



CALIFORNIA  
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# Promising Practices in Safety-Net Clinic Design: An Overview

*Prepared for*

CALIFORNIA HEALTHCARE FOUNDATION

*by*

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**The Center for Health Design (CHD)** is a nonprofit organization that engages and supports professionals and organizations in the health care, construction, and design industry to improve the quality of health care facilities and create new environments for healthy aging. CHD's mission is to transform health care environments for a healthier, safer world through design research, education, and advocacy. For more information, visit [www.healthdesign.org](http://www.healthdesign.org).

## About the Foundation

The **California HealthCare Foundation** works as a catalyst to fulfill the promise of better health care for all Californians. We support ideas and innovations that improve quality, increase efficiency, and lower the costs of care. For more information, visit us online at [www.chcf.org](http://www.chcf.org).

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*The most critical issues in clinic design are health care interactions, patient flow, use of new technology, and the changing needs of the community.*

SAFETY-NET CLINICS WILL NEED TO INVEST AN estimated \$10.5 billion in facility construction, renovation, and expansion between now and 2015, according to the National Association of Community Health Centers, in order to provide care to the 17 million patients the facilities serve, including a growing uninsured population. With an allocation of \$1.5 billion from the 2009 American Recovery and Reinvestment Act (ARRA) specifically designated for health center infrastructure, clinics now have the unique opportunity to rethink how they can provide greater access to care, better patient experiences, and improved staff satisfaction and organizational outcomes. However, the gap between the available funding and the anticipated need will necessitate carefully planned use of limited funds in clinic design projects.

A review of the literature on ambulatory care clinics, conducted by The Center for Health Design in 2008, demonstrated that little information is available on the effect of safety-net clinic design on patients, staff, and organizational outcomes. Research carried out in other ambulatory care settings is somewhat useful in making design decisions for safety-net clinics, but gaps in applicable data exist. Issues affecting the patient, provider, and community need more detailed study to support quality improvement within safety-net clinics. A more substantial knowledge base for health care leaders, architects, designers, and construction professionals is equally important for future design and operation of these clinics.

To help fill this gap, a series of white papers has been developed to inform and educate all participants in the clinic design process. These papers, “Designing Safety-Net Clinics for Innovative Care Delivery Models,” “Designing Safety-Net Clinics for Flexibility,” and “Designing Safety-Net Clinics for Cultural Sensitivity,” are based on literature reviews, interviews, and visits to exemplary health centers and clinics. They suggest a range of design strategies for building and renovating safety-net clinics. Collectively, the papers reveal a variety of issues that impact health care experiences and inform the planning and design of the physical environment. The most critical of these issues are health care interactions, patient flow, use of new technology,

and the changing needs of the community. The papers explore these topics from the perspectives of patients, providers, and communities.

## Patient Experience

Improving the patient experience should be a critical driver in safety-net clinic design. The white papers suggest that a welcoming, familiar, and unthreatening environment that alleviates patient anxiety and stress is essential for delivering quality care. Developing personal relationships with patients and community is a key tenet of patient-centered care, a movement that seeks to remove traditional boundaries between patient and provider, making them equal partners in health care. “One-stop” care for all the patient’s needs, a model in which caregivers move to the patient rather than the patient traveling to multiple locations within a facility, also enhances patient-centered care. Finally, the presence and participation of family members play an important role in patient-centered and culturally competent care. Many patients desire the social support of their families while visiting the clinic and rely on family members to aid in health care interactions and decisionmaking.

The white papers examine the effects of the physical environment on these aspects of the patient experience and suggest a range of design recommendations:

- Provide amenities that support family presence;
- Create wayfinding strategies to improve access within the facility;
- Design exam rooms to support patient-provider interactions;
- Plan clinic layout to facilitate one-stop care; and

- Incorporate architectural motifs, signs, colors, and materials that are familiar to the patient population.

## Provider Experience

In addition to patient-centered care, the three papers discuss interdisciplinary teams, which usually consist of a primary care physician or other provider, nurse or nurse assistant, social worker or community health worker, nutritionist, and possibly other specialists. Patients treated by an interdisciplinary team have improved outcomes, due to better coordination and integration of care delivery. Effective collaboration increases team members’ understanding of one another’s knowledge and skills, improves decisionmaking, boosts job satisfaction, and enhances work efficiency. A physical environment that encourages this collaboration requires space, furnishings, and technology to support group interactions. In order to adapt to changing user demands, caregivers will require the flexibility to move between patients, processes, and services, sufficient space for increased capacity, and the ability to incorporate new and different uses over time.

Technological advances affect both patients and care providers. Innovations such as point-of-care testing, portable diagnostic equipment, telemedicine, and electronic health records affect the nature and flow of health care interactions. Physical design solutions addressing these interactions include positioning the computer monitor to provide equal access to patient and provider and installing lighting and interior finish materials that optimize the quality of the space.

## Community Experience

By integrating with the communities they serve, safety-net clinics can maximize their opportunity to provide care to underserved populations. It is important to choose a convenient location that is easily accessible for pedestrians, drivers, and those who use public transportation. Providing one-stop care within the clinic and co-locating community services such as pharmacies, retail markets, and nutrition services are good ways to increase accessibility. Co-location can reduce or eliminate the need for patients to travel between sites for various services, and the convenience may contribute to improved patient follow-up and compliance with treatment plans.

Good wayfinding strategies enable patients and other users to find their destinations. Co-location of services makes this an especially important design challenge. Useful aids to wayfinding include effective signage, a building layout with clear lines of sight to key destinations, and signs, symbols, and design elements that signify health and healing in a particular culture.

Creating neighborhood outreach programs provides direct services and good will that can build the clinic's patient base and support its mission of service to the community. A clinic can also connect to the community it serves by providing spaces for community programs and social activities, offering culturally relevant programs, and using architectural motifs and artwork specific to cultural groups in the area.

Mobile health clinics, which many clinics offer, can assess the health care needs of a targeted population, expand the reach of health services, and facilitate access to follow-up care. Mobile clinics move the care setting closer to people who often lack adequate transportation or other resources to seek medical attention.

## Papers Focus on Different Aspects of Design

Keeping the perspectives of patients, providers, and communities in mind, the three papers that are briefly described below are based on research on ambulatory care settings, other health care venues, and relevant settings outside of health care. Examples of recent clinic projects illustrate how these findings can be incorporated into a real-world environment. The papers offer design recommendations and suggest questions that provider organizations should ask during their design process.

The three papers were authored by Anjali Joseph, Ph.D., Amy Keller, M. Arch., Ellen Taylor, A.I.A., M.B.A., and Xiaobo Quan, Ph.D.

### WHITE PAPER:

#### *Designing Safety-Net Clinics for Innovative Care Delivery Models*

Several innovative care delivery models effectively use available resources to improve the health of people in local communities. These models have evolved rapidly in recent years in response to ever-increasing health care costs, expanding numbers of uninsured patients, a persistent shortage of nurses, and rising consumerism in health care. Faced with these challenges, safety-net clinics continuously engage with innovative systems of care delivery to meet the needs of the underserved. Improving the environmental design of safety-net clinics is an important component of this process.

The following five themes repeatedly recur in planning and designing primary care delivery models in safety-net clinics:

- Co-location of services, including various health care specialties and other community services, in one building or site.
- Outreach of services, often with mobile health clinics, to bring health care to underserved areas.

- Patient-centered care, enhanced by a physical environment that is healing, empowering, and supportive for patients and their families.
- Space for interaction and collaboration among interdisciplinary health care teams, the central component of many innovative care delivery models.
- Use of new technology, including telemedicine, to improve efficiency and extend services to remote, rural, and underserved areas.

Recommendations for environmental design related to these five components of safety-net clinic planning include:

- Determine the scope and location of services (primary, dental, telemedicine, mobile clinics, etc.), based on data about the health status and needs of the local community.
- Clearly define patient flows and facilitate wayfinding in multipurpose clinics or community centers.
- Create a welcoming ambiance for patients and families by reducing environmental stressors, providing positive nature distractions, offering spaces and amenities for families, and ensuring their physical comfort.
- Improve team collaboration by locating team spaces close to individual workspaces, increasing visual connection between workspaces, establishing informal meeting places close to corridors, and providing information displays.
- Ensure flexibility and adaptability in preparation for future changes in community needs and technologies.

- Use state-of-the-art technologies to improve the infrastructure for telemedicine.
- Enhance the visual and audio quality of videoconferencing with appropriate lighting, finish materials, and equipment.

The goal is to create a physical environment that supports innovative care delivery. This paper identifies relevant design features from the perspectives of patients, staff, and administrators.

#### WHITE PAPER:

#### *Designing Safety-Net Clinics for Flexibility*

Ongoing changes in services, users, equipment, technology, and treatment methods complicate the already complex workings of a health care facility. Under these conditions, flexibility and adaptability in facility design are critical. The need to accommodate change comes from a variety of directions:

- Population aging that brings impaired mobility and multiple disorders.
- Increased use of ambulatory care.
- Advances in technology, including electronic health records and robotics.
- Societal and ideological changes such as growing consumerism, bringing retail demands into the health sector.
- Changing market incentives involving reimbursement change.
- The growing concept of wellness and alternative treatments.

For clinics to respond to these and other changes requires that flexibility and adaptability be considered in facility design, operations, and technology. The terms are not identical. Flexibility

addresses ongoing changes that occur within the original vision or business plan. An example might be creating multipurpose rooms to provide increased capacity during peak periods as well as space for evening community programs. Adaptability is the ability to incorporate new and different uses over time. An example might be adding behavioral health programs.

A building that lacks flexibility and adaptability can quickly become obsolete. Because of ARRA funding, clinics are now in a position to embrace designs that encourage flexibility and adaptability and to analyze the long-term costs and implications of those designs.

Research on flexibility and adaptability in health care is limited, and research specific to clinic design is almost nonexistent. However, lessons learned from other industries and acute care environments can be extrapolated into design recommendations for organizations undertaking renovation, expansion, or replacement.

This paper addresses the conceptual framework of flexible and adaptable design, considering the implications of clinic design for patient and provider organizations. It gives an overview of several studies from acute care environments with applications for clinic design and discusses the organizational response or business case.

**WHITE PAPER:**

*Designing Safety-Net Clinics for Cultural Sensitivity*

Physical environment plays a critical role in supporting high-quality multicultural health care interactions. As the U.S. population grows increasingly diverse and minority groups continue to expand, it is imperative to address cultural barriers to quality care. These issues are particularly significant for safety-net clinics, whose patients are drawn

largely from ethnic minority groups. Because they are based in the communities they serve, safety-net clinics have an opportunity to provide quality care that is sensitive to the needs of their diverse patient population.

Cultural issues that may affect patients' health care interactions include models of health and disease; perception of hospitals, doctors, and other healers; hierarchical vs. egalitarian cultures; family and social relationships; and communication norms. These factors influence patients' health-seeking behavior as well as their relationships with providers and clinics.

This paper suggests several design strategies to support culturally sensitive care, including the need for patient and family engagement throughout the planning and design process. Other recommendations include locating the clinic within the community, devising a wayfinding system to enable easy navigation, and designing the waiting areas and exam rooms to support the presence and involvement of families.

## **Questions for Providers and Administrators**

All three papers include questions the clinic and provider team might consider during the design process. The questions are intended to help determine how the facility should operate, how it can meet the needs of the community, and how it can measure design goals. The most important questions referencing the patient, provider, and community experience are provided below. A few additional questions explore future needs for growth and change:

- How do the cultural values, norms, and beliefs of our patient populations affect their health care interactions and the quality of care we provide?

- In what ways do building design and layout facilitate or hinder effective communication during multicultural health care experiences?
- Has the design been considered from a patient’s perspective? Have multiple patient and staff “journeys” been considered to ensure ease of use for various stakeholders?
- How can the physical environment support team collaboration that is suitable for the care delivery model?
- What are the measurable goals (e.g., increasing health care coverage) of implementing innovative care delivery models? What are the measurable contributions of clinic design to improved health care outcomes (e.g., a welcoming environment, increased patient satisfaction)?
- How can the clinic design process be used to engage community representatives and integrate the clinic with the community?
- What are the options for future expansion of the building and parking in response to growth in volume or addition of services?
- Does the building’s planning grid allow for changes in room configuration through the use of modular spaces (a “plug-and-play” system of configuring rooms and functions)?
- Are room designs standardized to allow changes in function and purpose? How many room types best serve our program?
- What design options would reduce the long-term operating costs of the facility (e.g., sustainable energy sources)?

## Design Team Considerations

Each of the three white papers suggests design recommendations for improving the patient, provider, and community experience and for accommodating future changes. The papers review technology solutions that enhance the delivery of care, emphasize infrastructure flexibility to meet future needs, advocate wayfinding strategies to increase access and visibility, and suggest amenities within the clinic to improve patient, provider, and community satisfaction. The following design recommendations, compiled from the three papers, may be useful to a design team planning a new or renovated safety-net clinic.

## Elements of Infrastructure Planning

- Master plan that documents future physical expansion options and includes green and sustainable energy initiatives to reduce long-term costs.
- Modular grid system that allows for plug-and-play development of spaces and room types.
- Additional capacity designed into HVAC and electrical systems (20 percent overcapacity in HVAC and 30 percent output of electrical power).
- Connections for walls, doors, and windows that are easy to mount and take down.
- Floors designed to handle extensive dead loads (storage) and live loads (community activity center) for probable functionality changes in the future.
- Egress stairs and hallway widths designed to satisfy current regulations for several different building purposes.

- Horizontal and vertical circulation designed to encompass future expansion options.
- Furniture that easily fits into most parts of the building, easily adapts to technical installations (modular systems), and can easily be moved.

### Wayfinding

- Clinic placement near public transportation routes; easy access and integration with community activities are important considerations in wayfinding.
- Zoning to separate public, treatment, and staff functions for improved internal circulation and privacy.
- Integrated wayfinding strategies that communicate information to patients and families from different cultures.
- Signage with simple non-medical terms, multiple languages (as appropriate), and universal symbols supplemented with text and numbers.

### Amenities

- A welcoming environment that reduces environmental stressors, provides positive nature distractions, and improves spaces and amenities for families.
- Waiting areas that include culturally relevant artwork, reading materials in different languages, television, and information kiosks.
- A connection to nature and natural elements that enhance the environment for patients and staff.
- Team collaboration enhancement through location of team spaces close to individual workspaces, increasing visual connection between workspaces, and providing informal meeting spaces.

- Large waiting areas, consultation spaces, and exam rooms that accommodate patients and family members, as well as multiple providers.
- Large rooms and spaces that are designed to serve multiple purposes, including community events and education.

### Technology

- State-of-the-art technologies that improve the infrastructure for telemedicine. Lighting, equipment, and finish materials that enhance the quality of videoconferencing.
- Technology and equipment standardization to allow movement into different areas for flexibility in function.

Together, the three papers briefly described above provide a broad view of the most promising developments in clinic design. They consolidate extensive research in many aspects of health care delivery as well as best practices in architecture and design to offer community clinics specific solutions to meet their needs in the emerging environment of health reform.



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