# San Diego County Healthcare Topic Reports

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**Future of Healthcare**

**Introduction**

With the advent of computers and the internet, the horizon for projecting the future has become very short and dynamic. With recent advancements in medicine and biomedical technology along with the general application of technology to the field of medicine, the future of healthcare is a complex and multifaceted arena. The future of healthcare will be loaded with opportunities and challenges in the short-term (5-10 years) and will have a much broader scope with regards to content and potential on the 10-20 year horizon of healthcare. As the clinical, political, social and economic issues sort themselves out, the potential for growth and expansion in the healthcare arena is exponential. Change is inevitable.

These changes will cover the spectrum of healthcare ranging from the professional practice of medicine to the administration of healthcare systems, from operational infrastructures to architectural design, from the physical plant to disposable supplies, from the technological to the philosophical. These changes will impact how and why care is given as well as the quality and the quantity of the care provided. San Diego, being the seventh largest city in the US and the third largest county in California, will not go unaffected.

**Current Issues**

The driving forces behind the future direction of healthcare vary by one's perspective and the issue being viewed. There are, however, some common trends which appear, and they tend to fall into several general areas.

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Aging of America

As the Baby Boomer generation ages and moves into retirement, there is a clear demographic shift in America. This shift is not only seen in age and lifestyle, but in health, healthcare and expectations of the healthcare system. There is an increase in the number of aging Americans. Their demand for health care and services continues to rise. The Center for Disease Control (CDC) reports that over 50 percent of doctor visits in 2001 came from this generation. The predominant complaints were for hypertension, diabetes and arthritis – all manageable conditions, all chronic conditions and all with long-term care requirements. Additionally, the senior generation has benefited from the ongoing advancements in medicine and is living longer. With this comes an additional push to the demographic shift and the demand for geriatric healthcare. This is reflected in the establishment of gerontology as a medical specialty and the growth in the assisted-living and skilled nursing care facility industry.

Specialization Within the Healthcare System

Specialization in healthcare has advantages and disadvantages. The availability of a specialty in a community is clearly a plus. However, specialization also tends to compartmentalize and fragment the local healthcare system. Specialization allows physicians to hone their expertise in a particular area of medicine; it has also provided centers of excellence where the care and infrastructure are designed to optimize the care in that particular field of medicine. Specialization clearly has benefits, but one must also consider the cost at which these benefits are obtained. Unfortunately, what is often found is that these benefits come at the expense of the general healthcare system – the healthcare community. Local resources and infrastructure, which support specialty care on an on-going basis, generally come from the same limited pool of resources which provides the general healthcare for the community.

Specialty care competes with education, prevention, public health and primary care for limited local resources such as nurses, ancillary services, hospital space, capital programming, administrative attention, and community and political support, not to mention funding. The realities of this competition are reflected in the independent surgery centers and tertiary care hospital programs such as trauma systems. The prestige and benefits of specialty care often come at the expense of the basic healthcare infrastructure which supports it. The challenge now and in the future will be to balance the needs, interests and resources of the healthcare system as a whole. This can be accomplished through proper planning and coordination of care.

Trauma systems have been a learning experience for the nation; learning what to do as well as what not to do in establishing a specialty care program. Southern California has been on the forefront and proving grounds for trauma care. The current cutting edge in effective specialty care is being evidenced in cardiac and stroke care. On a national level the trend is toward heart and stroke centers modeled after the trauma system. San Diego is part of that trend in active pursuit of these expensive and effective centers of excellence. The challenge for San Diego is to determine whether the healthcare community has the clout and political will to plan the infrastructure and coordinate the care of these two systems. If they do, there is the opportunity to manage the impact of emerging specialty care on the existing San Diego healthcare community.
Health IT (Information Technology)/Information Management Systems (IMS)

Health IT has become a specialty of its own within the realm of IMS. The benefits of an integrated health IT system are significant. These benefits generally fall into the categories of administrative functions and clinical functions.

The business/administrative function is defined by its application in the healthcare environment. The ability to actively monitor and manage operations within the fiscally strained healthcare industry is substantial. Where health IT has taken root and is evolving is in managing the patient’s clinical record. The integrated electronic medical record (EMR) has the ability to interface physician reports and nurse’s notes, care plans, orders, lab and radiology reports, recordings from biometric monitoring devices, documentation of care and services by ancillary support services such as respiratory therapy, physical therapy and dietary services, as well as prescriptions, discharge instructions, and health education. Having a consolidated record both supports and promotes the quality and efficiency of clinical care.

There are also significant secondary benefits with regards to quality improvement (QI), compliance, risk management, public health monitoring and medical research. Health IT is still a young and emerging technology. Standardization of data dictionaries, operational processes and system architecture are essential to the success of health IT. To these ends, in 2005 the Department of Health and Human Services established a new commission, the American Health Information Community, to further advance health IT. The 16 commissioners have been charged with recommending standards and architecture along with a certification process and method of governance. The goal is to promote interoperability. Health IT is a significant and lucrative niche industry which has already demonstrated a propensity for proprietary competition, no different than its parent industry, IMS. Microsoft is proving itself to be a dominant player in striking partnerships with many of the prominent industry players in health IT. Microsoft is offering a health solutions framework which is consumer-friendly, promoting interoperability spanning business areas. In the last 5 years, Microsoft’s health plan division grew from 5 employees to 500. Also, Microsoft has established a bioinformatics working group. Health IT is a big up-and-coming business that will promote and advance healthcare.

San Diego, like any other big city with an established healthcare structure, benefits from the health IT evolution. For the near future one should look to advancement in the administrative/business end of healthcare, with clinical functionality following on a 10-20 year horizon. Dependent on the level of saturation and integration of health IT that occurs on the county level, there is the potential for much more to be known about the uninsured and underinsured populations in San Diego and how to meet their needs.

Breakthrough Advancements in Medical Knowledge and Technology

The application of breakthrough knowledge and technology in medicine will continue to provide for landmark advancements across the spectrum of medicine. Medical knowledge is out-pacing the international medical community’s ability to absorb and apply it. The potential is huge. The establishment of the sequencing of the human genome in 2003 has propelled medical knowledge on an exponential growth course. In pharmaceutical science alone this knowledge is revolutionizing the application of drugs in medicine. This new level of knowledge of how the human body will process and respond has already targeted the development of “smarter” and “personalized” drugs.
Nanomedicine/nanotechnology holds the potential to practice medicine on a molecular level, conducting repairs, eradictions and assisting in the manufacturing of proteins and enzymes. Nano-sized “robots” move science-fiction to reality in the relative future, as the new “drug” in pharmacopoeias. Knowledge of the human genome is a significant piece in shifting the focus of medicine from treatment to early detection, prevention, and intervention.

San Diego has already played a role setting this trend. In 1982 American’s averaged 1,132 nights of hospitalization per year per 1,000 population. In 1992 that had dropped to 607. By 1995 some states had pushed it to a low of 225 nights, while San Diego County had achieved a rate of 160 nights of hospitalization per 1,000 population. Currently the national average is below 200. Advancements in medical knowledge and technology will set the course and drive change into the future of healthcare.

Shifting Healthcare Infrastructure

Change is the current mantra in healthcare. Clinical advancements, economic pressure and consumer awareness are among the factors driving this change. Increases in both knowledge and ability have yielded significant advancements in clinical medicine which impact the healthcare infrastructure. The significant reduction in hospitalization days has reduced the need and number of hospital beds. Technology has and will continue to allow more to be done for patients and medical specialties will continue to demand more be done for their patients. The refinement of pharmaceuticals along with the promises of nanotechnology based on genome knowledge will result in etiology focused intervention. All of these advancements are clinical advancements; all require ongoing shifts in the healthcare infrastructure to accommodate their progress.

Economic pressure is both a source and recipient of the ongoing shift in healthcare. This pressure has originated from financial constraints, reductions in reimbursement, increased demand from existing resources and mounting regulatory/compliance requirements have required shifting and, in some cases, the reengineering of the healthcare infrastructure to maintain financial viability. As well, changes in infrastructure originating from other sources such as clinical advancements and consumer awareness generate economic pressure, creating a perpetuating cycle. The economic demands of healthcare and the demands of healthcare on the economy exist in a dynamic push/pull relationship causing continuous change in the infrastructure of healthcare.

Consumer awareness yields consumer involvement. In healthcare, consumer awareness requires transparency into the healthcare system. This is a system which most consumers do not understand. As the healthcare consumer becomes educated and knowledgeable, the consumer has ideas, recommendations, desires, needs and demands which are then placed on the system. For the insured, healthcare is usually a benefit that comes with their job; they have it and they expect it to perform when they need it. For the underinsured, healthcare hangs in a delicate balance of cost versus benefit. For the uninsured healthcare is dealt with primarily only in crisis. For the elderly, healthcare and prescriptions are an ever growing portion of their fixed income, managing chronic illnesses and quality of life. For the employer, it has become a high maintenance and expensive employee benefit. Each of these groups are healthcare consumers in San Diego County. Each has
its own level of knowledge and understanding of healthcare. Each places its own expectations and demands on the healthcare system. The infrastructure of the healthcare system in San Diego continues to flex and shift to accommodate its consumers.

Healthcare in the United States is a $1 trillion industry that represents nearly 15 percent of the nation’s economy – the world’s largest economy. Even so, healthcare is not evenly distributed or accessible in the US. Approximately 40 million people in the US do not have health insurance. America’s appetite and demand for healthcare continues to out pace resources; this gap continues to grow.

Conclusion

The future of healthcare can be summed up in one word: change. Healthcare in America can not sustain its current course. Change will be driven by the evolving demography and demands in an aging America, the development of specialty care systems which compete with and causes fragmentation in the healthcare system as a whole, the power of health IT to support data driven decision making along with greater efficiencies and capabilities, the explosive and innovative growth in applied medical knowledge and technology, and the continuous flux and evolution in healthcare’s infrastructure to accommodate advancements in the industry.

San Diego has already demonstrated its ability to change. As a whole the population and medical community of San Diego are sophisticated. San Diego is also a diverse population with a definitive segment of medically underserved in both its rural and urban communities. Change in San Diego’s healthcare system is inevitable.
HIV/AIDS

Introduction

HIV/AIDS is a significant issue in San Diego, especially for the safety net population who do not receive the same level of care as those with comprehensive medical insurance. Overall, the state of California has the second largest number of Acquired Immunodeficiency Syndrome (AIDS) cases in the United States; San Diego County has the third highest number of AIDS cases in the state. More than 13,000 San Diegans are living with Human Immunodeficiency Virus (HIV), according to a recent report by Being Alive – San Diego. The Office of AIDS Coordination through the County Health and Human Services Agency (HHSA) provides a number of services and programs to this population. In addition, dozens of private, charitable, and community groups support the needs of the HIV/AIDS population. Fortunately, the number of new AIDS cases reported annually is at an all time low.

History

HIV/AIDS is a relatively new health concern, first diagnosed in the early 1980’s. It is contracted through sexual contact and IV drug use, and has rapidly developed into an epidemic. HIV is a virus that attacks and weakens the immune system, leaving it open to opportunistic illnesses, such as pneumonia. HIV attacks various types of immune system cells (such as T-cells). It then uses these cells to reproduce itself. When HIV takes over a cell, that cell can no longer perform its job and dies. When enough of the cells in a person’s body are dead or damaged, they no longer are able to protect the body, and infections begin to occur. At this point the person may be HIV-symptomatic or have AIDS.

Current Services

HHSA Office of AIDS Coordination

The mission of the HHSA, Office of AIDS Coordination (OAC) is to assure the development and delivery of quality HIV services for a diverse community infected and affected by HIV/AIDS. OAC works with public agencies, community providers, and consumers to coordinate programs for HIV prevention, medical care, and supportive services targeted at infected and at-risk populations in San Diego County.

Current services for the HIV/AIDS community and the safety net population subset in San Diego include prevention, testing, counseling, and treatment. OAC plays a significant role in providing these services, as it is the grantee for and has oversight of local Ryan White CARE Act funds totaling $10.5 million, as well as prevention funds from the Centers for Disease Control, the California State Office of AIDS, and the County of San Diego.
At a state level, OAC provides local administration and oversight of three programs; the AIDS Drug Assistance Program (ADAP), which pays for HIV-related medications for individuals with limited resources; the HIV Diagnostic Assay Program (HDAP), which provides viral load and resistance testing for individuals with limited resources; and the Early Intervention Program (EIP), which is designed to aggressively treat the newly infected.

HIV Prevention Community Planning Board

The San Diego HIV Prevention Community Planning Board is a 25-member group formed in 1995 under the direction of the San Diego Board of Supervisors, charged with the responsibility of recommending a comprehensive HIV educational and prevention plan.

HIV Prevention Board

For HIV prevention planning, the 25-seat HIV Prevention Board serves in an advisory capacity to OAC, focusing on target populations, strategies and interventions to prevent further spread of HIV infection. OAC works with 12 different organizations located throughout San Diego County through 17 contracts to provide HIV prevention services and activities.

HIV Planning Council

Federal funding supports a countywide 45-seat HIV Planning Council, composed of representatives from providers and affected communities, to recommend annual funding priorities and allocations for local Ryan White CARE Act funding.

HIV Consumer Council

A 25-seat HIV Consumer Council, composed of people living with HIV/AIDS and representing the diversity of the local epidemic, serves in an advisory capacity to both the Planning Council and the OAC. Based upon Planning Council recommendations on categorical allocations and service provisions, OAC procures care and support services for people living with HIV/AIDS through both County and community-based agencies. This includes over 50 contracts with approximately 30 different organizations located throughout San Diego County.

Housing Opportunities for Persons with AIDS

The County of San Diego Department of Housing and Community Development administers the Housing Opportunities for Persons With AIDS (HOPWA) program, a federal housing program of the U.S. Department of Housing and Urban Development (HUD). Programs funded through HOPWA provide affordable housing for low-income (including homeless) persons living with HIV/AIDS and their families and services needed to enable low-income HIV/AIDS clients to remain housed, locate housing, and prevent homelessness.

AIDS Case Management
AIDS Case Management (ACM) is a service for individuals living with HIV/AIDS who need assistance accessing medical and supportive services. The Intensive Case Management Program (ICM), a component of ACM assists people with HIV/AIDS who are struggling with substance abuse and addiction disease. Case managers develop individual service plans with clients to help them reach their goals for self-sufficiency and improved health status. The ACM program facilitates access to primary care and arranges referrals to other programs for assistance with MediCal applications, housing, transportation to medical appointments, and other services that help people stay connected into the health care system. There are no direct costs to clients for ACM or ICM services. However, clients who have some income are required to pay part of their housing and rehabilitation costs. The ACM program is funded by Ryan White CARE Act Title I funds, and the ICM program is funded by a HOPWA grant from the County Department of Housing and Community Development. The San Diego HIV Health Services Planning Council is a HRSA-mandated group responsible for allocating these local funds to services for people living with HIV/AIDS.

Being Alive – San Diego

Peer advocacy has become an effective means for delivering the prevention message as well as counseling those already infected with HIV. Being Alive – San Diego has created a formal program with volunteer counselors who are living with HIV or have been affected for a period of at least three years making them familiar with the challenges this community faces. The peer advocacy program’s goal is to encourage people with HIV to take charge of their lives and help direct people into dealing with these changes more positively and effectively. The peer advocates have developed many products, including an HIV consumer guidebook, educational presentations, case management, support groups, resource centers, visitation support, and even emergent transportation.

Comprehensive AIDS Resources Emergency ACT, Health Insurance Premium Payment Program

Comprehensive AIDS Resources Emergency ACT, Health Insurance Premium Payment Program (CARE HIPP) pays for health insurance premiums for eligible HIV infected individuals. People who receive CARE HIPP assistance are eligible for ADAP services. If clients are receiving CARE HIPP they are most likely enrolled in a private health insurance program. This means that they are eligible for the co-payment assistance only.

Best Practices/Creative Solutions

The Intensive Case Management (ICM) program is a component of ACM that was developed to assist people with HIV/AIDS who are also struggling with substance abuse and addiction disease. ICM has three phases of help:

Phase I – Provides 4-6 months of drug rehabilitation
Phase II – Provides 4-6 months of clean and sober living
Phase III – Provides up to 4 months of independent living
Clients in the ICM program must agree to do the following:

- Stay clean and sober
- Live in group housing
- Receive medical care
- Participate in an HIV education program
- Maintain weekly contact with a case manager
- Develop and complete an individualized service plan

Trends/Future

The number of reported AIDS cases peaked in 1993 and is now at a 20-year low (see figure 1). All race/ethnicities, age groups, males and each HHSA region experienced a decline in the HIV infection rate among testers. African Americans and Hispanics continue to have a higher rate of HIV infection than other races/ethnicities, although both groups experienced a decline in rates since 1990 (not including Hispanics in 2001). Similarly, the Central region of San Diego County has shown a decline in HIV infection rates yet continues to have a substantially higher rate than other regions (see figure 2). Of the high-risk groups, only IV drug users show little change over time being the cause for 18 percent of all new HIV diagnoses.

Individuals diagnosed with AIDS in San Diego County are most commonly white, male, aged 30 to 39 years. The predominant mode of male transmission is sex with other men (79 percent), and heterosexual sex for women (62 percent), typically with a bisexual male or IV drug user. Over the course of the epidemic there have been slow increases in the proportion of diagnoses in blacks, Hispanics, women, people aged 40 or older, and having used injected drugs. The distribution by gender in San Diego County is about the same for HIV (90 percent male; 10 percent female) and more recent AIDS cases (89 percent male; 11 percent female).

For some, HIV/AIDS is not their only problem. It is estimated that 424 persons in the homeless population are also suffering from HIV/AIDS at any given point in time. This is almost nine percent of the homeless single adults. However, since homeless people in general are less likely to be tested for HIV than housed individuals, these figures probably underestimate the scope of the problem. With only 77 shelter beds available countywide for
the HIV/AIDS homeless community, resources are inadequate. As can be implied from the 18 percent that were infected with HIV through IV drug use, substance abuse is an issue as well.

Conclusion

New AIDS cases are at an all-time low. Education, prevention, more accurate testing, and new pharmaceuticals have lengthened lives by up to 30 percent. However, those that are HIV positive or have AIDS are concentrated in the Central region, one of the poorest areas of San Diego. This places a large burden of their welfare on the safety net system comprised of County agencies, clinics, and charitable organizations offering dozens of services and programs to this population. They rely on federal, state, and local grant and tax money as well as donations from the community; thus programs are sensitive to changing economic conditions and political will.
Homelessness

Introduction

While the issue of homelessness in San Diego County is no different than anywhere else in the United States, the organizations and resources available to serve the homeless population is different in San Diego. There are approximately 200 programs providing beds and services in San Diego County¹ and over $70 million in public funds available in 2005 to help address homelessness in San Diego².

The actual number of homeless in San Diego County is an elusive and soft number at best. The two primary mechanisms for estimating the homeless are “point-in-time” and “period prevalence.” The point-in-time estimate is approximately 10,000 with a period prevalence over a 1 year period being anywhere from 15,000 to 25,000. This disparity is explained by the fact that the sheltered are easily identified and counted, while street homeless are mobile with both visible and hidden populations and are therefore much more difficult to count. Generally the homeless are grouped as 1) single adults, 2) families with children and 3) youth on their own. Specific within San Diego County are the urban and rural homeless populations, each with its own demographics and set of issues.

Homelessness and un/underserved healthcare go hand in hand. This is seen in the fact that the homeless have no health insurance (with rare exceptions), and that utilization of healthcare services amongst the homeless is not a priority until the need becomes acute. The reality of this is also seen in the titles of the subpopulations of the homeless that are monitored by advocacy and public health organizations, along with the support services provided at homeless shelters and service centers. Frequently the homeless will fall into multiple categories of the subpopulations. These categories are:

- Mental Illness: frequently a cause or result of homelessness
- HIV/AIDS: illness results in the inability to perform job and the accumulation of health related expenses which lead to homelessness
- Victims of Domestic Crime: homelessness occurs when a choice is made between shelter and continued abuse
- Seniors: this is one of the fastest growing groups with many first time homeless
- Substance Users/Abusers: addiction is often a causative and sustaining factor of homelessness
- Veterans: homelessness may be secondary to their mental health issues
- Dual Diagnosis: recently emerging category identifying the common pairing of substance abuse and mental health among the homeless
- Chronic Homeless: extended, perpetuated homelessness, for a variety of reasons

Current Services

¹ 2004 Homeless Services Profile. Regional Task Force on the Homeless. www.rtfhsd.org/index_profile.html
The San Diego homeless community is blessed with 200 agencies providing shelter and services. The Regional Task Force for the Homeless, a non-profit consortium, has provided coordination and leadership to the efforts of these agencies for approximately 20 years. The goal of the Task Force is to assist agencies which meet the immediate needs of the homeless and promote the transition from homelessness to independent and healthy living. This is accomplished in three ways:

- **Serves as an Information Clearinghouse:** The Task Force catalogues agencies that provide services to the homeless in the San Diego region. Information is inventoried in a database, providing easy access to detailed descriptions of the agencies, services they provide, capacity of their different services, access requirements, location and contact information.

- **Annual Homeless Reports:** These data-based reports monitor and portray the reality of homelessness in the San Diego area and serve as tools for government and advocacy groups to champion the needs of the homeless.
  - Regional Homeless Profile [www.rtfhsd.org/index_profile.html](http://www.rtfhsd.org/index_profile.html)
  - Homeless Services Profile [www.rtfhsd.org/index_homeless_services.html](http://www.rtfhsd.org/index_homeless_services.html)
  - Distribution of Public Funds for Homeless Services and Cash Assistance in San Diego County [www.rtfhsd.org/index_funds.html](http://www.rtfhsd.org/index_funds.html)
  - Regional Homeless Snapshot [www.rtfhsd.org/docs/homeless_snapshot.pdf](http://www.rtfhsd.org/docs/homeless_snapshot.pdf)

- **Homeless Management Information System (HMIS):** This information management system serves as the backbone for ServicePoint™. ServicePoint™ is a web-based software application which allows participant access to a robust set of information management tools based on regional resources. When partnered with St. Vincent de Paul's C-Star network, a fairly comprehensive picture of the urban homeless can be drawn.

These services and resources provided by the Region Task Force on the Homeless have tremendously improved the services available to the homeless community in San Diego through cooperation, coordination and collaboration. While there are many homeless who are still in need of services, the efficiency and effectiveness with which the limited available resources are organized allow many more of San Diego's homeless to be served.

**Areas for Improvement**

One of the greatest challenges San Diego faces in serving its homeless is that there are two geographically distinct populations of homeless, urban and rural, each with different issues and different needs. The urban homeless represent 75 percent of the homeless population in San Diego and have much greater access and availability to resources than their rural counterparts. However, there is also a greater prevalence of drug and criminal activity among the street and sheltered urban homeless. The rural homeless in San Diego are primarily farm workers and day laborers. They are heavily biased demographically as males in their 20-40s, many with families still in Mexico. Many live in encampments in the hills and canyons where they work. These are truly the working poor. This demographic profile also brings its own set of health issues.
Health is important to both the laborer and the grower/employer. Physical ability and fear of communicable diseases are important concerns for both. For the rural homeless, healthcare is particularly challenging due to time and distance away from the work site. Unfortunately, primary and preventative healthcare is deemed a lower priority than the opportunity and need to work. Primary care, mental health, occupational health issues and health education are among the most sought after services when the mobile clinics visit the rural homeless encampments and farm sites where the growers have allowed them. Interestingly, the rural homeless, who have less access to healthcare services than their urban counterparts, tend to be healthier and have shown greater success in their efforts to overcome their homelessness.

**Trends/Future**

There are two specific subpopulations in the homeless community which will be monitored closely over the next few years: the elderly and veterans. The homeless elderly are a small subset of the greater homeless population; however, they are growing at a disproportionate rate, both on a national and a local level. Many of these are first time homeless and therefore more vulnerable and less knowledgeable about survival on the street. Additionally, the elderly tend to have more health issues and are more medically frail than the general homeless population. Survival and consumption of limited healthcare resources are prevalent concerns for this subpopulation.

Veterans have been a visible part of the homeless community since the Vietnam War. Nationally, homeless vets are estimated at around 250,000 and represent WW II, the Korean Conflict, Vietnam and the Gulf War. The primary need among veterans is for mental health services along with a variety of general health needs. Veterans from the Iraqi War are now beginning to show up within the homeless community. The impact and the specific needs of Iraqi War veterans have yet to be determined.

In looking to long term solutions for homelessness, San Diego County was selected as 1 of 100 communities to participate in a national program to end chronic homelessness by 2012. This community-based effort is facilitated by the United Way of San Diego, the City of San Diego and the County of San Diego. In September 2005, the *Plan to End Chronic Homelessness in the San Diego Region*[^3] was released with broad based support. The plan offers the following vision statement:

> All previously chronically homeless individuals will have access to safe, decent, affordable housing along with the necessary support services throughout the San Diego region, by 2012.

The plan has five strategic areas:

- Identify and Secure Sufficient Permanent Housing
- Develop Housing Plus Wrap-Around Service Model
- Strengthen Intervention, Outreach, and Case Management
- Implement a Systems-wide Data Collection, Evaluation and Sharing Plan
- Establish Regional Access and Intervention Centers

Each of these five strategic areas has specific goals and objectives, its own implementation strategy and action plans to achieve them.

A separate governance structure (different than planning) has been proposed for the implementation of the plan which is to occur in 2006.
Immigration and Border Health

Introduction

The U.S.-Mexico border region is defined as 62 miles north and south of the international boundary according to U.S. Department of Health. Every year, 60 million people cross the border between San Diego and Tijuana. Many work in the U.S. and live in Mexico, while U.S. residents often travel to Mexico for vacation, entertainment, shopping, and even healthcare. Due to the speed of 21st century transportation and cross-blending of nationalities, the border is a porous one where diseases and disease states do not stop for immigration. In order to be solved, they must be addressed in a bi-national, cooperative manner.

In San Diego County roughly, 55 percent of Mexican immigrants have no medical insurance; nationally, 30 percent are uninsured. Conflicting cultural expectations, language barriers, limited cross-border coordination, and some providers' lack of cultural competence restrict healthcare effectiveness among culturally distinct groups including undocumented Mexicans and Mexican Americans. Additionally, these Mexican immigrants tend to work in areas where employers do not provide insurance coverage, primarily in the service and construction industries. Further challenging access to primary healthcare is the fear of deportation as clinics, health centers, and hospitals are perceived targets by immigration agents. Negative consequences include diagnostic errors due to language barriers, ignorance of culture-specific symptom presentation and epidemiology, failure to account for differing responses to medications, and lack of knowledge about traditional remedies that can lead to harmful interactions with prescribed medications, causing relatively minor illnesses or infections to become acute and require emergency care and hospitalization.

History

Mexican migration to the United States has been part of the relationship between the two countries for more than a century. Geographical proximity, increasing regional integration, demand for Mexican workers in the U.S. labor market, the economic asymmetries between the two countries, and the inability of the Mexican economy to fully absorb a constantly growing labor supply have favored the accelerated increase migratory flow of the Mexican population resident in the United States.
However, one of the most worrisome trends over recent decades has been the notable increase of undocumented migration. Thirty years ago, the influx averaged 2,800 people annually. That number has risen to almost 100,000 immigrants each year. Of those, 77 percent entered the country illegally, versus 48 percent ten years ago. This trend now constitutes the predominant type of migration and has profound implications for both the originating and receiving communities and especially for the migrants themselves.

Accordingly, there are limited available legal channels for immigration to offset the undocumented population already in the U.S. Since demand for workers exceeds the legal supply, it creates an incentive to migrate any way possible. This condition favors additional undocumented migration as well as increases the risks and costs associated with border crossing and integration into the receiving community. This situation contributes decisively to limiting immigrant access to medical services and to increasing the migrants’ health risks.

The increasing entry barriers to the United States, coupled with insufficient labor demand within the Mexican economy have eroded the normal cycle of seasonal migration. These factors have increased the tendency for migrant workers to stay permanently. As a result, the average length of stay for migrant workers has increased from 5.5 to 11.2 months over the past ten years.

Evidence suggests that there is a trend of health deterioration as Mexican migrant populations takes residence in and acculturates to the United States. Typically, recent immigrants are younger and in better health. However, over time, they are susceptible to obesity and diabetes at a rate far greater than the rest of the U.S. population. Limited access to and education about health care are especially critical issues and contribute to this decline in well-being. During a national study in 2000, over one-quarter of adult Mexican immigrants had not seen a doctor in the previous two years; about four times the non-Hispanic white rate. Between 1998 and 2001, two-thirds of Mexican immigrant children did not have health insurance. These figures indicate that preventative health care, access to health services, health education, and culturally competent health providers must be readily available and apparent to this population, particularly for the poorest and those who are most underserved.

Current Services

There are many services focused on improving the health care in border areas. A number of government and private advocacy groups have been created to educate the border community and share useful healthcare information. Typically, healthcare on the Tijuana side is considered culturally competent, fast, and low cost; whereas the U.S. side is perceived to be technically sound, provide excellent trauma care, and offer tertiary medical services.
The Ventanilla de Salud (VDS) program began in 2003 for San Diego and Los Angeles Counties and is a joint venture between the U.S. and Mexico. The goal of the program is to provide health insurance education and enrollment assistance in border areas. To reach this community, VDS targets all visitors to the Mexican Consulate. In addition to addressing the “health literacy” of immigrants, VDS refers individuals to an appropriate clinic and performs a needs assessment, which ultimately gives the immigrant a “medical home”, often thought of as primary care provider. The preliminary outcome from the two-year study is very promising as 90 percent of the 183,000 individuals and families receiving educational sessions on health topics felt their knowledge was significantly improved.

In San Marcos, the North County Health Center runs a program called Salud Para Su Carazón (SPSC), or, “Health for Your Heart.” SPSC promotes healthy behaviors that reduce the risk of cardiovascular disease by raising awareness and transforming attitudes about cardiovascular health.

The National Infant Immunization Week and Vaccination Week in the Americas (NIIW/VWA) both occur annually in April to focus efforts on raising immunization coverage levels along the U.S.-Mexico border. They promote the benefits of immunizations and focus on the importance of immunizing children against vaccine-preventable diseases. Vaccines are among the most successful and cost-effective ways to protect individuals and entire communities from the spread of infectious diseases. In San Diego and Tijuana, many activities and workshops are held that are aimed at consumers, Promotores, and physicians on both sides of the border to accomplish the goal, “Community Immunity.”

The Early Warning Infectious Disease Surveillance (EWIDS) project by the U.S.-Mexico Border Health Commission focuses on the enhancement of cross-border surveillance and epidemiological capacities within the 4 U.S. states sharing borders with Mexico. With the very real threat of a pandemic influenza, EWIDS will provide critical intelligence about disease prevalence and rate of spread.

Healthy Border 2010 aims to improve health in the United States-Mexico border region. The Healthy Border 2010 program was established at the U.S.-Mexico Border Health Commission’s bi-national agenda of health promotion and disease prevention in 2001. The Healthy Border 2010 agenda establishes ten-year objectives for bi-national health promotion and disease prevention in the border region. The program also serves as a basis for the development of bilateral, border-wide and community health improvement plans.

In 2000, in order to address the significant disparities in health and the practical interdependence of Americans, immigrants, migrant workers and Mexicans nationals created the California Office of Binational Border Health (COBBH). It was originally intended to be a clearinghouse for existing and emerging border health projects by federal, state, and county health agencies. COBBH has assisted in the implementation of a multi-pronged strategy to improve disease surveillance and prevention efforts at the border and is currently planning to build a health care facility near the border.
The California Office of Border Health (a division of the California Department of Health Services) was established in 1993 to provide coordination and liaison between California and Mexico health officials. It was institutionalized by statute (AB63) in January 2000 as the Office of Binational Border Health (OBBH). Its mission is to facilitate cooperation between healthcare officials and professionals in California and Mexico to improve the health of communities affected by border or bi-national conditions and activities. In recent years, significant progress has been made to increase the visibility of border health issues, and to engage stakeholders in specific plans and activities to improve the health of border and bi-national communities. The OBBH connects foundation and government funds/grants with organizations that can effectively provide healthcare to the border communities. They have been directly involved with projects such as the Binational Infectious Disease Surveillance Project (BIDS) led by the CDC; the Ten Against Tuberculosis (TATB), consisting of the 4 U.S. and 6 Mexico border states, and Improving Border Health: Outreach and Education to Policy Makers, funded by the Alliance Healthcare Foundation.

**Best Practices/Creative Solutions**

**Fronteras Unidas Pro Salud / Promotores**

To improve primary and prenatal care and reduce the incidence of cancer in Latinas (which is double the national average), several initiatives exist in the San Diego-Tijuana border region. A partnership between Planned Parenthood and a Mexican non-profit group, Fronteras Unidas Pro Salud, has been promoting low-cost family planning services, prenatal medical care, as well as cervical and breast cancer screening. Pro Salud was initially created with the goal of improving and expanding family planning services in Mexico. It also trains groups of community and juvenile health workers, known as Promotores. The Promotores program trains volunteers, who receive 40 hours of family planning and reproductive health education. Promotores share family planning information and distribute low-cost contraception to members of their neighborhoods and communities. They also make patient referrals to the local clinics for more extensive care and accompany their clients at the clinic to provide childcare, help with forms, and moral support. Promotores receive continuing education classes throughout their involvement with the program, which include CPR and first aid training, education in the topics of menopause, chronic and degenerative diseases, alcoholism, and nutrition.

In the past two years, 75 Promotores provided assistance to 30,000 people. This successful program produces a high number of contacts at a low program cost and is known to be a very effective method of outreach and education with this population. Educational materials that the Pro Salud distributed to its Mexican clients are now used by Planned Parenthood because they culturally resonate with the Mexican migrants in California.

In addition, Pro Salud has been working to create awareness among migrants of the risk of HIV/AIDS. The focus of the program is migrant workers on their way to the United States or on their way back to Mexico who are lodged at Casa del Migrante (House of Migrants) in Tijuana. Pro Salud works to educate migrants and provide them with protection and referrals for screening for HIV/AIDS. Since 1999, 11,158 young migrant men have received education and information relating to the HIV/AIDS and thousands of condoms have been distributed.
The Southern California Border HIV/AIDS Project

The Southern California Border HIV/AIDS Project does not end at the border either. The project is currently developing a comprehensive resource guide to provide complete information about health and other HIV-related resources along the border in both the U.S. and Mexico. The guide will enable HIV positive men and women find appropriate services for which they are eligible, either in Tijuana or Mexicali, or in San Diego or Imperial County. A social marketing campaign is also being developed to encourage people to be tested for HIV.

San Ysidro Health Center

San Ysidro Health Center (SYHC) also provides HIV/AIDS care, called CASA, or the Coordinated Assistance Services and Advocacy. According to SYHC, it is the only provider of HIV/AIDS services in the South Bay area, and over 600 people access CASA services per month. On average, six to seven new HIV positive patients access CASA services each month. CASA offers culturally competent medical and social support services for people infected or affected by HIV/AIDS, and coordinates and provides over 15 services. Core services include medical care, case management, treatment adherence counseling, access to medication through AIDS Drug Assistance Program, and on-site translation. Support services such as transportation assistance, outreach, legal and benefit counseling, and mental health counseling are also offered. The Project also plans to develop a bi-national referral program so that patients moving from one side to the other side of the border will still be able to continue to receive care. Four health centers serve as service delivery hubs to conduct outreach and coordinate systems of care: Clinicas de Salud del Pueblo serves as the hub for Imperial County, SYHC serves the South Bay, Family Health Centers serves Central San Diego, and Vista Community Clinic serves North County.

Cross-Border Health Insurance

A unique solution currently offered is cross-border health insurance that takes advantage of the strengths of the health systems on both sides of the border—the culturally competent, fast and low cost of Tijuana with the technically sound, excellent trauma and tertiary medical care of the U.S. Typically, cross-border health plans underwrite primary care services in Mexico and emergency services in the U.S. Tijuana-based Servicios Medicos Nacionales, S.A., Access Baja HMO (a product of Blue Shield of California), Salud con Health Net, and Blue Cross/Blue Shield de Mexico, collectively serve over 25,000 Hispanic enrollees. Monthly premiums are lower, between $250- $300 per month for a family of four, compared to a $600 premium for a typical HMO plan for a U.S. family of similar size. These plans offer expanded options for the uninsured and undocumented.

While Hispanics represent 30 percent of the California population only 4.8 percent of the licensed physicians are Hispanic. Recognizing the need for culturally competent care, the California Assembly in 2002 passed a law (AB 1045) that allows up to 30 dentists and 30 physicians from Mexico to work in the underserved rural areas of California for up to three years. Although the law went into effect in 2003, only the dental portion has been successfully launched. The major reason for the delay in bringing Mexican physicians to California has been that no medical school is willing to sponsor them, which the law requires.
The San Diego-Tijuana Drug-Free Border Coalition

The San Diego-Tijuana Drug-Free Border Coalition is an innovative bi-national partnership committed to reducing substance abuse in the San Diego-Tijuana region by linking groups and individuals engaged in prevention on both sides of the border and supporting them through activities including cross-border information sharing, training and technical assistance, increasing bi-national awareness about substance abuse, engaging communities in substance abuse prevention, developing resources to support bi-national substance abuse efforts, and strengthening the coalition. Among its current initiatives is to assist the Boys & Girls Clubs of America in establishing similar clubs in Tijuana for at-risk youth.

Trends/Future

Recent national studies have estimated that over 90 percent of agricultural workers are foreign born and about 40 percent are undocumented. A study in 2000 sponsored by the California Endowment found that nearly 70 percent of farm workers lacked any form of health insurance. For those with insurance, it is most commonly obtained through private insurance (32 percent) or a governmental health insurance program (almost 15 percent). Even among those who had been offered health insurance, about one-third did not participate, stating they could not afford the premiums or the co-payments.

Interestingly, about half (48 percent) of the San Diego migrant workers have access to health insurance coverage in Tijuana and the vast majority (over 90 percent) of the coverage is through a public healthcare program. However, most cannot access this care as they would not be allowed to return to the U.S. legally.

One of the anecdotal statements heard routinely is that undocumented workers are crowding emergency departments. A study conducted by UCLA in 2000 found this not only to be false, but that U.S. born whites also had the highest usage rates. Immigrants from Mexico use emergency rooms about half as often. Even when adjusted for gender and age, the infrequent usage remains. In addition, migrant workers typically hold manual labor jobs where they are more likely to experience accidents that require emergency care. Nonetheless, emergency department usage by immigrants appears relatively low, despite their occupational risks and low rates of having a usual source of care.

Ironically, according to a 2006 SANDAG study on 3,754 border crossings, 9.8 percent of the trips into Mexico by U.S. residents were for medical care (versus 1.2 percent for Mexican residents visiting the U.S.). Based on 60 million annual border crossings and 29.3 percent being U.S. residents, this equates to 860,000 people. The average expenditure on medical services was $174. Prescription medications, simple medical procedures, and routine primary care are all
examples of expenditures made in Mexico by U.S. residents. For example, the surgical removal of a cancerous cyst would cost $7,000 in California, but only $2,800 in Tijuana.

The majority of the health risks in the border areas is preventable but requires on-going outreach and education to the migrant community. HIV/AIDS, Hepatitis, STDs and tuberculosis (San Diego has twice the incidence rate for TB as other counties) are much more prevalent in border residents. For example, gastro-intestinal diseases are no longer a factor nationwide. However, U.S. border regions experience a 2.7 percent infant death rate and Mexican border-states estimate close to 40 percent of infant deaths are related to poor sewage handling and lack of clean water. Residents and tourists alike can be affected by these conditions and the issues need to be addressed bi-nationally to reduce the infection rates.

Conclusion

There has been and will always be interdependency between Mexico and the United States. Whether workers are making products in Mexico for U.S. consumption, or migrants are working in the United States and sending money back to Mexico, both countries actively contribute to and rely on each other. Mexican immigrants fulfill roles typically underserved by the domestic workforce. Nationally, 79 percent of recent immigrants work in custodial/food services and manual labor, such as agricultural and construction. Without proper healthcare, the immigrant workforce could be greatly impacted, affecting the entire U.S. economy.

Many factors contribute to Mexican immigrants' limited access to medical insurance, less frequent preventive care, and less timely treatment of illnesses. Perhaps the foremost is that immigrants, who come primarily to obtain work, more and more often enter the U.S. undocumented. By virtue of this status, the type of work they obtain limits their access to medical insurance, their ability to obtain preventive services, and their overall connection to the healthcare system.

The U.S.-Mexico border is unseen by disease and illness, which can rapidly migrate through the border population; made that much easier by daily travel of Mexicans to work in the U.S. legally and U.S. residents traveling to Mexico. In reality, there is no health care border. Without attention to living conditions and health care on both sides of the border, illness and pestilence will thrive unchecked.
Medical Transportation

Introduction

Medical transportation is provided in San Diego County in a number of ways. The variety, blend and mechanism of providing emergency and non-emergency transportation at both the advanced life support (ALS) and basic life support (BLS) levels are all within the industry norms. However, the working relationship and interface between private and public providers of emergency medical services (EMS) are above the norm. This is showcased by the public/private business partnership, the San Diego Medical Services Enterprise, operating within the City of San Diego. On a county basis, ambulance services are provided by a combination of private industry and fire departments/districts (there are a few exceptions). Altogether they provide the region with access to over 230 ambulances and the services of 1,400 paramedics and 1,200 emergency medical technicians (EMTs).

There is one air medical provider in the county with two operational bases, both are rotor-wing operations and both perform scene and interfacility work. Another provider operates two rescue helicopters that have medical transport capabilities on an as needed basis.

The County of San Diego currently has a population of slightly over 3 million people. The San Diego Association of Government’s (SANDAG) population growth projections are just over 1 percent per year, extending out 25 years to the year 2030. Areas within the county which represent the greatest growth, both by number and percent, are cognizant of this trend and are making appropriate changes to their EMS programs to accommodate this growth. This is reflected in the commitment, expansion and upgrading of the services they provide to their respective communities. As well, the two largest private providers have historical data which consistently represents 2-3 percent annual increase in services. Both have strategic business plans which operationally and fiscally accommodate this level of growth. The County’s sole air medical provider has an acknowledged volume threshold at which point it will establish a third base of operation, bringing another air medical resource into the county.

Trends/Future

There are a number of factors which merit consideration in assessing San Diego’s medical transportation needs. Advancements and changes in medical infrastructure, technology, data/information systems and biomedical equipment along with changes in demography and national policy all have the ability to influence the need for medical transportation. As well, different combinations of any of these considerations have the ability to nullify the impact on medical transportation providers.
Medical Infrastructure: Trauma centers and pediatric hospitals have clearly demonstrated the merit of transporting critical patients directly to tertiary specialty care centers. Cardiac and stroke centers are the new specialty facilities emerging in communities. System infrastructure, clinical parameters, operational requirement and destination guidelines, along with the number and location of these cardiac and/or stroke centers all have the potential to impact medical transportation providers.

Technology: Automated vehicle locators (AVL), global positioning systems (GPS) and computer aided dispatch (CAD) systems are not new technology to EMS Systems. What are new are the refinements to the individual technologies and the advancements in each of these system components allowing for advanced integrated CAD systems which are user friendly. Improvements in functionality and reliability allow for effective and efficient management of medical transportation resources.

Data/Information Systems: The combination of wireless fidelity (Wi-Fi) and management information systems (MIS) have yielded some powerful clinical, operational and management tools. The ability to gather and move medical information, the ability to actively monitor system-wide operational performance on a real-time basis and the ability to apply sophisticated business management tools to medical transportation practices, all contribute to improving medical transportation in San Diego, each in its own way.

Biomedical Equipment: There are many examples of biomedical equipment, which range from simple single function pulse oximeters to sophisticated intervention capable catherization laboratories. The later technology and medical advancement is what makes cardiac and stroke centers possible. The impact of these specialty care centers on medical transportation is discussed above under medical infrastructure.

Demography and National Policy: At this time, both San Diego and the nation will be significantly impacted by national policy decisions involving immigration. Immigration policy, either tightening or loosening, will change the demographics of San Diego. This change will affect healthcare as a whole in San Diego, not just medical transportation.

Conclusion

Medical transportation is one component of San Diego’s sophisticated medical care system which provides a healthcare safety net to uninsured and underinsured in the county. San Diego’s medical transportation/EMS system plays a small but significant role in accessing healthcare through the safety net.
Mental Health

Introduction

The safety net population of San Diego County receives its mental health services through a number of channels. The County has a $240 million budget to fund both county-run services and many public-private outsourcing partnerships. These efforts are supported by dozens of advocacy groups, educational programs, and charitable organizations. The United Way of San Diego conducts an annual outcomes and community impact program in the County. From 1999 to 2003, the need for mental health services has increased from 11 to 14 percent; a disturbing trend. A ten-year suicide report now shows suicide as the number one killer for non-natural deaths, exceeding car crashes. While funding has been a significant issue in the past, the Mental Health Services Act will add $25.4 million directly to mental health services in the first year and increase significantly in the years to come. These funds will make prevention and community education viable and effective. However, the funds come with their own set of parameters, affecting the ability to fully-optimize the money.

History

Prior to the 1960’s, the approach to mental health was radically different. Those suffering from significant mental health issues were institutionalized, heavily medicated, and all but forgotten by society. Over the last 40 years, these individuals have proven that they can be productive members of society with varying levels of support. Asylums have given way to group homes, outpatient care, and in-home support. When mental health funds declined in the early 1990’s, 9-1-1 providers and emergency departments experienced a sharp rise in services to this population.

Current Services

The County Mental Health Department offers many levels of service. They provide mental health treatment both on an inpatient and outpatient basis for a number of psycho/social needs. The department receives $240 million annually to deliver these services. In addition, Proposition 63 will add funds to create effective prevention and community education programs.

The County outsources much of its mental health services; however, it does run a 30-bed psychiatric hospital in Rosecrans, including the recent addition of four beds. This is where the police and ambulances bring people who need evaluation or are already on an involuntary hold. The County psychiatric hospital tracks their costs very closely as they are eligible for matching state funds to federal payments. It runs at 95 percent bed capacity and must rely on private hospitals for overflow including those on an involuntary committal. During the last two years, the County has been able to manage the inpatient demand without going outside San Diego County. The programs and initiatives operated by the County are overseen by a state-mandated Mental Health Board, similar to a consumer/community watchdog group. The board is...
Groups such as the Mental Health Association of San Diego field 10,000 calls annually from individuals looking for mental health information. Historically, they received an even split of mental health and support group referrals. Now, the association receives twice as many requests for mental health needs than support groups. The 2-1-1 system offers similar referrals for mental health needs and many other services.

Mental health issues are often co-occurring with other problems. Approximately 20 - 25 percent of the single adult homeless population suffers from some form of severe and persistent mental illness (National Resource and Training Center on Homelessness and Mental Illness, 2003). Mental health is also largely impacted by substance abuse and the National Mental Health Association estimates that more than 50 percent of mental health clients have some level of substance abuse.

Within San Diego County, there are currently 751 licensed psychiatric beds, down 17 percent from 910 beds in 1995. Over the same ten-year period, psychiatric discharges increased by 35 percent (16,949 to 22,828). While some of the decrease in beds can possibly be explained by a declining length of stay (20 percent since 1995), there is still a greater demand for inpatient psychiatric beds than ten years ago (see figure). The inpatient demand would be greater if not for a corresponding increase in outpatient and case management services available over the same period of time.

Mental Health Services Act

The passage of Proposition 63 in 2004, known as the Mental Health Services Act (MHSA), provides the first opportunity in many years to increase funding, personnel and other resources to support San Diego County’s mental health programs. The Act addresses a broad continuum of prevention, early intervention and service needs and the necessary infrastructure, technology and training elements that will effectively support this system. This Act imposes a one percent income tax on personal income in excess of $1 million. The San Diego County plan submitted to the state focuses $25.4 million on community-based mental health services during the first year. It is anticipated that these funds will increase annually, reaching up to $50 million, which will include financing of prevention and early intervention components.

With the state’s recent approval of the proposal, the County Mental Health Department will expand mental health services within the clinics and health centers, creating comprehensive services or “one-stop-shopping.” There will be trained mental health workers available at a primary care level. The County will also increase care of indigent/homeless with mental health issues. Programs will include more housing options and permanent housing extensions. When similar measures have been implemented in the past, there has been a proven link to decreased emergency department abuse and jail time.
The assessment steps taken by the County of San Diego to develop their Proposition 63 Plan were:

- Collected a broad range of input about community issues, needs, and services from clients, family members, service providers, and other stakeholders.
- Conducted 11 Community Forums, 25 meetings for special populations, and participated in 30 meetings with consumers at clubhouses, Board and Care and other facilities;
- Consumers and family members were hired to help develop the plan, and to collect over 900 surveys from consumers.
- Established workgroups for children and youth, adults, and older adults to review community input, prioritize and make service recommendations to the mental health director.
- Established the Cross Threading Workgroup (CTW) composed of clients, family members, and advocates to review and finalize the workgroup recommendations, and made recommendations for the Critical Reserve Needs that support additional services and one-time funds.

The approved plan is now in the early stages of implementation.

Areas for Improvement

There are literally hundreds of services, facilities, and programs to support the needs of the safety net population suffering mental illness. Connecting the providers with this population through education, community outreach, and clinic-based mental health workers will address their needs early, before a crisis, eliminating the use of more expensive services, such as 9-1-1 and emergency departments.

Diverse and culturally appropriate staff and services should be encouraged to match the needs of the safety net community served. Beyond speaking the language, providers need to be educated about cultural stereotypes, such as the Latino and Vietnamese aversion to the term “mental illness.” Providers can also work with and educate those people that the community initially turns to for primary care, such as priests, promotores (see best practices), and community leaders.

Convenient access to care is crucial, whether it is nearby or easily accessed by public transportation. For Fallbrook/Ramona residents, there is no mental health clinic nearby and they must go to Escondido. Without effective public transit, the condition may be ignored, worsen, and require acute intervention at an emergency department or inpatient psychiatric unit.

“Healthy San Diego” has done an excellent job of improving medical care for the safety net population. The patients may sign up with major HMO providers, including Kaiser, Molina, and Blue Cross. Unfortunately, there is no mental health component available; a critical issue.

Like many state/federal programs and grants, the MHSA funding comes with conditions about how it can be used. Per the language within the state act, the MHSA dollars must focus on new services and populations, not supplanting existing or discontinued ones. Thus, the core
mental health population is ignored in favor of very specific populations. In order to define this narrow subset required by the state, San Diego County utilized a gap analysis report, which identified homeless, Hispanic youths, Native Americans, and transition age youth among others. Those specific clients will "move to the front of the line" for assessment, psychiatric appointments, treatment, and housing even if there are other clients in greater need of care. Local providers believe that clients should be treated based on need, rather than skin-color, ethnic background, etc. In addition, the "Cadillac" level of service provided to the select MHSA-eligible clients could be more effectively used to provide a minimum level of services to a significantly larger group. For example, 250 adult mental health clients could have continued to receive medications through the North County Health Services in San Marcos after it was discontinued (May 2006) would it not have been for the state's restrictions.

The delay to receiving a mental health assessment can be weeks instead of hours. Based on current trends, a safety net consumer will wait an average of 7.5 days just for a mental health assessment and upwards of 12 days on average before a psychiatrist appointment (see dashboard indicators report to the Mental Health Board). The wait time for children is better at 3.4 days, but still not optimal to prevent a mental health situation from becoming an emergency.

Mental health and suicide are closely linked. The improvements in vehicle safety and trauma care have now made suicide the number one cause of non-natural deaths in the County. The same level of energy and concern should now be focused on mental health care.

Best Practices/Creative Solutions

Within the City and County of San Diego, Psychiatric Emergency Response Teams (PERT) respond to those in need of mental health services. The team is comprised of law enforcement and mental health workers to manage a psychiatric crisis in the field. PERT may commit the client or refer to the appropriate resource for care. Currently, there are seven areas within the County (i.e. Fallbrook, Escondido, San Marcos, Poway, Borrego Springs, Coronado, and Imperial Beach) without their own PERT teams and utilize mutual aid teams when needed and available.

The REACH program has proven successful at decreasing EMS, emergency department, and police interaction because it engages the client proactively. Teams go into the streets and place the mentally ill homeless voluntarily into shelters as well as provide referrals to physical and mental health care options. If the participants graduate, typically 6-8 months, they are eligible for section 8 housing vouchers. This leads to independence, reentering the workforce, and becoming self-sufficient.

Promotores is the Spanish word for health promoter, which is the goal of a successful program focused on the Latino population. It culturally addresses the stigma of “mental illness” by talking about “nerves” instead. The Promotores is knowledgeable about the services available for referral. This has broken down barriers between mental health professionals and the Latino community. This model could be duplicated to serve other cultures, such as Chaldeans (Arab Christians), which is currently under consideration.
A relatively new service, 2-1-1, provides a wealth of information about mental health and other healthcare services to the public at no charge. Its goal is to refer people to primary/preventive care before a situation becomes acute. A major benefit is that 2-1-1 is available anywhere, anytime, free to consumers, and does not require transportation.

Six years ago, the concept of psycho/social rehab centers began in San Diego. These centers offer intensive treatment before hospitalization is required through day treatment services in addition to post-hospitalization reintegration support. The centers also include medication clinics. Due to funding cuts in 2003-2004, adult clients no longer have access to day treatment services, however, children still do. A different type of center in San Diego, called a "clubhouse," offers a place for mental health clients to go during the day. Some focus on wellness and help clients get back into meaningful work within the clubhouse to eventually rejoin the workforce (e.g. Fountain Health in New York City is well-known); others are less structured offering some communication, computer classes, work skills, job search support, and peer groups.

The Alpha Program from Behavioral Health Services offers services in anger management, parenting, chronic diseases, and individual and family therapy. Interns provide the lion-share of the service supervised by psychiatrists who are paid through grants.

ACT, known as the Assertive Community Treatment program, integrates services at a community level, addressing the entire needs of the homeless and those at-risk of being homeless with mental health issues. Its goal is to return people to school, create residential stability, and reduce the number of acute crisis. A comparable program for youths is also available called “Wrap Around.” This program creates homelike settings as well as specialized services for transition-age kids who will soon become adults.

Consumer-to-Consumer workshops allow peer-based support in a structured, 9-week class. Those with more experience dealing with a particular mental illness help others recently diagnosed under the supervision of a counselor. This is a component of the rehabilitation and recovery model that has proven more effective. In addition, there is a similar class for families to support each other. During the 12-week course, one family teaches another how to cope with the mental illness of a loved one. These programs have proven more effective than just speaking with professional mental health workers, allowing them to focus on other services.

Trends/Future

The United Way of San Diego conducts an annual outcomes and community impact program, which is a comprehensive look at mental health services in San Diego County. There were 3,662 households randomly selected throughout the County to participate. In 2003, 14 percent (n=497) reported needing some level of mental health care within the last 12 months. However, in 1999, only 11 percent reported needing mental health care (see figure 1).

The need for services is not evenly distributed throughout the County. Those living in the Central region were 30-50 percent more likely to need mental health care. The Central and
South regions reported the highest percentage of people (65 percent) that did not believe all of their needs were adequately met (versus 48 percent or greater elsewhere). Not surprisingly, those with household incomes under $20,000 represented 23 percent of those surveyed as compared to only nine percent for incomes over $100,000. Only 20 percent of those without insurance felt all of their needs were met as opposed to 50 percent of individuals with insurance. Interestingly enough, for the care that both groups received the satisfaction was almost equal (see figure 2).

Based on a 1995-2004 study by the Community Health Improvement Partners (CHIP), suicide has become the number one cause of non-natural (i.e. preventable) deaths in San Diego County. It outranks motor-vehicle accidents, drugs/alcohol, homicides, and falls (see figure 3). The study also found that at least 90 percent of all people who kill themselves have a mental health, substance abuse, or co-occurring illnesses. Thus, early recognition and treatment of mental illness and substance abuse problems are among the most promising approaches to preventing suicides and drug/alcohol overdoses, which account for 51 percent of all the non-natural deaths in the County.
In addition, a large percentage of the motor vehicle deaths and homicides involve substance abuse, which account for another 38 percent of the preventable deaths. Therefore, mental health and substance abuse education, prevention, and treatment have the ability to impact up to 89 percent of all non-natural deaths in San Diego County.

The Health and Human Services Agency is in the process of addressing the crossover between mental health clients and substance abuse clients. Within the very near future, the two divisions are being combined to form, behavioral health services. The goal is to reduce duplication of services and allow dual-diagnosis clients to receive coordinated care. This one division will have the ability to impact as much as nine out of every ten preventable deaths in San Diego County.

Conclusion

The safety net consumer in San Diego has multiple places to receive mental health care, from preventive and on-going services up to emergent services. Unfortunately, many in this population do not know what is available or cannot access it due to geographic or other constraints. This causes relatively minor mental health needs to escalate and tax the “catch-all” service which are EMS and the emergency department providers. There are multiple best-practice and creative solutions in place that need additional exposure and expansion to serve more of the safety net community. The additional funding from Proposition 63 is a welcome addition to the mental health system. Through increased education, primary mental health care and preventive programs throughout the community, mental illness can be diagnosed faster, treatment can begin quicker, and fewer consumers will become emergent users. Primary goals of these efforts must be improving early access and interventions and the reduction of preventable deaths in San Diego County.
Skilled Nursing Care

Introduction

The healthcare safety net is typically thought of as the ability to access and gain entry into the healthcare system. Primary and definitive care is often the focal point of concern for safety net consumers. This is the “acute” phase of the healthcare event where the problem or issue is addressed. In most cases this is also where resolution occurs and the patient then goes on with his or her life. However, in some cases this is just the beginning of a much longer, if not protracted course of care required in order to return the patient back to his/her prior quality of life or assisting him/her in adjusting to a new station in life. Thus, skilled nursing care is also an important part of the healthcare safety net.

Overview

Skilled nursing facilities (SNFs) provide skilled nursing care and rehabilitation to the elderly, as well as people with illness, injuries, or functional disabilities. Skilled nursing care may include therapies, pharmacy services, equipment rental, or specialty care. SNFs are state-licensed facilities where registered nurses, licensed practical nurses, and certified nurse aids provide 24-hour medical care.

In almost all cases where the services of a skilled nursing facility (SNF) are required, the patient has already received substantive healthcare services and a payor or funding source has been identified for the patient’s course of care. Healthcare providers have taken a very proactive role in assisting the uninsured and underinsured in securing insurance and funding for their services. The primary mechanism for this is County Medical Services (CMS) and Medi-Cal. However, SNF services are not a covered service by CMS. Fortunately, there is a bridge process for moving a patient from CMS to Medi-Cal, called Medi-Cal 53 Placement, which does cover SNF services. Cognizant of Medi-Cal’s reimbursement rate for SNF services, many SNFs actively manage their payor mix via their relationship with their referring organization. Serving the uninsured and underinsured is a delicate balance for SNFs that accept Medi-Cal patients. With the ability to demonstrate US citizenship and residency, access to SNF services is attainable for the uninsured and underinsured of San Diego County.

Paying for Long-Term Care

Without insurance, SNFs can be very expensive: typically between $200 and $500 per day. Medicare and Medi-Cal will cover SNF services for up to 100 days following a hospital stay, provided certain criteria are met. Medicare does not cover custodial and long-term care.

Even with private health insurance, access to long-term skilled nursing care may be very limited. Only a small percentage of private insurance providers cover long-term care, and those that do often impose strict limitations to the nature of the services covered.
Medi-Cal is by far the largest source of payment for long-term care patients, despite the fact that most individuals covered by Medi-Cal are low-income young and middle-aged adults and children who do not typically use long-term care. The elderly make up the majority of long-term care patients and in order to qualify for Medi-Cal, they must fall under certain income and asset-based eligibility requirements. Many patients begin paying for long-term care using his or her own resources, and become eligible for Medi-Cal once these resources are diminished.

![Source of Payment for Long-Term Care Patients (2005)](image)


Care for the Undocumented Patient

Obtaining SNF services for the undocumented indigent and the inadequately insured in San Diego is both challenging and difficult. These challenges place a strain on acute care facilities as well as an individual’s financial well-being.

While it is not impossible to obtain SNF services for an undocumented indigent, the options and resources available are quite limited and the qualifying parameters equally narrow. When all options and available resources have been exhausted, patients are stabilized and discharged to home and family. When a patient cannot obtain access to an SNF, he or she often remains in an acute-care hospital for longer than he or she otherwise would have. This places a greater burden on acute-care facilities. The end results of this option are often not known unless the patient returns due to a relapse or secondary medical issue. Fortunately, there are not many of these cases in the county.

The Working Poor

The inadequately insured are a subset of the “working poor.” They have limited resources that are inadequate to meet all of their daily needs, let alone a medical crisis. The difficulty arises when insurance is available but is inadequate to cover the cost or the service is not a covered service. SNF services frequently fall into the inadequate or not covered area. This causes a unique dilemma for the working poor. They have some resources, but not enough to cover what they need and do not fall under the eligibility requirements to qualify for assistance. The
options they have before them are to go without services or diminish their resources to a level that they can qualify for assistance. Both of these options have substantial negative consequences to the inadequately insured.

While this portion of the Healthcare Safety Net is not presently in crisis, there are several holes in this safety net that must be addressed. Specifically, skilled nursing care must be made more accessible to all people, whether they are covered by Medi-Cal, Medicare, private insurance, or are uninsured. Medicare and private insurance coverage are so limited when it comes to long-term skilled nursing care, that even with these forms of insurance, individuals are effectively underinsured.
Substance Abuse

Introduction

The San Diego safety net community receives substance abuse services through a number of sources. All of the County services are provided under contract with local providers; the County of San Diego does not manage any programs directly. The safety net consumer can receive services at an inebriate reception center, detox programs, regional recovery centers, as well as short and long-term residential care. However, their priority is determined not by their need, but by federal mandates on who the funding can support. During the last ten years, programs in San Diego County have done an excellent job of identifying substance abusers early and proactively addressing their needs before they abuse the emergency healthcare system. Substance abuse is a major problem in San Diego and it is only getting worse in the adult population. The consolidation of mental health services and alcohol and drug services will improve dual-diagnosis patient care, streamline benefits, and hopefully decrease mortality of the first and third leading causes of non-natural deaths.

History

Starting in 1979, the County began partnering with private and non-profit companies throughout San Diego. Currently, the Health and Human Services Agency, Alcohol and Drug Services program, outsources 100 percent of its treatment needs. Programs continued to expand from the original “drunk tanks” to comprehensive services focused at identifying chronic offenders early and redirecting their path to less-emergent needs.

Current Services

Prevention and education is provided at a regional level, working collaboratively with the community. The focuses are on underage drinking, marijuana and methamphetamine use. 20 percent of the funds received under SAPT (Substance Abuse Prevention and Treatment) are earmarked for prevention.

The Inebriate Reception Center, sometimes called “Sobering Service”, has been in existence for more than 25 years in San Diego County. It is an alternative to jail and requires at least a four-hour stay. However, it does not offer any treatment. Almost 95 percent of participants come from the urban city core, although the service is funded through the County. Detoxification (known as “detox) is available through 60 beds (37 general population, 17 non-County, and 6 from proposition 36-detox vs. jail program) located within the San Diego County. The detox program is considered non-medical and consumers needing medical treatment concurrently are referred for inpatient hospital care.

Regional recovery centers provide a non-residential option and there is at least one in every region of the County. They offer assorted services including treatment, MediCal enrollment, proposition 36 services, etc. For adolescents, there are also teen recovery centers.
Short and long-term residential care is available to the substance abuse population. Some offer a 12-step peer-based social model style where recovering people can support each other. Adult as well as adolescent options are available for residential care.

Other specialty programs including perinatal services are available for pregnant and parenting women. Certain communities within San Diego receive special consideration due to their unique needs, such as the deaf/hard of hearing, gay/lesbian/bisexual/transgender, Native Americans, and those that are HIV positive.

The Methamphetamine Strike Force is a public agency cooperative focused on users and the crimes they commit. It has a proven 10-year history of prevention, education, treatment, and enforcement as needed to combat this addictive drug. Trial programs, such as “weed-and-seed” with Vista Partners are also underway. The strike force is federally funded.

Substance abuse services are found through a number of sources, including the access and crisis line, the County website, word-of-mouth, yellow pages, and direct recommendations from emergency departments.

The substance abuse providers also offer three courses that are self-funded. There is a program for DUI offenses, PC1000 for low-level, first time drug convictions, and drug court which is an alternative to jail. These courses are often court-mandated and the people attending must pay for them.

Areas for Improvement

Federal funding requirements and court-appointed programs mandate the priority of treatment. Pregnant women who use IV drugs receive the highest priority, followed by those who are pregnant abusing a substance, then IV drug users and finally the County’s priority patients. Outside of these priority patients, other patients have difficulty finding and receiving prompt, attentive care and are instead encouraged to join peer support groups and visit the non-residential regional recovery centers. Wait times for residential beds can be long, compounding the difficulties these patients face.

Communities with substance abuse issues confront many of the same problems as mental health communities. Education about what options are available is paramount in connecting with a suitable care provider. A (real or perceived) lack of services or transportation to reach the appropriate service can limit treatment. There are similar language and cultural barriers when discussing substance abuse in the community.

Best Practices/Creative Solutions

During the last ten years, brief screenings and interventions have proven effective at addressing substance use and abuse. They help physicians reinforce recommended interventions as needed. The program identifies non-dependent users and provides them with referrals to...
assist in preventing further emergency care and other high-cost medical services. This program was discontinued due to loss of funding. Fortunately, a competitive procurement process will begin shortly, which will again support these services. The funding that will support this project (and did previously) is through a federal grant and is time limited.

The Serial Inebriate Program (SIP) has shown remarkable success in identification and treatment of substance abuse patients resulting in a decrease of 9-1-1, emergency department, hospital inpatient, and law enforcement costs. A “chronic” patient is identified after five transports to the Inebriate Reception Center within 30 days. Over the course of four years, 529 chronic people were identified. 308 members of this group accounted for 2,335 EMS transports, 3,318 ED visits, and 3,361 hospital inpatient days. Total charges accumulated from all services reached $17.7 million and collections were only 18.6 percent. Treatment was offered to 268 individuals, and 156 (58 percent) accepted instead of going to jail. Those not accepting were typically eligible for probation or minimal jail time. Use of EMS, emergency department, and inpatient services declined by 50 percent for clients who chose treatment- resulting in an estimated decrease in total monthly average charges of $63,000. Law enforcement realized savings in both arrest and jailing costs.

In San Diego City and Oceanside, Project Connect was founded based upon a best practice in San Francisco. This HUD program brings law enforcement, legal services, city services, and related public services into one location to get homeless (who are often substance abusers) care. This can include outstanding warrants, reduction of fines, primary care, shelter, job support, etc.

**Trends/Future**

During 2003, the United Way conducted an outcomes & community impact program survey of 3,662 randomly selected households. Overall, four percent (n=147) of adults and 2.8 percent (n=21) of youth reported to have substance abuse problems (see figure 1). A projection using this five-year survey shows that adult abuse problems will remain the same. In general, adults expressed more abuse of alcohol (47 percent) and youth mentioned drugs most often (48 percent).
With the consolidation of Alcohol and Drug Services and Mental Health Services under Behavioral Health, and the additional funds from Proposition 63, the substance abuse consumers should receive improved services, including prevention and education. In combination, these two illnesses are directly responsible for 51 percent of non-natural (i.e. preventable) deaths and are a contributing factor in motor vehicle deaths (26 percent) and homicides (12 percent). All told, they impact 89 percent of all preventable deaths in San Diego County (see figure 2).

Substance abuse providers at the County level are noticing a dramatic rise in problem gambling, which has been linked to mental illness, substance abuse, and suicide. Gambling sites are prevalent, with Indian casinos and the growing popularity of internet gambling websites. Within the next three to five years this could become a significant cause of issues for the Behavioral Health program.

Conclusion

The safety net consumer with a substance abuse illness has more options than 25 years ago. Inpatient and outpatient centers as well as non-jail alternatives are now available. However, some options are limited by court and federal funding requirements, not the needs of the client. According to the US Department of Health and Human Services, Substance Abuse & Mental Health Services Administration, the emergency department intervention screenings and serial inebriate program are considered a best practice in stopping the typical downward spiral of substance abusers. These programs have decreased health care demands by this population, lowering the overall cost of health care in the community. The rising trend in adult substance abuse and new concerns about online and Indian gaming put additional pressures on San Diego County.
**Telehealth**

**Introduction**

Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve patients' health status (per the American Telemedicine Association). Closely associated with telemedicine is the term “telehealth,” which is often used to encompass a broader definition of remote healthcare that does not always involve clinical services. Video conferencing, transmission of still images, e-health (including patient portals), remote monitoring of vital signs, continuing medical education and nursing call centers are all considered part of telemedicine and telehealth.

Telemedicine and telehealth offer the ability to solve many of the challenges facing today’s health care system. Telemedicine provides faster, sometimes immediate, specialist referrals without requiring the patient to drive long distances, addresses lack of specialists by allowing one to see a more patients without ever leaving his or her office, connects rural hospitals and clinics to consult with experts at larger hospitals. Telehealth moves beyond the hospital setting and specialist needs to provide in-home care, including glucose monitoring for diabetics, blood pressure tracking for the hypertensive population, and respiratory distress for those with asthma and Chronic Obstructive Pulmonary Disease (COPD).

Telehealth is the only option in some environments. Earth-bound physicians can diagnose and treat astronauts on the International Space Station, orbiting 250 miles above the earth and suture wounds robotically hundreds of feet below the ocean’s surface. Cruise ship doctors rely on telemedicine to send difficult-to-interpret electrocardiograms and X-rays to specialists.

The industry has faced a host of hurdles during the last decade that have prevented technology from advancing into the realm of routine care. Some of these obstacles include lack of reimbursement from independent insurance and Medicare/MediCal, interstate physician licensure issues, patient and physician acceptance, as well as technology dilemmas.

Telehealth is a solution for the upcoming shortage of health care workers, including home health care staff, nurses, and doctors. It can also address the escalating costs of health care by identifying patients with impending emergencies before they become acute. Some best practice models, such as the Massachusetts VNA program, have decreased hospital admissions by 50-75 percent in target populations. If the reimbursement and licensing issues can be addressed, telehealth offers a promising future for patient care.
History

In a sense, telemedicine has been around ever since a doctor made the first diagnosis over the telephone. But the term has only been in use since doctors started using interactive audiovisual systems. These systems allowed patients and physicians to see and hear each other even though they were separated by thousands of miles. The limitation was that they had to be hardwired from one telemedicine base station to another. Initially, the Internet was not an option due to speed and security issues; although, it has improved greatly and is becoming the predominant medium of choice.

Probably the first service considered to be telemedicine was “store-and-forward.” It enabled providers to transmit text, audio, video clips or digital images, usually as e-mail attachments. At this point, real-time telemedicine services, such as interactive video consultations, were not prevalent due to the expensive hardware investment and monthly maintenance costs. Radiology was one of the earliest adopters of store-and-forward telemedicine and is still the most prolific. Radiologists can read X-rays, MRIs, CT Scans, etc. from their home or virtually anywhere in the world. Some hospitals now contract out for this service after hours and on weekends.

The University of Texas launched its program more than 10 years ago as an effort to provide cost-effective medical care to the state’s prison system as physically moving patients to health care facilities for examinations was difficult and expensive because of the security involved.

One of the reasons why telemedicine has not been able to expand into routine care is because of tight federal regulations for Medicare reimbursement for such services. But language included in the 2000 Omnibus Budget Bill, passed by Congress and signed into law by former President Clinton, calls for increases in Medicare reimbursement for certain telemedicine services.

Current Services

There are many telehealth services currently available nationwide. These include specialist referrals, patient consultations, remote monitoring, and medical education for both providers and users.

- Specialist referral services typically involves a specialist assisting a general practitioner in rendering a diagnosis. This may involve a patient “seeing” a specialist over a live, remote consult or the transmission of diagnostic images and/or video along with patient data to a specialist for viewing later. Recent surveys have shown a rapid increase in the number of specialty and subspecialty areas that have successfully used telemedicine. Radiology continues to make the greatest use of telemedicine with thousands of images “read” by remote providers each year. Often, these radiologists are located in different time zones, such as Australia, where it is day when it is night here. Other major specialty areas include: dermatology, ophthalmology, mental health, cardiology and pathology. According to reports and studies, almost 50 different medical subspecialties have successfully used telemedicine. One such successful program in California related to trauma patients is work being done at John Muir Medical Center’s Level II trauma center (Walnut Creek, CA) where
neurosurgeons review community CT scans and determine if they need to be transported to the trauma center. They have reduced trauma transfers by 40 percent.

- Patient consultations such as using audio, video and medical data between a patient and a primary care or specialty physician for use in rendering a diagnosis and treatment plan. This might originate from a remote clinic to a physician’s office using a direct transmission link or may include communicating to a physician over the Internet.

- Remote patient monitoring uses devices to remotely collect and send data to a monitoring station for interpretation. Such “telecare” devices might include a specific vital sign, such as blood glucose or heart ECG or a variety of indicators for homebound patients. Such services can be used to supplement the use of visiting nurses.

- Medical education provides continuing medical education credits for health professionals and special medical education seminars for targeted groups in remote locations. Consumer medical and health information includes the use of the Internet for consumers to obtain specialized health information and on-line discussion groups to provide peer-to-peer support.

- Networked programs link tertiary care hospitals and clinics with outlying clinics and community health centers in rural or suburban areas. The links may use dedicated high-speed lines or the Internet for telecommunication links between sites. Studies by the several different agencies place the number of existing telemedicine networks in the United States at roughly 200. These programs involve close to 2,000 medical institutions throughout the country. Of these programs, it is estimated that about half are actively providing patient care services on a daily basis. The others are only occasionally used for patient care and are primarily for administrative or educational use.

- Point-to-point connections using private networks are used by hospitals and clinics that deliver services directly or contract out specialty services to independent medical service providers at ambulatory care sites. Radiology, mental health and even intensive care services are being provided under contract using telemedicine to deliver the services. Companies such as Visicu and Avera Health have been providing “eICU” services for years. They monitor patients via cameras, speakers and microphones, and the devices are connected to a database programmed with alerts.

- Primary or specialty care to the home involves connecting primary care providers, specialists and home health nurses with patients over single line phone-video systems for interactive clinical consultations.

- Home to monitoring center links are used for cardiac, pulmonary or fetal monitoring, home care and related services that provide care to chronic disease patients in the home. Often normal phone lines are used to communicate directly between the patient and the center although some systems use the Internet.

- Web-based e-health patient service sites provide direct consumer outreach and services over the Internet. Under telemedicine, these include those sites that provide direct patient care.
Federal spending for telemedicine is composed of three segments: grants for demonstrations and research, direct telemedicine services by federal agencies for covered populations and reimbursement for remote medical services under Medicare.

- **Grants and Contracts** - In 2003, the American Telemedicine Association (ATA) estimated that the total amount of federal grants and contracts for telemedicine is estimated at about $270 million. These are available through six to eight federal programs. However, over one third of this is from research contracts with the U.S Department of Defense. These funds include equipment and service delivery.

- **Direct Services** - The amount of spending on telemedical services provided directly by federal agencies is not tracked but the Veterans Health Administration, the largest provider of remote medical services, is projected to deliver approximately 350,000 patient services remotely in 2003; an increase of 75 percent over six years. Other federal providers of direct services include the Department of Defense, Indian Health Service, and Bureau of Prisons.

- **Medicare** - Approximately 10 percent of the US population is covered under Medicare; however, it accounts for over 25 percent of all medical expenditures. Medicare spending for telemedicine is only partially tracked. The largest source of Medicare expenditures for telemedicine is for teleradiology but, since no separate tracking is done for these services, the total amount is unknown. A Medicare program supporting videoconference-based patient services in non-metropolitan areas is rapidly growing but will reimburse less than $1 million this year. In addition, Medicare reimburses for remote cardiac monitoring services and in some areas for telepathology and remote screening for diabetic retinopathy. Home telehealth applications fall under Medicare’s Prospective Payment System and may be used as part of a patient’s plan of care although no specific Medicare funds may be used to pay for home telehealth delivery.

In San Diego County, telehealth has improved patient care and outcomes in a number of ways.

- **The Council of Community Clinics in San Diego** is using a grant from the California Telemedicine and eHealth Center to purchase videoconferencing equipment and establish the infrastructure to improve rural residents’ access to health care. Many rural patients are low-income, medically uninsured and suffer from a disproportionately high rate of chronic diseases, but they are also geographically isolated and often lack adequate transportation. For those who have the means, visiting a hospital or specialist would require a 90-minute drive and most patients are unable or unwilling to do so. Five community health care organizations with a total of 13 sites currently are participating in the project. Many of these clinics provide care to immigrants and seasonal workers, who experience unique healthcare issues due to their close proximity to the US-Mexico border. This project will seek to develop a survey tool that measures the utilization and patient satisfaction of telemedicine services among agricultural workers, as well as document the different ethnicities served. In addition, the technology lets rural health care providers receive remote training.

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SAN DIEGO (4/06) – Eucario Valdez, 88, lives in East San Diego and doesn’t drive a car. Without the La Maestra Community Health Center’s telemedicine program, he would have never been able to see the Sycuan Medical Center specialist in El Cajon. It also shortened the two- or three-month wait for a referral appointment to only a few weeks.

– KFMB, Channel 8
The patients of rural San Diego and surrounding counties benefit from a telemedicine service for stroke patients. Typically, rural hospitals have little experience with strokes due to their lack of volume and neurologists. Due to the hospital's concern over giving the wrong treatment, many patient outcomes were adversely affected. This fueled the need for a better solution. In January 2004, a 32-year-old Imperial resident suffered a blood clot in his brain. Fortunately for him, his hospital as well as many others east of San Diego now have access to StrokeDoc, an audiovisual link that connects it with stroke specialists at UCSD. The fruit of a marriage between UCSD’s expertise in both cell phone engineering and stroke research, StrokeDoc does not require a dedicated wire going from one base station to another, which limits the scope of telemedicine. The flexibility of mobile connections vastly increases the efficiency of telemedicine and allows instant access to stroke specialists anywhere with a cellular signal. Through a laptop computer, UCSD neurologists can remotely view, pan, and zoom real-time audio/video of the patient. They can also review the patient’s chart and any diagnostic tests performed. For the Imperial resident, husband, and father of two, that meant reversal of the right-sided paralysis and 95 percent full recovery. Without StrokeDoc, his recovery would have been limited.

UCSD Medical Center and several community clinics have also been testing video telehealth assessments of mental health patients as a way to improve access and leverage the psychiatric assessment staff’s time.

Areas for Improvement

There are challenges that need to be addressed before Telehealth becomes routine practice. Many physicians and specialists are resistant to change, feel it is cumbersome, or are unable to participate across state lines due to licensing. The Internet offers a cheaper alternative to hardwired solutions, but with speed and security concerns. The largest barrier to telehealth services is the lack of acceptance by federal, state, local, and third party insurance carriers.

Without standards that help make telemedicine technologies easier to use or that enable integration among disparate systems, many physicians are unlikely to embrace advancements in telemedicine applications. Only a small percentage of specialists use telemedicine technologies. And these physicians sometimes have to jump through a few hoops to refer telemedicine patients to other delivery system services-or telemedicine services in another health care organization-because of the lack of technology integration standards. Once physicians use the systems, they appear more comfortable with the technology and become advocates.

Because physicians are licensed by states, there becomes an issue when the patient is in a different state. Currently, there is not as much pressure to standardize licensing because there are not a lot of services taking place across state lines. As telemedicine services become more prevalent, it will make a stronger case that licensure is interfering with the distribution of telehealth between states.

Just as the lack of licensure standards has prevented telemedicine from advancing into routine care, the lack of technological standards also has been a barricade that has kept telemedicine from expanding. Internet security has always been a concern from the first time a credit card was used online. Similar concerns have been raised when patient information is shared electronically. Fortunately, today’s encryption
standards have quieted most of the skeptics. The speed, reliability, and prevalence of broadband Internet access has also improved dramatically, offering DVD quality video over existing systems in most locations.

The largest funding mechanism for telehealth currently is grants and pilot projects; mostly from the federal government but some states, including California, are starting to invest. Third party payers are only beginning to realize the cost savings potential of home monitoring devices, referral care, etc. Medicare payments represent 25 percent of all healthcare expenditures and have only minimal projects for telehealth. However, in many situations they pay a preset amount for a particular plan of care (e.g. open-heart surgery) and the provider is responsible for being cost-efficient with their care. It may be these providers that profit from less hospital readmissions and fewer follow-up appointments.

**Best Practices/Creative Solutions**

- **Texas prisons have completely embraced telehealth to serve the medical needs of inmates.** It has reduced operating costs due to the lack of travel required. Nurse practitioners or physician's assistants act as the hands for one of seven full-time telemedicine physicians. The group serves 20 to 40 patients a day between contracts with the prisons, rural areas of Texas, neighboring states, and even Russia. The University of Texas Medical Branch telemedicine program is one of the largest in the United States, completing more than 60,000 telemedicine encounters per year. The delivery system now offers telemedicine services to more than 300 sites, including the prison clinics. The program offers primary care as well as cardiology, dermatology, emergency medicine, infectious disease, mental health, orthopedics services, radiology and urology services.

- **Valley Home Health and Hospice in New Jersey currently uses 50 Well at Home monitoring systems.** The devices are placed on patients' bedsides and include blood pressure cuffs, blood glucose monitors and oximeters. The machines also remind patients to take medications. The data are downloaded into electronic records, and nurses and physicians can view patients' progress and determine if anything is out of the ordinary. Cardiac patients using the home-monitoring systems were readmitted to a hospital 17 percent of time, compared with more than 39 percent of patients who were not using the system. In addition, the home health agency was able to reduce the amount of skilled nursing visits because of the monitors.

- **The Billings-based Eastern Montana Telemedicine network has included 19 care sites in eastern Montana and northern Wyoming.** The rural hospitals that make up the Fiber Optic Rural TeleHealth (FORTH) network receive all of their telepsychiatry services from Eastern Montana Telemedicine, as there are no Montana psychiatrists that work east of Billings. Based on the success to date, the network may soon expand with additional clinical applications, such as orthopedic and dermatology services. The telehealth program provides specialty clinical services on a referral basis. The Eastern Montana Telemedicine network allows patients to be treated where they are supposed to be—in their hometowns.
Centura Health, Colorado's largest hospital system, selected 15 high-risk patients from Penrose-St. Francis Hospital in Colorado Springs for a two-year, real-time computer monitoring program. The project since has been expanded to Denver. The patients, who are Medicare beneficiaries with diabetes, congestive heart failure and emphysema, can initiate virtual visits via an Internet connection at any time, and symptoms are caught before they become serious. The program saved Penrose-St. Francis $1 million in its first six months. In addition, emergency department visits were reduced to zero and hospital admissions by 90 percent, according to hospital records.

The medical device industry is adding wireless capabilities to defibrillators, pacemakers and other implantable monitors to track both the patient's health and the equipment itself. The wireless technology reassures patients and could reduce physician visits and hospitalizations. Patients have a little box near their bed plugged into a phone line. Every morning at 2:00, while they sleep, the device downloads its information to the box and it transmits the information requested. The anticipated goal is that the remote monitoring could help avoid about 75 percent of routine exams. Wireless monitoring is currently available only in a few models. However, if payers realize the savings in doctors’ visits and follow-up care, the demand will likely increase to include most implanted devices.

The Centers for Medicare and Medicaid Services (CMS) is launching a three-year home health monitoring project for diabetes and congestive heart disease patients. About 2,000 patients in Oregon and Washington will have the Health Buddy network installed in their homes. They will answer health care providers’ questions by pushing buttons on the Health Buddy, and they can plug electronic blood pressure cuffs and blood glucose meters into the device's data ports. Health care providers then can monitor and manage patients through a connected Internet-based system. The program is being expanded to include an additional 7,000 people in San Francisco.

Overall, the Health Buddy unit can support over 50 health management programs including such chronic conditions as hypertension, asthma, COPD, diabetes and heart failure.

In the United Kingdom, hospital admissions were reduced by 67 percent by enabling more accurate monitoring of long-term conditions and treatment levels. The pilot study involved 31 participants through the Medway Council and National Health Service facility. The study has successfully improved the quality of life for patients with long term conditions and has freed up valuable health resources, resulting in 133 hospital days and 117 nursing hours saved to date, in addition to cost and time savings for physicians and community nurses.

About 10 percent of the VNA's congestive heart failure patients in Massachusetts who used the monitors were hospitalized compared with 38 percent of those who did not use the monitors. The agency also reported that about 25 percent of COPD patients using monitors required hospitalized instead of 75 percent without the home monitors.
Trends/Future

The future is very bright for telehealth services. The area of the largest growth and impact to reduce costs is the home monitoring devices. The number of home telecare device manufacturing companies has tripled to 15 in the last three years, and the Department of Veterans Affairs plans over the next year to double to 20,000 the number of patients using home telecare devices.

Traditional telemedicine services, such as specialist referrals, are still expanding at an impressive rate. According to Associated Press, about 3,500 hospitals, clinics, schools and other facilities are now using telemedicine, compared with 2,000 facilities six years ago; an increase of 75 percent. Providers are really flocking to the Internet as a vehicle for delivery. Faster connection and transmission speeds have enabled increased telemedicine applications overall. Despite these numerous improvements, a lack of hardware and software standards from vendors and providers has stifled the ways some telemedicine services can be integrated within or across delivery systems delaying its expansion into routine care.

New advances are being announced daily and payer sources are realizing the value of telehealth. Sensatex of Maryland has created a “SmartShirt” using nanotechnology weaved into the tiny conductive fibers of a shirt to enable monitoring of physiological activity. This has a device, smaller than a PDA, snaps on the side of the shirt to collect and transmit data to a computer. It is then sent wired or wirelessly to clinicians or researchers. The conductive fiber collects data on a wearer’s movement, heart rate and respiration rate in real time. The shirt, minus the snap-on device, is even washable. The shirt could be used to remotely monitor home-based patients as well as soldiers in combat.

Loma Linda University Medical Center in California is testing a Mobile Telemedicine Vehicle that aims to improve care during disasters. Technicians in the vehicle can communicate on various radios, take X-rays, treat wounds and connect patients with physicians at the medical center via satellite televisions. A wall-mounted video camera collects images, and technicians have a battery-operated hand-held camera for close-ups. Antennae and a roof-mounted satellite dish provide a wireless network for laptops, and radio receivers offer remote connections with police, ambulances and firefighters. Once testing is complete, routine uses will include large attendee events, such as auto racing.

In April 2006, a leading telemedicine company providing remote ICU monitoring, or eICU, announced a $96 million IPO. Visicu's initial offering was at $16 a share and ended the day up more than 50 percent. The company hopes to grow sales and marketing, enhance products, launch new research and development and make acquisitions with the new capital.

Starting this year, nearly 90,000 California Public Employees' Retirement System (CalPERS) members who live in rural areas will have access to a new telemedicine program. It will enable CalPERS' rural basic health plan members to use a telecommunications and diagnostic network to visit with medical specialists at UC-Davis, Cedars-Sinai Medical Center and other locations. The program is designed to allow rural patients to avoid long trips from home. According to a survey by Blue Cross of California, which is helping to pilot the telemedicine program, some rural residents currently travel as long as seven hours one way for an appointment with a specialist. In addition, part of Governor Arnold Schwarzenegger’s spending plan includes $400 million for telemedicine education programs at the University of California schools.
Conclusion

Despite the many hurdles preventing telehealth from becoming a part of routine care, more organizations, most importantly payer groups are concluding that telehealth can be a cost-effective way to provide health care to a large number of patients. Case studies and grant projects have found that telehealth can reduce costs, eliminate or shorten hospitalizations, increase efficiency and reduce travel times for patients. Also, the cost of remote-monitoring devices, broadband Internet and dependable wireless connections continues to become more affordable. As with many changes, once the health care savings are proven, government and private insurance providers will drive implementation of telehealth services including the necessary.
Transportation

Introduction

This section examines the transportation trends in San Diego County that have developed over the past decade, reviews present-day issues, and summarizes projections for the next two decades. The analysis in this section covers San Diego’s freeways, local streets and roads, transit systems, aviation systems, bicycle and pedestrian pathways, movement of goods, congestion, air quality, energy, and financial issues related to transportation. Historical trends have been identified using several sources including private organizations and regional government reports covering transportation issues in San Diego County. Projections have been based largely on plans established by the 2020 and 2030 Regional Transportation Plans (RTPs) published by the San Diego Association of Governments.

Overview

Growth Management

As the urbanized area of the region grows geographically, auto and transit travel distances are forecasted to increase by about nine percent between 1998 and 2020, assuming the smart growth measures identified below are implemented. Implementing proposed highway facilities, ITS improvements, and other technological advances would lead to reduced congestion and increased highway speeds from today’s levels. Similarly, average transit speeds are expected to increase as relatively low speed local bus service is augmented with additional light rail and express bus service, often running in managed lanes. Thus, improved auto and transit speeds are expected to partially offset longer average distances so that 2020 average travel times would be only slightly longer than today.

Freeway Management

The major needs on the local street and road system are to eliminate the backlog of deferred street maintenance projects and provide for needed new construction projects. Numerous pavement management studies have shown that it is essential to eliminate any backlog of deferred maintenance and initiate a routine and timely pavement management program. At the same time, additional roadway capacity is needed to meet both the region’s growing travel needs and to relieve existing streets from carrying traffic far beyond their capacity. Additional arterials are needed to prevent intercommunity and regional traffic from diverting to local residential streets. The regional arterial system, which carries most intercommunity and regional traffic, continues to be refined through regional, sub area and corridor traffic studies.

According to the California Alliance for Jobs, California’s highways are in fairly poor condition, probably resulting from the fact that California invests less per capita into highways than any other state. In San Diego County, approximately 75 percent of freeway lane miles are congested. Based on the current situation, San Diego County’s highway system is only going to get worse. Freeway congestion, measured by daily vehicle
hours of delay, is expected to increase 106 percent in the San Diego Region between 2004 and 2025. Additional highway capacity would ease the strain that congestion places on highway travel.

In May 2003, Road Information Program published a report saying that 61 percent of all of San Diego’s major roads and highways are considered unacceptable. Some progress may have been made, however, as this number dropped to 58 percent by 2005.

Local Streets and Roads

As a whole, California has the worst roads in the nation, in terms of congestion and condition. Three of the five most congested urban areas in the nation are in California, with San Diego ranking fifth (California Alliance for Jobs). In 2004, the “Surface Transportation Infrastructure Report Card” determined that 45-50 percent of San Diego County’s roads were poor to fair, in need of major repairs. Delays and congestion are worsened by the fact that approximately one-third of all traffic signals are not interconnected and timed with each other. The major problem with San Diego’s local streets and roads comes from inadequate funding. In fact, San Diego would have scored significantly better on the “Surface Transportation Infrastructure Report Card” if better funding was available. SANDAG estimates that $5.8 billion are needed to rehabilitate and maintain local streets and road.

Transit

Several outstanding needs have been identified by transit users who have disabilities as well as by transit operators. These include providing accessible transit stops, adequate education of potential users of the accessible services, and funding for operators to provide for the increasing demand for accessible services. The 1996 RTP contained the objective that all fixed-route transit stops should be accessible by 2015, except where unreasonable hardship (such as geographic features) exists that prevents this objective from being accomplished. Implementation of the objective has been underway, albeit slowly. The transit development boards have instituted programs to request the local municipalities, as the responsible agencies, to provide accessible transit stops. While new Trolley and train stations and transit centers are constructed to meet accessibility requirements, many older stops lack ramps, sufficient sidewalks, and adequate lighting to make them accessible.

Aviation

Since 1996, the City of San Diego and the County of San Diego have initiated updates to the master plans for airports located in their respective jurisdictions. The City of San Diego, as the airport owner and local land use agency, has authorized a private developer (Brown Field Aviation Park, LLC) to prepare an airport master plan, airport layout plan, CLUP, and all supporting environmental documents for Brown

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Field. The City will be considering the proposal to redevelop Brown Field into a facility with both enhanced general aviation as well as air cargo handling capabilities in spring 1999.

San Diego County is currently served by the San Diego International Airport - Lindbergh Field (SDIA), Brown Field and Montgomery Field general aviation municipal airports, and Marine Corps Air Station Miramar located within the city of San Diego, along with eight other general aviation airports operated by the County. SDIA, which provides international and commercial service to the County, is very costly due to inefficiencies and constraints. In November of 2006, the County will be voting on a plan for a new airport to meet the growing demand for aviation services. This new airport will either be located at a new site, or will be an extension of SDIA. Either way, the new airport is expected to greatly ease the troubles San Diego County currently faces with air transport.

Bicycles and Pedestrians

The San Diego region’s adopted air quality plan includes a number of tactics designed to promote bicycle travel. These tactics propose an extensive bikeway and bicycle-support system, only some of which currently exists. The tactics include a regional bicycle route system coupled with community-oriented routes, bicycle feeder systems to public transit, and employer incentives to encourage bicycling. Specific bicycle facilities include secure bicycle parking, showers and locker rooms. An extensive educational and promotional program is recommended that would be implemented throughout the cities, the County, and the Regional RideLink Program.

Goods Movement

The development of a coordinated system for the delivery of goods in the San Diego region requires a partnership between and among government agencies and shippers. The emphasis of this Goods Movement Chapter of the RTP is to continue to build a comprehensive database and to study aspects of commodity transport that are not yet fully understood. Additionally, the RTP encourages the transport of goods by rail to reduce congestion on the freeway system, to reduce the amount of energy used in the region, and to improve air quality. Air cargo and maritime shipping also are encouraged.

Congestion Management Plan

Citizen attitude surveys identify growing traffic congestion as one of the major problems affecting the quality of life in the San Diego region. In 1998, 77 directional-miles (13 percent) of the 600 directional-mile freeway system operated at an unacceptable traffic level of service – LOS F. The region’s population, employment and vehicle travel (VMT) all are forecast to increase faster than the planned increase in highway system mileage. The traffic forecasts summarized in the Plan indicate that freeway and regional arterial system traffic and congestion levels will increase in the future unless the transportation improvements identified in this RTP are made.

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Air Quality Conformity

The Air Quality Strategy incorporated into this RTP includes both the EPA-approved 1982 State Implementation Plan (SIP) transportation control measures (TCMs), and the more extensive program adopted under state law in the RAQS. Four strategies were included in the 1982 SIP: ridesharing, transit improvements, traffic flow improvements, and bicycle facilities and programs. Ridesharing and bicycling have strong programs underway in the region. The infusion of TransNet (local transportation sales tax) funds into traffic flow improvements and transit expansion also continue to help reduce emissions.

Energy

During the past two decades, energy has become an issue of concern to every sector within the San Diego region. Businesses, industries, public agencies, and residents were all affected by the gasoline shortages in 1973-74 and 1979. Throughout the 1980s and early 1990s, energy concerns waned considerably due to supply reliability and decreases in gasoline, diesel, and electrical power prices. Elevated fuel prices related to depletion of petroleum and natural gas reserves, worldwide political uncertainties, the imposition of new energy taxes, and air quality regulations could bring renewed focus on energy issues in the coming decade. Initiatives in a number of areas, including alternative transportation fuels, increased coordination of land use with transportation planning, and infrastructure improvements, could significantly alter the transportation energy supply and demand system for the region.

Financial

Until the late 1980s, the San Diego region relied primarily on state and federal funds to implement recommended transportation improvements. A significant portion of these funds came to the region in the form of formula funds. In general, the trend in these formula funding programs through the 1980s was that the funds available for transportation improvements were not increasing as fast as the inflationary increases in construction, operating and maintenance costs, as well as the increases in demand for new facilities. Many funding programs experienced absolute declines. Because of the heavy dependence on state and federal funding, this decline in fund availability resulted in an inability to implement many of the improvements recommended in previous RTPs.

Solutions

The best solution for San Diego County’s transportation system would be to invest more money into transportation infrastructure. Among other benefits, improving traffic conditions saves lives and money. A recent federal report found a savings of $2 in health care, insurance, lost wages, and productivity for every $1 spent on improving road conditions in the last 40 years.\(^7\)

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In November of 2004, San Diego County voted for a 40 year extension of TransNet. This .5¢ local transportation sales tax is will lead to $14 billion over its lifetime for use in public transit, highway, and local street and road improvements.\(^8\)

**Mobility 2030 Regional Transportation Plan**

Mobility 2030, adopted in March of 2003, had seven goals related to improving the quality of transportation in San Diego County. These goals are: mobility, accessibility, reliability, efficiency, livability, sustainability, and equity. Three versions of the plan were developed; a revenue constrained version, with a budget of $30 billion, a reasonably expected revenue version, with a budget of $42 billion, and an unconstrained version, with a budget of $67 billion. In 2006, Mobility 2030 was updated. The budget for the revenue constrained version was increased to $35.7 billion, to incorporate the additional tax revenue from TransNet's extension past 2008.

Mobility 2030 includes plans for improvements to the highway systems. Specifically, there are lane-widening projects on many of the major highways, as well as new carpool lanes and Bus Rapid Transit stations. It also includes plans for new high-quality, high-speed regional transit services, designed to be more customer-friendly. The largest percentage (27 percent) of Mobility 2030's budget is planned for improvements to local streets and roads. Transit capital, transit subsidies, and highway systems are also receiving substantial portions of the budget.

**Conclusion**

San Diego County's current transportation situation is characterized by problems and inefficiencies. The proposed investments made as part of Mobility 2030 may have a dramatic impact on improving the quality of transportation in San Diego County. Roads will be safer, traffic will flow more freely, and a greater number of people will have access to a public transit system.

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Trends in Chronic Care

Introduction

This section provides a brief overview of the chronic healthcare issues facing San Diego County. It outlines historical changes over the past decade, summarizes present-day challenges, and offers a broad view of future trends in chronic care, particularly as they relate to specific socio-economic and ethnic populations. Given the vast number of studies that address individual chronic diseases in great depth, this section is intended to provide a summary of findings as they relate to San Diego County residents.

In general, residents of San Diego County face fewer chronic health problems than elsewhere in California. Only 41 percent of adults in San Diego have one or more chronic condition, compared with 45.2 percent throughout California. In fact, San Diego County ranked in the bottom quintile when ranked according to the prevalence of chronic conditions.9

An aging population means that more and more individuals are becoming susceptible to the diseases of old age, which are typically chronic diseases requiring continued care. In 2003, average life expectancy reached an all time high of 77.6 years. Advances in medical care have meant that people are living longer. In recent years, premature deaths have decreased from heart disease, cancer, stroke, suicide, chronic liver disease, accidents, HIV, alcohol, drugs, and firearm accidents. Alzheimer’s disease, kidney disease, hypertension, and Parkinson’s disease have become increasingly prominent causes of death.10

Overview of Trends

Asthma

Asthma has a greater impact on African Americans than on any other racial or ethnic group in San Diego County. Between 2000 and 2002, African Americans in San Diego were more than 2.5 times more likely to be hospitalized due to asthma than the entire population11. One study found that in California, asthma affects 20 percent of African Americans compared with 12.4 percent for the whole population12. Moreover, a 2004 report by the Environmental Protection Agency reveals that African Americans, compared with whites, suffer from the following asthma-

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9 UCLA Center for Health Policy Research. “Maps and Exhibits of Chronic Conditions Indices and Access Indicators.”
11 County of San Diego data provided by the County of San Diego Health and Human Services Agency, Department of Community Epidemiology, based on California Office of Statewide Health & Planning, Hospital discharges data; SANDAG January 1 population estimates.
related impacts: their rate of emergency department visits is 380 percent higher, their rate of hospitalization is 225 percent higher, and their asthma-related death rate is 200 percent higher\textsuperscript{13}.

Cancer

Cancer affects different races and ethnic groups with varying degrees. Research has shown that African Americans are more likely to die of cancer than are people of any other racial or ethnic group. For the U.S. population in 2002, the average annual death rate for all types of cancer per 100,000 persons was 240 for African Americans, 192 for whites, 130 for Hispanics, 128 for American Indians/Alaska Natives, and 114 for Asians/Pacific Islanders\textsuperscript{14}. In San Diego County in 2002, mortality rates among African Americans for the two leading causes of cancer deaths were 62.2 percent per 100,000 population for lung cancer and 36.6 per 100,000 female population for breast cancer.

Diabetes

In San Diego County in 2001, the prevalence of diabetes among African American adults was 9.9 percent. This rate is double that among whites, 4.7 percent\textsuperscript{15}. The impact of diabetes on African Americans is reflected in two measures from 2002: diabetes-related mortality and hospitalization. The diabetes-related mortality rate is 44.1 deaths per 100,000 population, compared to 18.2 overall\textsuperscript{16}. Hospitalization rate of 283.4 per 100,000 population, compared to 111.8 overall.

In 2001 in San Diego County, the prevalence of diabetes among Hispanic adults was 5.6 percent, which is somewhat higher than the rate of 4.7 percent among whites. The impact of diabetes on Hispanics is reflected in two measures from 2002, diabetes-related mortality and hospitalization: the mortality rate was 28.3 deaths per 100,000 population, compared to 18.2 overall while the hospitalization rate was 212.9 per 100,000 population, compared to 111.8 overall.

Heart Disease/Stroke

In 2002 in San Diego County, mortality rates per 100,000 population related to coronary heart disease was higher among African Americans, 265.5 compared to 162.8 overall. In 2002 in San Diego County, mortality rates per 100,000 population related to stroke was higher among African Americans, 84.2 compared to 55.7 overall.

\textsuperscript{15} CHIS 2001 Adult Survey. UCLA Center for Health Policy Research, September 2002. Prepared by the County of San Diego Health and Human Services Agency, Department of Community Epidemiology.
\textsuperscript{16} State of California, Department of Health Services, Death Statistical Master Files: SANDAG January 1 population estimates. Prepared by the County of San Diego Health and Human Services Agency, Department of Community Epidemiology.
Infectious Disease

According to the National Center for Chronic Disease Prevention and Health Promotion, in San Diego County, current childhood immunization rates for children who have reached school age are more than 98 percent, at or near state and national levels in all categories. Moreover, during 2003, 83.1 percent of children ages 19 to 35 months were adequately immunized. A recent First 5 Commission report noted that in San Diego County, the commonly seen disparity of poverty level children having lower vaccination rates has been reversed. According to this analysis, children living below poverty level have higher vaccination rates than those with higher incomes. In San Diego County in 2001, the rate for influenza vaccination among persons aged 65 years and older was 82.4 percent.

Maternal, Infant, and Child Health

In San Diego County between 2000 and 2002 there were 131,981 live births among county residents. Of these births, 9.1 percent (11,940) were to mothers under age 20. During this same three-year period, the birth rate among San Diego County residents decreased slightly from 15.7 live births per 1,000 total population to 15.1. According to data published by the County of San Diego Health and Human Services Agency, the percent of children and youth living in poverty was 16.5 percent in 2003 which is small change since 2000. The percent of babies with low birth weight (under 2,500 grams) was 6.1 percent in 2003, a small change since 2000. The rate of births to teens (rate per 1,000 girls ages 15 to 19) was 37.4 in 2002, a decrease from 43.2 in 2000. Among girls aged 15 to 17, the birth rate was 18.9 per 1,000 girls. The percent of mothers receiving late or no prenatal care was 2.7 percent in 2002, a decrease from 4 percent in 2000. The percent of mothers receiving first trimester prenatal care was 86.8 percent in 2002, an increase from 83.2 percent in 2000. The rate of death among infants less than one year of age per 1,000 live births was 4.5 in 2002, a decrease from 5.9 in 2000.

In 2002, Hispanic teens aged 15 to 19 had the highest birth rates across all regions of San Diego County. During this period, the overall birth rate among Hispanic teens was 71.1 births per 1,000 female population ages 15 to 19, compared to 37.4 overall and 15.1 among white teens. Over the three-year period of 2000 to 2002, the three regions with the highest Hispanic teen birth rates were: Central – 92.4, North Coastal – 81.5, and North Inland – 80.0. Hispanic teen births in these regions represented 40 percent of all teen births in the County during this three-year period. During this same period, fewer Hispanic mothers giving birth received first trimester prenatal care than white mothers, 82.8 percent and 92.1 percent respectively.

Mental Health

During 2003, 33.9 percent of adults in San Diego County aged 18 years and over reported they had at least one day during the past 30 days when their mental health was not good. The average number of days was 2.9 with 8.6 percent reporting they had 14 or more days of frequent mental distress. In 2003, 308 persons in San Diego County died from suicide, for an age-adjusted rate of 10.8 per 100,000 population. During 2003, 1,674 San Diego County residents were hospitalized with nonfatal self-inflicted injuries.
Respiratory Disease

Nearly 15 percent of children in San Diego County (ages 1 to 17) have been diagnosed with asthma, compared to 10.8 percent of adults. In addition, in 2001, the lifetime prevalence of asthma in San Diego County ranged from 14.7 percent among persons under 18 years of age to 10.4 percent for those 18 years of age and over. The 2001 age-adjusted death rate from asthma was 1.5 per 100,000 population.

Best Practice

Scripps Health, the Whittier Institute, and the Council of Community Clinics joined together to establish Project Dulce, a diabetic best practice case study. The goal of the study was to provide culturally-sensitive treatment and management for individuals with diabetes. It was achieved with the help of 153 high-risk patients recruited from six community clinic sites in San Diego County. They were enrolled in a nurse case management (NCM) and peer education/empowerment group. After one year in Project Dulce, the NCM and peer education/empowerment group had significant (five to 30 percent) improvements in HbA1c, total cholesterol, LDL cholesterol, and diastolic blood pressure. The patients’ knowledge of diabetes, treatment satisfaction, and culture-based beliefs were also quantifiably tracked and improved as well.

The program has expanded since its start in 1997, now serving more than 6,000 uninsured and underinsured individuals from Hispanic, African-American, Filipino and Vietnamese backgrounds. This program uses a system of peer educators to support diabetics from their same cultural group. Project Dulce has been successful at empowering underserved diabetics and ensuring that these individuals will continue to receive the treatment that they need. It receives funding from The California Endowment.