

Section

# 8



## Health and Safety

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# Health and Safety

**GOAL HS-1**

Consider natural and human-made hazards when planning development and minimize potential conflicts.

**GOAL HS-2**

Improve access to healthcare in the community.

**BACKGROUND AND SETTING – Natural and Man-made Hazards**

The Health and Safety Element provides a framework for responsible planning that addresses both natural and manmade hazards and promotes thoughtful and sustainable measures for the development of a healthy community.

***Geology***

The Valley’s geology is composed of two basic units, bedrock and valley fill. The bedrock generally follows the topography of the Coastal Range while the valley fill occurs under the relatively flat areas of the Valley. The entire area is subject to significant seismic risks.

***Seismic Hazards***

The entire Valley is at risk of a large seismic event. Earthquake faults identified in Mendocino County run southeast to northwest, a directional pattern that occurs in the Mendocino Highlands — the geologic name for this area of the State. The Mayacama fault, transects the eastern half of the planning area and is capable of generating an earthquake of at least Magnitude 6. The San Andreas Fault located 20 miles to the southwest has generated larger earthquakes and is also a

potential risk to the valley. Over millions of years, portions of the Highlands were dropped by fault movement resulting in the main north-northwesterly valleys in the County, including the Ukiah Valley. A portion of the eastern Valley follows the trace of the active Mayacama fault.

During an earthquake, lands and improvements adjacent to the fault are subject to disturbance from ground rupture or shaking. In addition, the earth movement generates a vibration that can cause landslides or liquefaction. Earthquake Fault Zones such as those shown in Figure 8.1 have been delineated by the State Division of Mines and Geology. These zones identify areas in which the County requires detailed studies for development to mitigate earthquake damage through site and building design in accordance with State law. In addition, it is prudent to study seismic impacts for projects outside the Earthquake Fault Zones.

***Bedrock-related Hazards***

Geologic hazards related to bedrock include mass earth movement, such as landslides. These landslides can occur spontaneously or as a result of natural or man-made disturbances. Much of the Valley overlies a rock formation called serpentine, which is particularly susceptible to both debris

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low landslides and deeper bedrock landslides. This type of earth movement can result in accelerated runoff, flooding, erosion, degradation of water quality and impacts to fisheries. Landslides have occurred in the Ukiah Valley over the years and geologic studies have revealed several large ancient landslides located in Spanish Canyon, Gibson Canyon, and the Robinson Creek drainage. Steep mountain slopes are susceptible to rapidly moving surface landslides that occur during torrential rains. The risk of these slides are increased when the ground is already saturated by high rainfall and the water becomes trapped between the surface soils and bedrock.

### ***Fill-related Hazards***

Potential hazards related to fill are associated with shallow ground water and compressive soils which can cause structures to settle. Naturally occurring valley fill and unstable geologic conditions resulting from poorly engineered hillside grading practices have resulted in unstable slopes and uncompacted fills in many areas of the Ukiah Valley. These factors can cause problems for building foundations, roads, and utility improvements built on fill soils. A study by the California Division of Mines and Geology in 1993 found that there are improperly compacted or uncompacted fills in the western Ukiah foothills. The study also found that most of the bedrock does not hold compacted fill well because of the greater ratio of over-sized rock fragments to minimal cohesive native material.

### ***Flooding, Dam Inundation, and Other Drainage Impacts***

Major flood-related concerns in the Ukiah Valley include flooding as a result of heavy storms and the potential failure of the Coyote Dam at the base of Lake Mendocino. In the absence of flood conditions, inadequate drainage systems may also adversely affect properties and resources.

### ***Flooding as a Result of Storms***

The historical width of the channel carved by the Russian River through the Ukiah Valley ranges from a narrow point of 600 feet at Calpella to 7,500 feet south of Ukiah near Plant Road. Normally, the river flows through a portion of the channel it has carved through the center of the Valley. During moderately severe storms, the river may overtop its banks. The area subject to flooding during more severe storms, or one hundred year storm events, is much more extensive. The primary areas subject to flooding from a one hundred year storm (which has a one percent chance of occurring in any given year) can reach as far west as U.S. 101 in several portions of the UVAP area. To the north, portions of The Forks area and the communities of Calpella and Talmage are situated within the one hundred year floodplain.

When the Russian River overtops its banks, flooding is also likely to occur along its tributaries as well. Orr Creek, Doolin Creek, Gibson Creek and Robinson Creek each have the potential to



*Areas at high risk of erosion along Redemeyer Road.*

inundate significant portions of residential areas near the channel centerline. Mill Creek and Sulphur Creek have a record of flooding a zone nearly one thousand feet wide through the Talmage and the Vichy Springs Road areas. Flood risk also grows with increased paving and development that creates compacted and impermeable surfaces, preventing natural percolation of water into the water table and increasing runoff.

Over time, a combination of factors has altered the natural drainage patterns of the Valley. These include: increasing the portion of the Valley covered with impervious surfaces, inadequate stormwater systems, creek channelization, and improper site grading. This has led to increased erosion and a greater vulnerability to flash flooding during periods of heavy rainfall. As the Ukiah Valley continues to develop, it is paramount that the City and County manage stormwater run-off and retention issues using a sustainable and coordinated approach.

The County has established development standards for new construction that falls within the one hundred year floodplain established on the Flood Hazard Maps prepared by the Federal Emergency Management Agency (FEMA). These standards include precautionary measures such as limiting the intensity of development and raising the “habitable floor” of a structure to or above the one hundred year base flood elevation. More restrictive standards have been adopted for the floodway, which may also include portions of the adjacent land.

**Coyote Dam Inundation Area**

The gentle topography of the Ukiah Valley along the Russian River provides a wide dam inundation area. The U.S. Army Corps of Engineers resource documents associated with Coyote Dam do not indicate the current level of risk associated with a potential dam

failure. Additional studies regarding dam safety will be conducted in the future as funding becomes available.

Hypothetically, in the event of a total dam failure when Lake Mendocino is filled to capacity, water would flow north up the Russian River channel to a point north of Highway 20 before stopping and south well past the boundaries of the UVAP. Between Highway 20 and Calpella, the topography of the channel would keep the water confined between the bluffs and North State Street. The greatest damage would likely occur south of Calpella. Inundation is predicted to occur along most creek channels from the river nearly to the base of the foothills on the west side of the Valley. The main channel of flooding would likely follow U.S. 101 or State Street, whichever is further west. In the southern portions of the Ukiah Valley, the flood waters have a large land area in which to fan out both east and west of the Russian River, although the Army Corps projects that most segments of U.S. 101 south of Talmage Road will be under water. The community of Talmage would likely have portions of its west side inundated.



*Coyote Dam*

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***Urban and Wildland Fire Protection and Prevention***

Fire protection in the Ukiah Valley is provided by four agencies: the Ukiah Valley Fire District (UVFD), the City of Ukiah, the Redwood Valley-Calpella Fire Protection District (RVCFD) and the CalFire (formerly known as CDF). The Ukiah Valley Fire District provides fire protection for structures in most of the planning area, covering a rural area of approximately 80 square miles with a population estimated at 15,000 people. The City of Ukiah Fire District serves areas within the City limits and the Redwood Valley-Calpella Fire Protection District provides protection in the Calpella area. CalFire has primary responsibility for wildland fire suppression in the outlying areas of the valley called "state responsibility areas." In addition, CalFire provides structural fire protection services for areas outside the Ukiah Valley Fire Protection District (UVFD) during the declared season. These four agencies have mutual aid agreements to assist each other in handling fire and other emergency calls. In addition the County mutual aid and State master mutual aid agreements provide access to additional emergency service assets. The Mendocino County Office of Emergency Services is responsible for the planning and coordination of disaster response throughout the County, which includes the planning area.

The steep terrain on either side of the Ukiah Valley is very susceptible to wildland fires. The area is fairly inaccessible to emergency vehicles and consists of manzanita and scrub vegetation with a high oil and fuel content that will burn quickly with extreme heat. Under favorable weather conditions a small fire could move quickly through the dry brush and rapidly grow out of control. Fires in the Valley's hilly areas are not only a threat to residences located in the hills, but could endanger the more heavily

populated areas along the base of the slopes, or even the City of Ukiah itself.

To minimize the impact of fire on residences and other structures, the County imposes the State Fire Safe Regulations, which require minimum standards for access, length of dead end roads, slope of roads, clearance of flammable vegetation around structures, water supply and identification signs. In addition, the County enforces the Uniform Fire Codes, and the Ukiah Valley Fire Protection District (UVFD) has the ability to enact its own local ordinance or development requirements. The City of Ukiah has adopted Hillside Development Regulations for the areas of high fire hazard in the hill areas on the west side of the City. These regulations require substantive fire protection features for new development in the western hills portion of the city, such as a fire suppression water storage, safe access routes, fire-resistant construction, and the creation of a 100-foot defensible space around residences.

There have been significant improvements in fire protection in the recent past. New fire regulations and new building technology have improved the resistance of structures to fire. Greater use of home-based sprinkler systems can also reduce the amount of fire damage. Improvements in emergency fire response rates by the City and the Districts are attributed to increased training, more full time and volunteer staff, and improved equipment.

***Airport Related Hazards***

The City of Ukiah owns and operates the 165-acre Ukiah Municipal Airport located west of Highway 101 just south of State Route 222 in the southern part of Ukiah. The airport was built in the 1930s for the military and has been operated by the city since 1942. As is the case with all airports, there is a small but real risk that an

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airplane crash could affect area surrounding the airport. The Ukiah Valley does experience hazardous weather conditions that make approaches to and from the airport challenging. Moreover, the mountainous terrain to the south of the airport necessitates that aircraft bank to the east to avoid this area. There have been several air crashes on or near the airport grounds in its 70 plus years of operation.

Since the risk of an aviation accident is greatest in the take off and landing portions of the flight, when the aircraft is operating close to the ground, communities specify what land uses are acceptable to reduce the potential for on-the-ground fatalities in the event of a crash. The Mendocino County Airport Comprehensive Land Use Plan (ACLUP) limits land use types and densities in the City and surrounding unincorporated area as it relates to airport safety and viability. When combined with emergency responders located at the airport and elsewhere in the city the risk of on-the-ground fatalities from aircraft crashes can be lowered.

The Land Use section of the UVAP addresses land use issues within the ACLUP planning area which extends in an approximate one mile radius from the runway.

### ***Hazardous Materials***

Hazardous chemicals are used and transported throughout the plan area. Numerous Federal and State laws, as well as local policies and plans, control the production, transportation, storage, and use of these hazardous materials. In the Ukiah Valley, State Route 101 and freeway interchanges handle the bulk of hazardous materials related traffic. The railroad could carry hazardous materials in the future when the line is reopened and freight



service is restored. Several stationary industrial operations and municipal water treatment facilities possess significant quantities of dangerous chemicals required for their operation that could create a risk in the event of a spill.

If improperly handled, hazardous materials can result in public health hazards through contamination of soils and groundwater, or through airborne releases of vapors, fumes, or dust. There is also the potential for accidental or unauthorized releases of hazardous materials that would pose a public health concern.

### ***Emergency Response***

The Mendocino County Office of Emergency Services (OES) is responsible for disaster planning, assistance, and coordination of all jurisdictions in the Mendocino Operational Area, which

encompasses Mendocino County. In 2006 the County adopted the Mendocino Operational Area Emergency Operations Plan that describes how various departments and agencies will respond to the range of potential emergencies that might occur in the County. OES administers the Mendocino County Operational Area Emergency Operations Plan for the planned response to extraordinary emergency situations, including hazardous materials releases within or affecting the County. This plan establishes the framework for implementation of the Standardized Emergency Management System (SEMS), a system required by the State for managing responses to multi-agency and multi-jurisdictional emergencies in California and the National Incident Emergency Management System (NIMS). In addition, OES reviews and makes recommendations regarding emergency operation plans for public and private institutions where pre-planning for emergency procedures is advisable. Coordination of emergency services and planning guidelines are provided for situations such as flooding, wildland fires, structure fires, explosions, hazardous materials, severe weather, and earthquakes.

### **BACKGROUND AND SETTING – Community Health & Care**

As communities look to promote residents' health through local planning and development, one strategy with the greatest impact may lie in land use documents such as the UVAP. In the last few years, a new understanding of the built environment's impact on health has brought the public health community and planners together to develop a variety of innovative land use policies that promote health.

Land use patterns – how different uses are arranged and the urban form is constructed – are critical to the health and well being of residents. Land use patterns affect such things as levels of physical activity, access to nutritious food, and the degree of exposure to pollutants. Healthy patterns can be achieved by encouraging infill, focusing development in mixed-use districts and along major transit corridors, avoiding incompatible land uses, avoiding leap frog development, and promoting the construction of a diverse mix of uses. By placing different land uses closer together, improving the non-vehicular transportation network, and adopting policies that encourage biking and walking, community health can be improved just through increased physical activity.

Transit-oriented development policies address not just the availability of transit services, but also a land use scheme to direct new development to areas that already have or plan to have public transit access. Increasing transit access is a key strategy to creating healthy communities. It promotes physical activity through increased walking, reduces air pollution by encouraging alternatives to automobile use, and connects residents to needed services such as jobs, housing, education, healthy food, recreational opportunities, and medical facilities.

The public health community has an important role to play in the planning process, including implementing the general plan policies. Institutionalizing the role of public health in ongoing planning processes ensures that the health considerations will continue to be addressed as development decisions are made. Policies that require public health departments' participation or create the infrastructure for acquiring their input help establish a sustained partnership.

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Health care resources available in Mendocino County include three hospitals, seven Federally Qualified Health Centers, and ten Rural Health Clinics. One hospital, several clinics, and a large proportion of physicians and specialists are located in the UVAP planning area.

According to the 2010 Community Health Status Report, prepared by the Public Health Branch of the Mendocino County Health and Human Services Agency, the primary care provider rate is 157 primary care providers per 100,000 County residents, or 637 residents per primary care provider within the County of Mendocino.

### **COMMUNITY ENVIRONMENTS**

#### ***Health Environment***

According to the 2010 Community Health Status Report, Mendocino County is compared to the State across a sub-set of health status indicators that have been selected by the Centers for Disease Control and Prevention (CDC) and the National Center for Health Statistics (NCHS) as basic measures of the

health of the nation and the community. These indicators, called Healthy People 2010 Objectives (HP 2010), include mortality rates for deaths from coronary heart disease, stroke, lung cancer, breast cancer, and unintentional injury, as well as incidence of AIDS and tuberculosis, late prenatal care, low birth weight and births to teens (15-19 years old). Mendocino County rates for these indicators, from 2009, are compared with the HP 2010 objectives and with the State. The following comparisons were noted:

Mendocino County rates were not significantly different than California for death rates from motor vehicle crashes, all cancers, lung cancer, female breast cancer, stroke, infant death rate, birth rate to teens, and percent of low birth weight infants. County rates were significantly worse than California for unintentional injury, suicide, and late or no prenatal care. County rates were significantly better than California for coronary heart disease, AIDS, and TB.

## **MENDOCINO COUNTY 2008-2010 PHASE I STRATEGIC PLAN.**

In 2006, the departments that provide the various health and human services for the County were consolidated and the Mendocino County Health and Human Services Agency (HHS) was created. As a part of the integration process of forming the new organizational structure, HHS developed a Vision, Mission, and Value Based Operating Principles. From these, the agency developed a Phase I Strategic Plan, which was also informed by community and staff input, funding considerations, and Federal, State, and local requirements.

This Strategic Plan is prompted by the need to respond to current health status of the community and to transform staffing and fiscal resources into the best possible integrated service delivery to children, families, adults, older adults, and the community as a whole. The Strategic Plan is a flexible document that will be modified and augmented in response to the County's changing environment, emerging trends, budget opportunities, best practices, challenges, and lessons learned in the planning and implementation process.

**Note:**

*For additional policies that may apply, please see the County of Mendocino General Plan, adopted August 2009.*



## **GOAL HS1**

**Consider natural and human-made hazards when planning development and minimize potential conflicts.**

**Policy HS1.1: Minimize risks to people and property from earthquake and landslide danger.**

### ***HS1.1a Landslide and Earth Movement Risk Zones***

Clearly designate risk areas of varying degrees in potential landslide or earth movement.

Revise the land development code to include design parameters for development on hillsides in general, and for development on hillsides that are located within designated risk zones that may be more prone to sliding or earth movement.

### ***HS1.1b Earthquake Fault Zones***

Prohibit construction in earthquake fault zones (except that exempted by the Alquist Priolo Special Studies Act) unless appropriate geotechnical studies (defining setbacks and appropriate density or intensity of development) indicate acceptable mitigations.

### ***HS1.1c Geotechnical Evaluations***

Where projects are proposed within designated risk zones, require professionally prepared geotechnical evaluations prior to site development. If a discretionary permit is required, the geotechnical report shall be submitted with the permit application.

Prohibit development where evaluations indicate major earth movement potential.

**Policy HS1.2 : Minimize impacts from flooding through food mitigation components and ongoing food management practices including implementation of the “No Adverse Impacts” (NAI), as recommended by the Association of Flood Plain Managers.**

***HS1.2a Flood Hazard Mapping***

Request that Federal Emergency Management Agency and other relevant agencies to update food hazard mapping for the Russian River watershed.

***HS1.2b Russian River Flood Management Plan***

Develop a comprehensive food management plan for the Russian River watershed to include:

- Community food protection goals;
- Technically-based recommendations to achieve goals;
- Future build-out scenarios;
- Inter-related food protection components including: structural elements (such as overflow channels and causeways, food barriers and new interior drainage systems); environmental restoration and river parkway concepts; mitigation measures (such as restoring active foodplain areas, food-proofing, managing construction impacts, managing noxious weeds); and foodplain management practices (such as adopting higher building standards, acquiring open space and implementing an early warning system);

- Policies for managing development in dam inundation areas; and
- Recommendations for updating regulations and development standards for the Russian River Watershed.

***HS1.2c Russian River Floodway Development Standards and Restrictions***

Prohibit development within the foodway except as permitted by Federal Emergency Management Agency regulations. Maintain site development standards to ensure that new development within the foodway is kept to the absolute minimum.

***HS1.2d 100-Year Floodplain Development Standards and Restrictions***

Enforce standards and restrictions for development within the 100-year foodplain. Update standards and restrictions based on Flood Management Plan recommendations. Until the Flood Management Plan and the No Adverse Impact Standards are adopted and the revised 100-year foodplain mapping is completed, new development within the 100-year foodplain will be required to comply with the following conditions:

- Each discretionary project within the 100-year foodplain will be required, using a methodology acceptable to FEMA, to identify the 100-year foodplain elevation on the site given buildout under the 2007 UVAP;
- The first floor of each new development will be constructed at least one foot above the 100-year food elevation as defined by the above-described modeling;

- Design and condition discretionary projects within the 100-year floodplain (including subdivision and use permits) and future site development to minimize fill, encroachments and impervious surfaces; and
- Amend the Floodplain Combining District to require local performance standards to minimize encroachments, fill and impervious surfaces lacking stormwater runoff retention features.
- To the maximum extent practical, avoid constructing critical facilities within the designated 100-year floodplain areas or areas potentially subject to inundation by dam failures (or other water impoundment facilities) or seiche.

**HS1.2e Land Development Code: Flood Management**

Update the land development code to reflect Flood Management Plan recommendations.

The code should also address:

- Standards for retention or reduction of stormwater runoff from large paved areas as a means of reducing flood potential;
- Design options for street-side infiltration;
- A maximum allowable total area of impervious surfacing and mitigation measures to offset impervious areas;
- Requirements for incorporating drainage controls to retain on-site stormwater.
- Limit impervious surfaces to a practical minimum where alluvial fans intersect the Franciscan Formation and within 100-year floodplain; and

- For non-residential projects that include more than 200,000 square feet of development, consider requiring multi-level parking lots to minimize impervious surfaces.

**HS1.2f No Adverse Impact Standards**

Adopt the four No Adverse Impact Standards developed by the Association of State Floodplain Managers:

- All flood studies be based on full build out conditions;
- No rise in floodway elevation as a result of new development;
- No increase in flood flow velocity as a result of new development; and
- No loss of floodplain storage as a result of new development.

**HS1.2g Interim Stormwater Plan**

Until such time as the County completes and adopts the No Adverse Impact Standards, individual project applications shall be required to analyze and mitigate drainage impacts. If such analysis identifies unmitigated and cumulative significant effects, including impacts on downstream flooding, further environmental documentation may be required. In the event that the County Department of Planning and Building Services determines that the project, when considered cumulatively with other projects to be undertaken in the drainage basin, will result in a significant effect with respect to downstream flooding, the project applicant will either: a) prepare a supplemental environmental impact report on such effect, or b) agree to modify the project to construct improvements or participate in a funding mechanism necessary to mitigate any downstream flooding impacts (such as posting a bond on funds prior to recordation of the final map in an amount to be determined by the County Department of

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Planning and Building Services). Failure to modify the project or to propose further environmental documentation shall be grounds for finding the project inconsistent with the UVAP. Payment of costs for drainage facilities to handle the surface runoff from new development shall be the responsibility of developers.

### **Policy HS1.3: Maintain land use and building regulations that promote fire safety.**

#### ***HS1.3.a Valley-Wide Fire Safety Standards***

Assess the need for Valley-wide fire safety standards to address:

- Funding
- Site development
- Flammable vegetation clearance around structures
- Road access
- Hillside and terrain challenges; and
- Water supply

Prepare comprehensive standards if warranted.

#### ***HS1.3b Fire Hazard Areas***

Do not approve subdivision of existing parcels in areas designated by CAL FIRE as having “high” or “very high” fire hazard rating unless the responsible fire protection agency determines in writing that adequate access, evacuation routes, emergency response, and fireflow are available, and that the project complies with the most current State requirements for development in wildlands.

#### ***HS1.3c Wildfire Protection Plan***

Implement the recommendations of the Wildfire Protection Plan when approving new development. Support the proposed signage and address project included in that plan and support maintenance of improvements constructed as part of the Westside Vegetation Management Plan.

### **Policy HS1.4: Maintain an interagency comprehensive disaster preparedness program**

#### ***HS1.4.a Disaster Preparedness Plans***

Collaborate with the Mendocino County Office of Emergency Services to incorporate plans for fire, food and seismic disasters into the County’s emergency response planning and the Operational Area Emergency Plan.

#### ***HS1.4b Emergency Response Team***

Assemble a Valley-wide emergency response team.

#### ***HS1.4c Neighborhood Emergency Services Team (NEST)***

Encourage formation of strong Neighborhood Emergency Services Teams.

Develop tools to support neighborhood teams, such as:

- Resource materials to describe neighborhood-based strategies in dealing with emergencies;
- Outreach materials to recruit volunteers and raise neighborhood awareness of NEST;

- Training programs to build knowledgeable neighborhood leaders; and
- Organizational assistance in creating a database of neighborhood information; identifying neighborhood shelters, and locating critical equipment and supplies.

**HS1.4d Public Service Master Plans**

To ensure that the County maintains an adequate number of public safety workers, including emergency service providers, individual departments should update their public service master plans in conformance with the amount and type of development specified in this area plan.

**Policy HS1.5: Minimize Development in Hazardous Areas**

**HS1.5a Avoidance of Hazardous Development Areas**

Revise zoning regulations to prohibit residential development in areas that present significant environmental hazards, such as unmitigated fault hazard areas, food ways, or areas with high liquefaction potential.

**GOAL HS2**

**Improve access to healthcare within the community.**

**Policy HS2.1 Maintain convenient and equitable access to health care facilities in the Valley.**

**HS2.1a Mobile Clinic Program**

Initiate a mobile clinic program to bring treatment and preventative care services to community centers, places of employment and neighborhoods that may otherwise be unable to utilize public

health services (e.g., E-Health Care; Clinics on Wheels, co-location of new facilities, one stop health care centers).

**HS2.1b Transit Connections to Medical Facilities**

When possible, locate new medical facilities near existing public transit facilities. Offer additional routes and shortened headways for existing transit lines that serve medical facilities. Emphasis should be placed upon the following:

- Ensuring that medical facilities in the UVAP planning area are directly served by public transit.
- Improving access to multi-modal transportation options throughout the UVAP planning area.
- Continuing to promote service, especially from neighborhoods with higher proportion of transit-dependent population such as low-income households, seniors, and people with disabilities.

**HS2.1c Doctor Attraction and Retention**

Sponsor a marketing campaign to attract doctors to the Valley. Help identify office spaces available to those looking to relocate. Whenever possible, County departments such as Health and Human Services should provide technical assistance to local organizations that deliver health and social service to seniors, homeless persons, low-income citizens, and other groups with special needs.