

## Benefits of Healthcare to a Community

Access to healthcare is an integral part of any community. Healthcare facilities and services bring a number of benefits to a community. The primary benefit is the availability of quality services to meet the healthcare needs of your citizens. Important economic development benefits include:

- Attraction of new business and industry
- Stop the out-migration of existing businesses and industry
- Increase tax revenues
- Job creation
- Stimulate the local economy through direct, indirect, and induced spending
- Increase the quality of life for a community's residents

One major component of any community's economic development effort is a viable healthcare delivery system. Healthcare services are needed to attract new industry, stop the out-migration of existing industry, and increase tax revenues. Few employers are willing to locate in an area where their employees will not have access to healthcare facilities and qualified medical staff. Additionally, healthcare facilities are often the largest purchasers of labor, goods, and services in a community.

The economic impact of healthcare facilities back to communities can be felt through direct, indirect, and induced spending. Direct spending comes in the form of labor, food, office supplies, utilities and other goods, and services consumed directly by the healthcare facility.

The indirect impact healthcare services have on a community come in the form of additional medical businesses that compliment one another such as: physicians' offices, retail pharmacies, nursing homes, and medical equipment rental and retail outlets. Indirect spending also benefits nonmedical businesses such as restaurants and motels that cater to patients and their families.

Healthcare facilities and services also generate an induced spending effect. Induced spending can be described as the amount spent by employees of the healthcare facility in the community. Induced spending can stimulate additional spending by local businesses, employees of local businesses, and increase local employment.

In addition to the economic benefits healthcare facilities and services bring a local community, perhaps the most important benefit is the positive impact they have to a community's quality of life and social structure.

## Executive Summary

Buxton<sup>®</sup> has studied the healthcare demand and supply levels of El Dorado Hills in comparison to Medical Group Management Association (MGMA) average physician service levels and the entire county of El Dorado to aid El Dorado Hills in understanding current healthcare demand and supply and identify potential needs that are not met by existing healthcare infrastructure. The objectives were as follows:

### Objectives

- To determine benchmarks for comparison against El Dorado Hills.
  - Macro benchmark (compared to the State of California)
  - Micro benchmark (compared to El Dorado County)
- To compare El Dorado Hills to the benchmarks based on the following:
  - Major Specialty Categories
    - Estimated visits (2008)
    - Projected visits (2013)
    - Projected visits Growth Rate (2008-2013)
    - Physicians
  - Hospitals
- To compare El Dorado Hills to optimal service levels to identify potential needs

## Key Findings

The table below identifies the Surplus / Shortage levels by specialty for El Dorado Hills as compared to the optimal service levels (based on MGMA median annual visits per physician) and the Surplus / Shortage levels of hospital beds as outlined within the report.

Category	2008	2013
Cardiovascular Disease	Shortage	Shortage
Dermatology	Shortage	Shortage
General Surgery	Shortage	Shortage
General & Family Medicine	Surplus	Surplus
Internal Medicine	Shortage	Shortage
Neurology	Shortage	Shortage
Obstetrics & Gynecology	Shortage	Shortage
Oncology	Shortage	Shortage
Ophthalmology	Shortage	Shortage
Orthopedic Surgery	Surplus	Surplus
Otolaryngology	Shortage	Shortage
Pediatric	Shortage	Shortage
Psychology	Surplus	Surplus
Urology	Shortage	Shortage
Hospital Beds	Shortage	Shortage

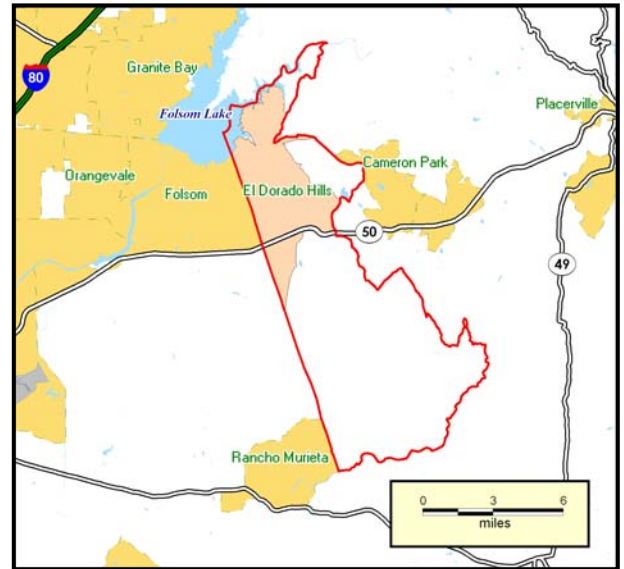
## Recommendations

In order to offer healthcare services at average levels, El Dorado Hills should seek to increase access to more physicians for the Major Specialty Categories including Cardiovascular Disease, Dermatology, General Surgery, Internal Medicine, Neurology, Ob-Gyn, Oncology, Otolaryngology, Pediatric, and Urology.

## El Dorado Hills Primary Health Services Area

El Dorado Hills' Primary Health Services area is the geographic boundary containing the vast majority of the population and healthcare providers relevant to El Dorado Hills' healthcare needs. The Primary Health Services area for El Dorado Hills follows the census tract boundaries around the city.

This area, depicted to the right, covers El Dorado Hills and the surrounding area to ensure that all factors influencing the demand and supply for health services in El Dorado Hills are accounted for. Shortage / Surplus estimates are provided for this entire area with a shortage indicating that the population is likely seeking services outside of the area for a particular category.



## El Dorado Hills Current State

The El Dorado service area exhibits the following healthcare characteristics:

- Estimated annual visits to a physician by residents: 18,789
- Five-year projected visits growth rate: 23.8%
- Estimated annual days spent in a hospital: 4,966
- Five-year projected days spent in a hospital growth rate: 32.3%
- 0 staffed hospital beds

## Data

The following sets of information were utilized in the analysis:

- **Healthcare Demand Data:** Buxton utilizes the following data sets to measure demand for specific health services by the population of a given geography.
  - Major Specialty Categories (estimated visits) – This database consists of estimated Physician Office visits by the 14 major specialty categories offering estimated (current) and projected (five-year) ambulatory visits (office visits) to a physician for a medical need. The dataset is based on the National Ambulatory Medical Care Survey compiled by the National Center for Health Statistics and adjusted for 15 age and sex groupings by major US Census Regions.
  - Hospital Discharges and Length of Stay – This database consists of the number of estimated (current) and projected (five-year) hospital discharges and days spent in a hospital. The dataset is based on the National Hospital Discharge Survey compiled by the National Center for Health Statistics and adjusted for 15 age and sex groupings by major US Census Regions.
- **Healthcare Supply Data:** Buxton utilizes the following data sets to measure the available supply of hospitals and physicians to meet the demand for health services of a given geography.
  - Physicians Data – This database consists of physicians by the 14 Major Specialty Categories. Full-Time Equivalent (FTE) physician metrics are based on the total number of practice locations for each physician. A physician's primary practice location is given the highest weighting with all other locations receiving equal parts of the remainder.
  - Hospital Data – This database consists of hospitals registered in the American Hospital Association (AHA).

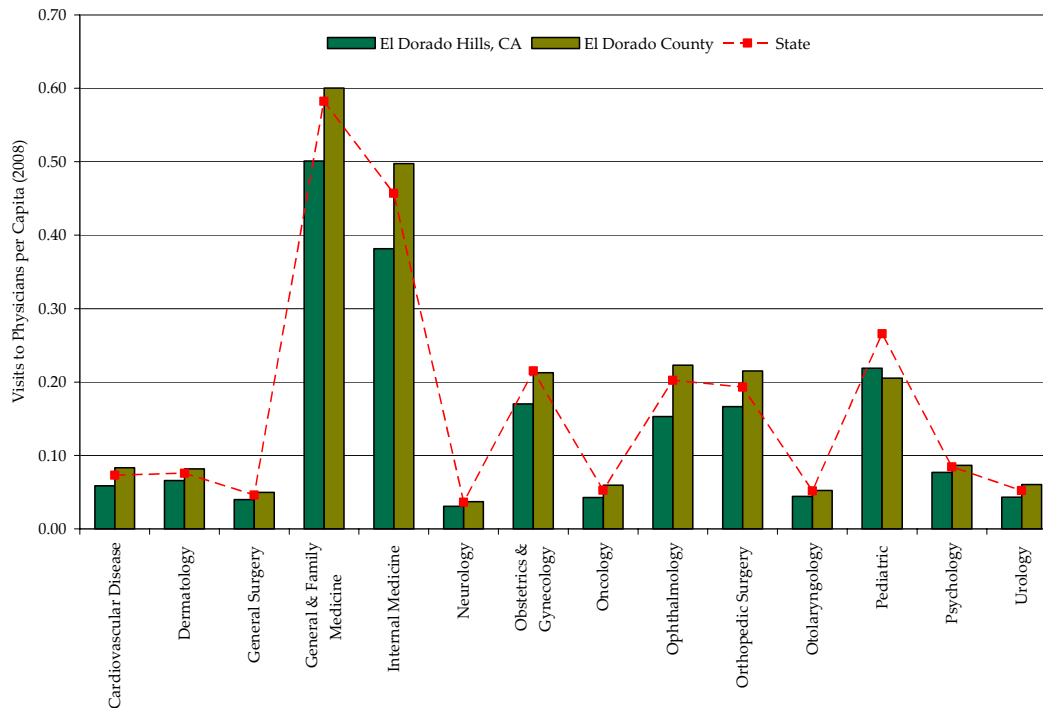
The following sets of information are calculated values utilized in the analysis:

- **Physicians per 100,000 visits:** This is a calculated value derived from the Major Specialty Categories in the Demand (estimated visits) and Supply data (physicians) sets. The value is calculated by dividing the total number of physicians for a given major specialty whose practice falls within a given geography by the total number of visits within the same category and geography and multiplying by 100,000. Buxton utilizes the resulting value as a measure of the saturation level for each specialty within a given geography.
- **Optimal FTE physicians per 100,000 visits:** This is a calculated value derived from the Medical Group Management Association (MGMA) median physician service levels listed in the table below. The value is calculated by inverting the MGMA median annual visits per FTE physician and multiplying by 100,000. Buxton utilizes both values when measuring physician shortage / surplus for each specialty within a given geography.

### Estimated visits

The chart and graph below provide the estimated number of visits to physicians by category for El Dorado Hills and the number of visits per capita for El Dorado Hills, El Dorado County, and the state.

Major Specialty Category	Estimated Visits per Capita (2008)			
	El Dorado Hills, CA	El Dorado Hills, CA	El Dorado County	State
Cardiovascular Disease	553	0.06	0.08	0.07
Dermatology	621	0.07	0.08	0.08
General Surgery	375	0.04	0.05	0.05
General & Family Medicine	4,722	0.50	0.60	0.58
Internal Medicine	3,595	0.38	0.50	0.46
Neurology	291	0.03	0.04	0.04
Obstetrics & Gynecology	1,604	0.17	0.21	0.22
Oncology	403	0.04	0.06	0.05
Ophthalmology	1,441	0.15	0.22	0.20
Orthopedic Surgery	1,568	0.17	0.22	0.19
Otolaryngology	417	0.04	0.05	0.05
Pediatric	2,063	0.22	0.21	0.27
Psychology	726	0.08	0.09	0.08
Urology	407	0.04	0.06	0.05



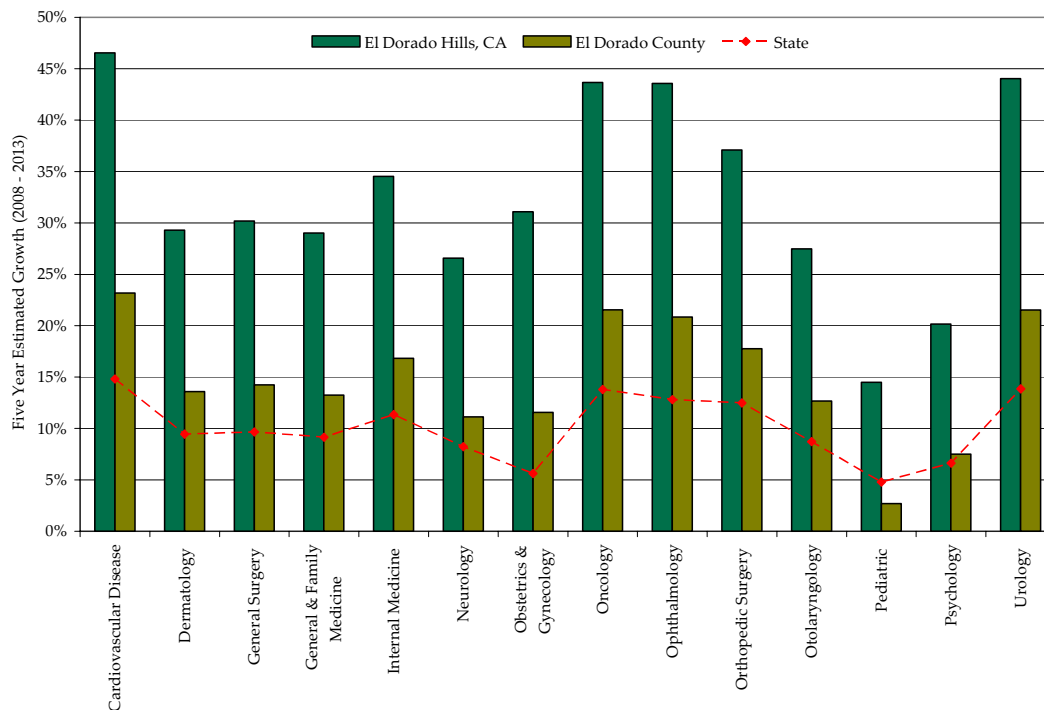
For example, under the General & Family Medicine category, El Dorado Hills is estimated to have 4,722 yearly visits to physicians, or 0.50 visits per capita. El Dorado County is estimated to have 0.60 visits per capita and the state is estimated to have 0.58 visits per capita. Notice that El Dorado Hills is expected to experience fewer visits to General & Family Medicine physicians per capita than both El Dorado County and the state.

### Five Year Projected visits Growth

The chart and graph below provide the estimated 2013 visits for El Dorado Hills and the five-year projected growth rate for El Dorado Hills, the average growth rate for El Dorado County, and the state growth rate by category.

Major Specialty Category	Estimated Visits Growth Percentage (2008 - 2013)			
	El Dorado Hills, CA Visits (2013)	El Dorado Hills, CA	El Dorado County	State
Cardiovascular Disease	810	47%	23%	15%
Dermatology	803	29%	14%	9%
General Surgery	488	30%	14%	10%
General & Family Medicine	6,092	29%	13%	9%
Internal Medicine	4,837	35%	17%	11%
Neurology	369	27%	11%	8%
Obstetrics & Gynecology	2,102	31%	12%	6%
Oncology	579	44%	22%	14%
Ophthalmology	2,069	44%	21%	13%
Orthopedic Surgery	2,150	37%	18%	12%
Otolaryngology	532	27%	13%	9%
Pediatric	2,362	0%	3%	5%
Psychology	872	20%	8%	7%
Urology	587	0%	22%	14%

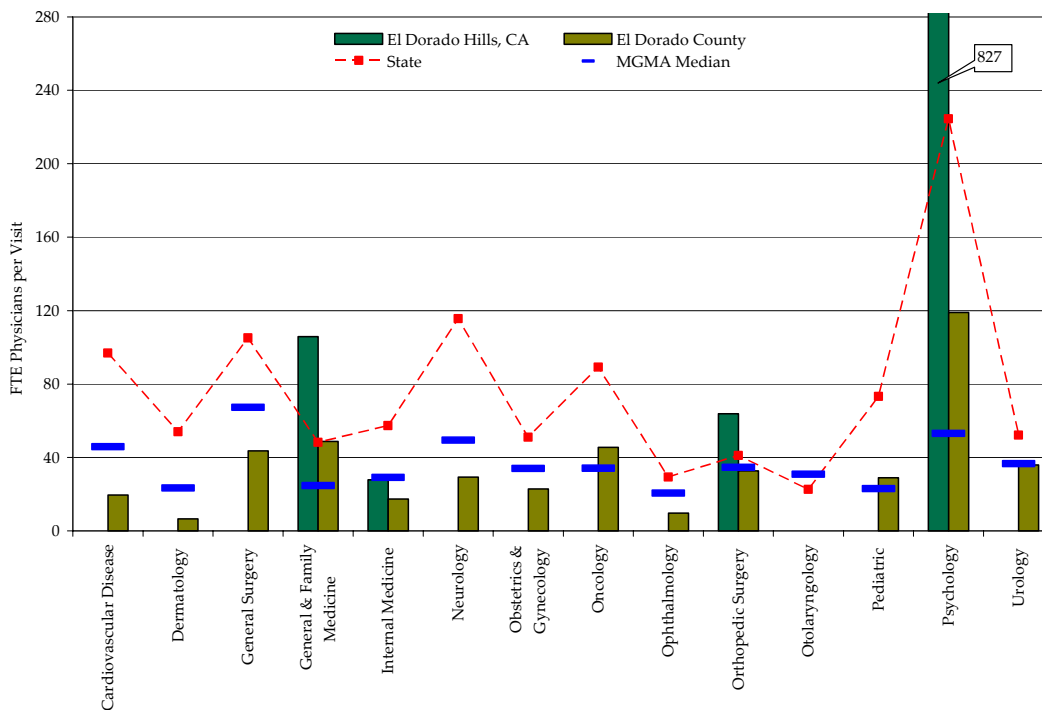
For example, from 2008 to 2013, Dermatology visits in El Dorado Hills are expected to grow 29% to 803 out pacing El Dorado County (14%) and the state (9%).



### Full-Time Equivalent Physician Service Levels

The chart and graph below provide the Full-Time Equivalent (FTE) Physicians per 100,000 visits for El Dorado Hills, El Dorado County, and the state by category and the optimal level derived from the MGMA median annual visits per physician for each category.

Major Specialty Category	FTE Physicians per 100,000 Visits (2008)					MGMA Median
	El Dorado Hills, CA Physicians	El Dorado Hills, CA FTE Physicians	El Dorado Hills, CA	El Dorado County	State	
Cardiovascular Disease	0	0.00	0	20	97	46
Dermatology	0	0.00	0	7	54	23
General Surgery	0	0.00	0	44	105	67
General & Family Medicine	5	5.00	106	49	48	25
Internal Medicine	1	1.00	28	17	57	29
Neurology	0	0.00	0	29	116	49
Obstetrics & Gynecology	0	0.00	0	23	51	34
Oncology	0	0.00	0	46	89	34
Ophthalmology	0	0.00	0	10	29	21
Orthopedic Surgery	1	1.00	64	33	41	35
Otolaryngology	0	0.00	0	0	23	31
Pediatric	0	0.00	0	29	73	23
Psychology	6	6.00	827	119	224	53
Urology	0	0.00	0	36	52	37



For example, for the Internal Medicine category, El Dorado Hills currently has 1 physician with an estimated FTE of 1.00. This equates to an estimated 28 FTE physicians per 100,000 visits, El Dorado County is estimated to have 17 FTE physicians per 100,000 visits, the state is estimated to have 57 FTE physicians per 100,000 visits, and the MGMA average is 29 FTE physicians per 100,000 visits. El Dorado Hills falls far short of the state, but is much higher than El Dorado County, and is right in line with the MGMA median.

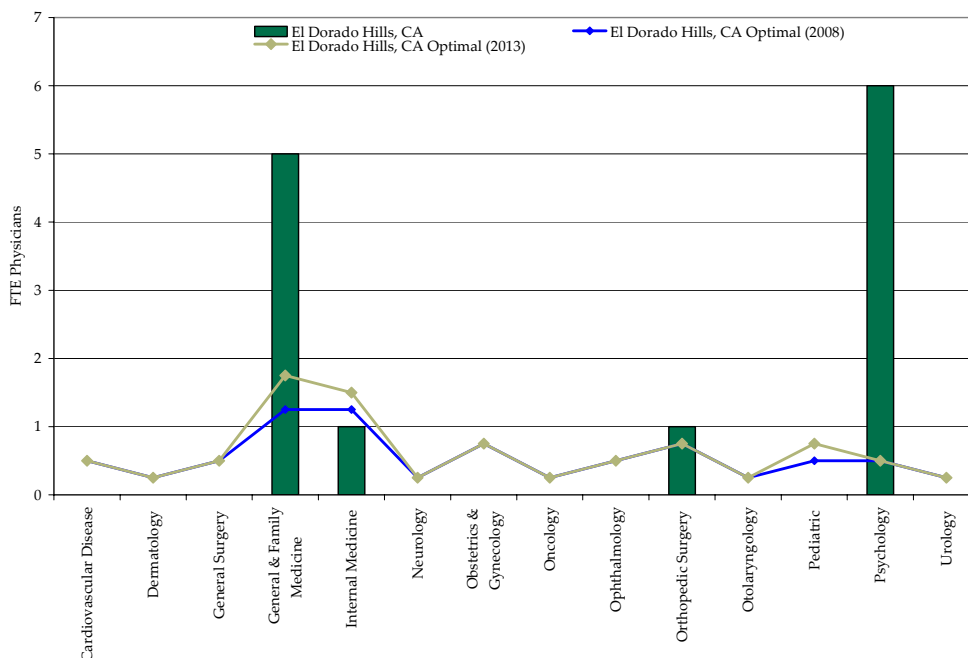


### Optimal Full-Time Equivalent Physician Levels

Using the MGMA median annual visits per physician, the estimated (2008) visits and projected (2013) visits for El Dorado Hills, Buxton has projected the number of FTE physicians needed to reach optimal levels for El Dorado Hills. The chart below provides the current FTE physicians for El Dorado Hills, the optimal FTE physicians for El Dorado Hills based on 2008 and 2013 estimated visits, and the estimated (2008) and projected (2013) surplus/shortage FTE physicians for El Dorado Hills by category.

Major Specialty Category	El Dorado Hills, CA		El Dorado, CA		
	Current FTE Physicians	Optimal (2008)	Surplus / Shortage (2008)	Optimal (2013)	Surplus / Shortage (2013)
Cardiovascular Disease	0.00	0.50	0.50	0.50	0.50
Dermatology	0.00	0.25	0.25	0.25	0.25
General Surgery	0.00	0.50	0.50	0.50	0.50
General & Family Medicine	5.00	1.25	3.75	1.75	3.25
Internal Medicine	1.00	1.25	0.25	1.50	0.50
Neurology	0.00	0.25	0.25	0.25	0.25
Obstetrics & Gynecology	0.00	0.75	0.75	0.75	0.75
Oncology	0.00	0.25	0.25	0.25	0.25
Ophthalmology	0.00	0.50	0.50	0.50	0.50
Orthopedic Surgery	1.00	0.75	0.25	0.75	0.25
Otolaryngology	0.00	0.25	0.25	0.25	0.25
Pediatric	0.00	0.50	0.50	0.75	0.75
Psychology	6.00	0.50	5.50	0.50	5.50
Urology	0.00	0.25	0.25	0.25	0.25

For example, for the General & Family Medicine category, El Dorado Hills’ estimated (2008) optimal level is 1.25 FTE physicians and projected (2013) optimal level is 1.75. Currently there are 5.00 FTE physicians for a current surplus of 3.75 FTE physicians that is projected to decrease to a surplus of 3.25 FTE physicians by 2013.



## Hospital Capacity

The chart below provides the total number of hospital beds, estimated (2008) and projected (2013) number of days spent in a hospital by the population of El Dorado Hills, and the projected (2008-2013) days spent in a hospital growth percentage.

Variable	El Dorado Hills, CA	El Dorado County	State
Hospital Beds (2008)	0	226	95,120
Estimated Days Spent in Hospital (2008)	4,966	106,906	19,973,943
Estimated Days Spent in Hospital per Capita (2008)	0.53	0.58	0.54
Projected Growth Percentage (2008-2013)	32.3%	16.4%	10.1%
Years spent in Hospital per Hospital Bed (2008)	0.00	1.30	0.58
Years spent in Hospital per Hospital Bed (2013)	0.00	1.51	0.63

Assuming each hospital bed can, at best, treat one patient per day, a hospital’s maximum capacity is equal to the number of beds multiplied by the number of days in a year. Based on this assumption, the minimum number of hospital beds required to provide adequate services is the Estimated Days Spent in a Hospital divided by 365 (the number of days in a year) – a relatively conservative assumption considering an area at this capacity would have every hospital bed occupied every day of the year if the population sought treatment only at El Dorado Hills hospitals.

Based on El Dorado Hills’ 4,966 estimated (2008) days spent in a hospital, the minimum number of beds needed is 14. In 2013, the minimum number is expected to increase to 18. Currently there are no hospital beds available – putting El Dorado Hills far below the minimum number of hospital beds.