all sites through staff who are behavioral health care specialists or through consultation by behavioral health staff to primary care providers. With Mental Health Services Act (MHSA/Prop 63) funding, the Department of Public Health is expanding services specifically targeted to older adults in primary care settings for the assessment and treatment of all behavioral health care issues. This includes the behavioral health care issues that may be involved with clients who have dementias, even as the dementia care itself is provided by primary care staff. The Department of Public Health's Community Behavioral Health Services works closely with Laguna Honda Hospital to address the behavioral health needs of current residents and to help meet the needs of clients who will be discharged to the community.

Urgent Care Center

San Francisco General Hospital's Urgent Care Center provides urgent care services to ease overcrowding in the emergency department. Patients are medically screened and then triaged from the General's emergency department to its Urgent Care Center as needed. Fiscal year 2006 urgent care volume was 22, 865 visits.

Vaccine Updates (Vax Fax)

The Department of Public Health's Communicable Disease Control and Prevention Section sends out periodic immunization updates known as the "Vax Fax" to San Francisco health care providers. Health care providers that would like to receive Vax Fax and Health Alerts may fill out the Health Alert Notification Database (HAND) Request Form available at: http://www.sfcddcp.org/hand_form.cfm. Recently sent communicable disease Health Alerts are also available online at: <http://www.sfcddcp.org/index.cfm?id=57>.

Video Medical Interpretation Services

Video Medical Interpretation (VMI) services improve the communication between patients with limited English skills and providers through live-time video interpreter services. VMI uses videoconferencing between the provider and patient on one end (using a simple, mobile video unit) and the interpreter on the other end (using a stationary unit in the interpreter services office). With support from the California Endowment, San Francisco General Hospital implemented VMI in response to demand – approximately 20 percent of patients do not speak English, and there are over 20 languages that require interpretation on a regular basis. The Department of Public Health recently expanded VMI to its community-based primary care clinics to help improve access of diverse populations to health services. This expansion of services is also timed with the scale up of Healthy San Francisco, which will considerably increase demand for culturally competent primary care.

D. Development of Public Healthcare Delivery System Comparisons

The table below represents the data elements and comparative analysis conducted to identify appropriate benchmark public healthcare delivery systems through discussions between the San Francisco Department of Public Health and Lewin.

| | SF General | Bay Area Counties | | Other California Counties | National Benchmark Counties* | |
|---|---------------|-----------------------------------|-------------------------------|--|------------------------------|---|
| | | Santa Clara Valley Medical Center | Alameda County Medical Center | Riverside County Regional Medical Center | Denver Health | University Medical Center of So. NV-Clark |
| Capacity | | | | | | |
| Staffed Beds | 363 | 510 | 311 | 359 | 330 | 577 |
| Utilization | | | | | | |
| Acute Inpatient Discharges | 14,062 | 21,347 | 10,131 | 15,113 | 17,993 | 29,773 |
| Acute Inpatient Days | 71,789 | 96,377 | 41,631 | 64,779 | 83,544 | 168,139 |
| Average Length of Stay | 5.11 | 4.51 | 4.11 | 4.29 | 4.64 | 5.65 |
| Occupancy Rate | 0.54 | 0.52 | 0.37 | 0.49 | 0.69 | 0.80 |
| ED Visits | 120,630 | 51,259 | 86,935 | 76,588 | 48,224 | 109,974 |
| Clinic Visits | 442,937 | 573,579 | 128,276 | 111,451 | | 250,000 |
| Percent Discharges by Payer | | | | | | |
| Medicare | 20.1% | 12.2% | 14.6% | 10.3% | 15% | 16% |
| Medicaid | 50.0% | 55.0% | 44.8% | 38.9% | 37% | 32% |
| Commercial | 18.1% | 9.5% | 2.3% | 16.7% | 9% | 20% |
| Self-Pay/Other | 11.8% | 23.3% | 38.3% | 34.2% | 39% | 32% |
| Total Discharges | 18,200 | 23,638 | 13,824 | 19,108 | 17,993 | 29,773 |
| Percent Outpatient Visits by Payer | | | | | | |
| Medicare | 15.1% | 14.8% | 18.4% | 6.4% | 8% | 9% |
| Medicaid | 46.7% | 44.6% | 33.0% | 39.4% | 22% | 17% |
| Commercial | 7.7% | 8.4% | 5.7% | 14.8% | 9% | 41% |
| Self-Pay/Other | 30.5% | 32.2% | 42.9% | 39.4% | 61% | 32% |
| Residency Programs** | | | | | | |
| Number of Residents (Hospital) | 193.7 | 157.9 | 113.1 | 101.3 | 156.0 | 269.6 |
| Number of Residents per Bed | 0.6662 | 0.3689 | 0.3032 | 0.1670 | 0.6288 | 0.1703 |
| Financial Indicators | | | | | | |
| Gross Revenue | \$885,507,506 | \$1,357,526,411 | \$536,965,373 | \$659,351,178 | \$700,652,408 | \$1,273,960,938 |
| Operating Expenses | \$425,900,623 | \$667,130,752 | \$348,673,413 | \$263,022,256 | \$405,910,492 | \$459,188,048 |
| Acuity** | | | | | | |
| Medicare CMI | 1.375 | 1.538 | 1.300 | 1.015 | 1.477 | 1.525 |
| Trauma Center | Level I | Level I | Level II | Level I | Level I | Level I |

Source: OSHPD 2005; *NAPH, America's Public Hospitals and Health Systems, 2004; **2005 Medicare Cost Reports

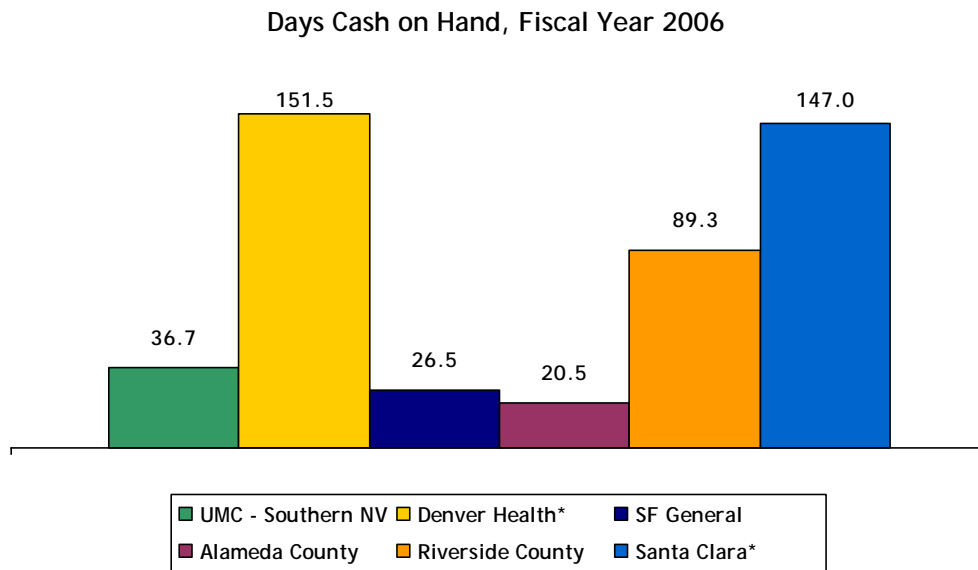
E. Benchmark Health Systems Survey

Survey available as an attachment.

F. Benchmark Health Systems Interview Protocol

Interview protocol available as attachment.

G. Days Cash On Hand



Source: Ingenix Financial Benchmarks; *Denver: Medicare Cost Reports as of 12/31/04; *Santa Clara self reported 2006