DIVERSIFYING THE NURSING WORKFORCE:

A California Imperative

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CALIFORNIA WORKFORCE INITIATIVE

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The California Workforce Initiative, housed at the UCSF Center for the Health Professions and funded by the California HealthCare Foundation and The California Endowment, is designed to explore, promote and advance reform within the California health care workforce. This multi-year initiative targets supply and distribution, diversity, skill base and regulation of health workers, utilization of health care workforce and health care workers in transition.

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The California HealthCare Foundation is an Oakland-based, independent non-profit philanthropic organization whose mission is to expand access for underserved individuals and communities, and to promote fundamental improvements in health status of the people of California.

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The findings and recommendations contained in this report do not necessarily reflect the views of The California Endowment, the California HealthCare Foundation or the members of the California Workforce Initiative's Advisory Committee.

EXECUTIVE SUMMARY

State of Nursing Workforce in California: A Capsule Summary

Today, for a host of internal and external factors, many of the health professions appear to be losing their appeal to potential workers. Nursing, nationwide and in California, has become a pressing example. The state faces severe nursing shortages; current projections based on population increases estimate that the state's demand for nurses will likely exceed supply by 25,000 over the next 2 decades. Perhaps more critical is the fact that some racial and ethnic groups are woefully underrepresented in nursing. Latinos, for example, make up over 30% of the state's population but a mere 4% of the state's nurses. Nursing is either not attracting enough people, including young Latinos of California, or is not sufficiently supporting those who would choose nursing as a first or subsequent career.

Historically, nursing in California has drawn largely from two pools of potential workers: White females and nurses trained out-of-state. With the dramatic expansion of career opportunities for women generally over the past 30 years, young women do not face the same limitations they once did; they are choosing law and medicine and engineering and a host of other professions beyond the traditional choices of nursing and teaching. California's other main source of nurses has been from out-of-state and foreign training programs. Many of these sources are shrinking in size as other states and countries face their own nursing shortages.

Future pools of potential nurses in California must include the racially and ethnically diverse population of young people in the state considering career options. To date, they have not been adequately tapped or encouraged to enter nursing in sufficient numbers to meet the state's health care needs. The other primary pool of potential nurses includes allied and auxiliary health care workers, a group that is more racially and ethnically diverse than nursing, who are interested in pursing careers in nursing.

Barriers for potential pools of nurses to enter the profession

Both underemployed health care workers and young students, who have the most potential to be part of the solution to nursing's shortages and lack of racial and ethnic diversity, face significant barriers. Based on interviews conducted for this project and a literature review, workers who are currently employed in the allied and auxiliary health fields who wish to explore nursing careers are challenged by workplace and education barriers. In the workplace, they face lack of sufficient financial incentive to make the commitment to higher education, incompatible work and school schedules, lack of mentoring, and overall poor atmosphere and lack of support from employers. The education system erects hurdles in the forms of high costs, lack of articulation between allied/auxiliary training and nursing education, and limited adult education options. Other non-workplace, non-education system barriers include family responsibilities for these workers.

California's students and other young people still considering their career options are stymied by one of the worst kindergarten-high school (K – 12) education systems in the country that ill-prepares them for jobs in the sciences and health services. In addition, poor high school career counseling, the costs of higher education, and a lottery system for the state's community colleges compounds the problem. Students from non-White and low-socioeconomic populations face additional barriers such as limited access to health care which results in limited exposure to health career options and role models, low expectations and "tracking" by educators, limited financial resources for education, and significant culture gaps between familiar and professional worlds. Finally, research indicates that there is a serious disconnect between the attributes, values, goals and orientation of students and the nursing profession.

Innovative approaches: what has been tried

Research for this project uncovered a limited number of innovative approaches designed to assist allied and auxiliary workers move into nursing or to help students and other young people better understand nursing as a career option. These approaches include:

- *Project L.I.N.C. (Ladders in Nursing Careers).* Begun in 1988 in New York and later replicated in nine settings around the country (though none in California),

Project L.I.N.C. was an ambitious attempt to create career pathways from the allied health professions into nursing. The project was designed to allow its participants to enroll in a work-study program in which they received full-time pay and benefits while working part-time and maintaining full-time enrollment in a nursing education program. The project was considered a success by virtually all accounts, largely due to its ability to tailor itself to the setting and for the individual student/worker.

- *Kaiser Permanente and Health Care Workers SEIU Local 250 collaborative.* In mid-2000, California's Kaiser Permanente and Health Care Workers SEIU Local 250 received a large grant from the U.S. Department of Labor to establish career ladders within the Kaiser system. Auxiliary health workers will be trained for careers in the allied health professions; allied health workers will be eligible to receive training for more advanced health care positions (e.g. the program provides opportunities for LVNs to become RNs).
- *L.A.U.N.C.H. (Learn About Unlimited New Careers in Healthcare).* In order to raise awareness about potential career opportunities in health care, the California Department of Education, in conjunction with Kaiser Permanente has created L.A.U.N.C.H. The program provides K – 12 students, their teachers, and their parents with age-appropriate information about health care occupations.
- *Health Care Integrated Education System.* In 1998, the Maricopa County Community College District in Arizona designed the Health Care Integrated Education System, which expressly acknowledged the reality of a shared scope of practice between many allied health professions and nursing. With three "levels of learning" available in the colleges, students can demonstrate competencies to enter at advanced levels within the model, can exit at multiple levels, and can re-enter at any time. The competency-based model permits and supports entry into nursing by interested allied health care workers.
- *Cal-HOSA (Health Occupations Students of America).* Cal-HOSA, an affiliate of the national HOSA organization, was founded in 1987 to incorporate health occupation activities into the academic programming of participating high schools. In 1996, Cal-HOSA initiated Health Career Educational Pathway programs,

with which participating schools restructured their academic program, established performance standards, formed community partnerships, and developed interdisciplinary curricula to enhance students' preparedness for work or higher education in health fields.

Six Solution Themes

To date, the efforts made to improve the opportunities for allied health workers wishing to go into nursing, and to assist young Californians consider nursing as a career, have been limited in both number and impact. Based on these findings, the following six themes are proposed for educators, employers, nursing professionals and other policy makers to consider as they address the questions and problems articulated in this report. Each theme area includes specific recommendations, or first steps, that can and should be explored and implemented if the state is make any headway in improving the racial and ethnic composition of California's nursing workforce. There is no easy or obvious answer to many of the problems identified. Solutions must be multi-faceted to be successful in the long term. There are, however, some immediate steps that employers, educators, policy makers and professionals can take in the direction of a more diverse, more sustainable nursing workforce in California.

1. Reorient the discussion from "How do we increase diversity in nursing?" to "How do educators and employers address the values, attributes and goals of the potential pools of workers?"

A shift in perspective is needed. Rather than focusing solely on the lack of diversity and workforce shortages as the problems that need fixing, we can look instead to the potential pools of future workers, learn more about their values and goals, and structure education and employment systems to better meet those values and goals. Such a perspective will include updating our concept of the pools of future nurses to include allied and auxiliary health care workers as well as the young people in California's population. It will also necessitate qualitative research to better understand the values and goals of these pools of potential nurses. Educators and employers will need to work together to design work and learning environments that integrate the findings from the research.

2. Create a sustainable and socially responsible health care workplace

The current health care workplace is not sustainable if it cannot attract and retain sufficient numbers of competent workers, including nurses. With thoughtful reform, it can, however, become an environment that is attractive to tomorrow's workers. This may include replicating the best of innovative approaches that have already demonstrated success, such as the Ladders in Nursing Careers (L.I.N.C.) project. It includes committing to supporting current workers seeking to advance their careers within other professions. It may also include looking to private sector industry for models of functional on-site mentoring programs using retired or almost-retired nurses to mentor new nurses and/or potential nurses. One of the values that could be the cornerstone of health care but has recently been relegated to secondary status is that of social responsibility. Hospitals, for example, could expand their volunteer programs to better expose volunteers to options in the professions; if structured appropriately, volunteer work should qualify for credit in nursing training programs.

3. Restructure the profession

One of the keys to diversifying nursing will be to make it more inclusive. Currently, there is great confusion about the multiple entry levels of nursing all leading to the designation of Registered Nurse (RN) and relatively undifferentiated practice that follows. A career ladder that accommodates a broader set of practices and both leads to and builds upon the RN designation is an essential step in building inclusively. Advanced practice beyond the RN level has developed well, but considerable work needs to be done in developing the career pathways that can capture and track new employees from care assistant type roles into full practice. These career tracks need to incorporate education at the work site and use the work experience as a part of the clinical training experience. This could be articulated with volunteer programs and with high school level educational efforts. Both would expose the nursing pathway more fully to a broader community.

4. Improve the K – 12 and professional education system

California's public education system has received a great deal of attention by state policy makers. Health care leaders should also raise awareness about the serious implications of our inadequate education system for the health of California's communities. The state of California's public education system is a social and economic problem, but it has the potential to become a public health problem as well if we continue to be unable to produce sufficient numbers of well-educated graduates of the K–12 system to enter professional training. Professional organizations and employers can also be more proactive in making information about nursing and other health careers available to pre-professionals through such resources as high school volunteer programs. Training programs for nurses also need to be improved through better coordination of private college, community college and state university systems; better attention to the challenges some people have paying for nursing programs; and incorporation of learning models and mechanisms (such as distance learning) that can be tailored to the needs of students of different ages, cultural backgrounds and learning styles.

5. Facilitate life-long learning

Life-long learning must expand beyond the professional world, where it has been primarily relegated for decades, to the overall workplace and educational system for health care workers, including nurses. To enable allied and auxiliary health care workers in particular to pursue nursing careers, adult learning programs must be built into a system that makes life-long learning easy and accessible. This will necessitate workable partnerships between employers and educators that focus on ensuring compatible schedules, facilitating financing arrangements, and adopting adult learning models that make sense for the targeted audiences. It will also entail making a commitment to developing workable articulation mechanisms among and between all levels of health professions education, including consistent and coordinated curricula with credit for all courses. This effort must avoid the repetition of course work and lack of credit for prior clinical training that is currently seen as a barrier between allied/auxiliary health and nursing. A first step in this arena would be the convening of an ad hoc group (with representation from

employment, education, organized labor, and policy) to plan and oversee development of a clear education articulation mechanism. (See Appendix A for a chronology of articulation proposals in nursing.)

6. Target the "influencers" at the decision-making point for pre-professionals

The final area of recommendations looks to those individuals who help guide and direct pre-professionals into careers. This group includes family members, teachers, employers and others whose contact with anyone who may have an interest in nursing may lead them to pursuing or abandoning the idea. Teachers and career counselors are key people on this point, but their role may be, by necessity, somewhat limited. They cannot promote one profession to the exclusion of others (many of which are facing similar challenges). They can however avoid directing students who are interested in a particular field, such as health care, or profession, such as nursing, *away* from those options through discriminatory tracking. First steps in this arena may include identifying and targeting other, non-traditional influencers and/or getting information out in non-traditional ways.

INTRODUCTION

A basic concern of any health system is that it has sufficient numbers of competent workers to meet the health care needs of the publics it serves. In addition, an often unstated goal for each of the professions is to attract at least some of the "best and brightest" of the pool of potential workers into its professional fold in order to remain competitive. Today, for a host of internal and external factors, many of the health professions appear to be losing their appeal to potential workers. Nursing, nationwide and in California, has become a pressing example. The state faces severe nursing shortages, particularly in some geographic areas and within some specialty fields. At the current rate of entry into the profession, we will not be able to sustain our present ratio of nurses to patients for long. In addition, recently enacted legislation mandating new staffing ratios could exacerbate this shortage. Moreover, some racial and ethnic groups are woefully underrepresented in nursing. Latinos, for example, make up over 30% of the state's population but a mere 4% of the state's nurses. Nursing is either not attracting enough people, including young Latinos of California, or is not sufficiently supporting those who would choose nursing as a first or subsequent career.

A primary goal of this study was to explore existing and potential options to help allied health workers — particularly those from racial and ethnic groups that are underrepresented in nursing — who are interested in moving from current jobs into the nursing profession. We were looking for innovative bridge programs and educational partnerships that could be improved and replicated. However, our search uncovered very little in the way of promising models.

We expanded the scope of the project to include not only allied health workers who might be interested in moving into nursing but also students considering their post-secondary education and career opportunities. Our research (comprehensive literature review and original qualitative data collection more fully described in Appendix B) validated many of the same problems and issues others have identified. Many of the ideas proposed decades ago continue to be offered as possible solutions, despite their limited success. And the same barriers (lack of mentoring and good counseling for students;

lack of viable bridge programs between educational programs; lack of recognition for on-the-job experience in one profession in move to another profession) continue to be identified.

Based on the existing and new research, it is clear that we, as a society, have not come very far in our efforts to diversify the health professions.

One of the themes that emerged from the research was a lack of true understanding among current leaders in education, the nursing profession and employment of the values and career or life expectations of the pool of potential professionals. The real concern may not be filling the workforce gaps in nursing (or any other profession) but more about meeting the career expectations and values of tomorrow's health care professionals, which will include not only people of a new generation, but also of cultures that differ from the until-recently dominant one in California.

This report then focuses on nursing as a productive field in which we can explore the concrete and proactive steps health care's delivery, professional, and educational institutions can take to adapt to this new reality. California leaders have the opportunity and responsibility to restructure our systems for educating and managing a health professional workforce made up of the diverse people in this state. We also have the responsibility to meet the needs of today's students and children in California—and also of those health care workers seeking career development—for excellent education, training, support and encouragement in their pursuit of careers in nursing and other health care professions.

Some of the goals explored are long-term in nature, affording true systemic change. Others are more immediate steps that can be taken to address short-term workforce needs. All of them focus on the institutional pivot points in nursing: its workplace, its education system, and its professional structure for the greatest impact. In addition, partnerships among and between these institutions are explored and encouraged for their powerful potential to best meet the goals.

A note on methodology

In addition to a literature search and review for relevant published materials, this project relied heavily on interviews of key informants. Throughout this report, quotations from interview respondents are provided in italics to illustrate individual experiences with the findings of the study. More about this qualitative research can be found in Appendix B.

1 STATE OF NURSING *in* CALIFORNIA: A CAPSULE SUMMARY

Nursing shortages

Unlike some health professions whose numbers are probably sufficient to meet the needs of the state well into the future, the latest estimates now show us facing moderate to severe shortages of nurses in some geographical regions of the state and in some settings. Researchers estimate that California has about 198,000 active nurses and may need 61,000–114,000 more RNs over the next two decades (Coffman, Spetz, Seago, Rosenoff, & O'Neil, 2001). The low demand estimate (61,000) is calculated on population growth only in the state. The higher estimate of 114,000 additional RNs is based on a 20% increase in demand that could be required by any one or more of the following variables:

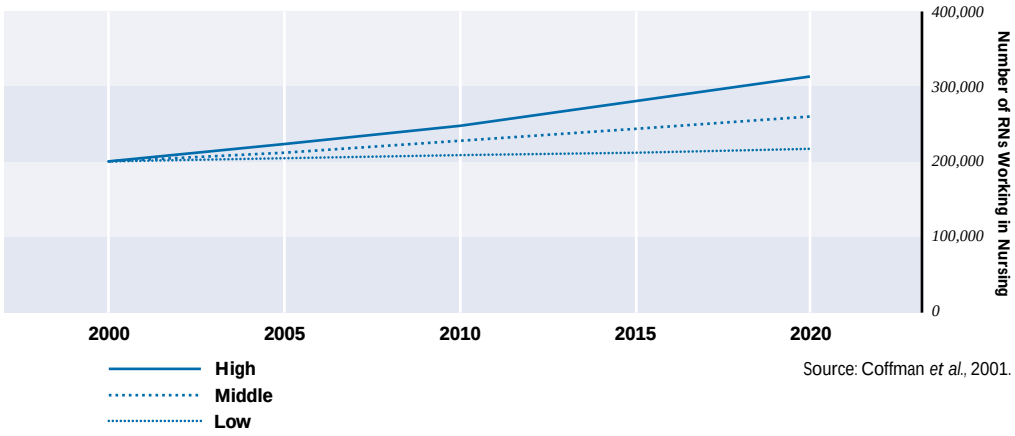
- Regulators set minimum nurse staffing ratios that are higher than those presently used
- Aging population requires more nursing care
- Increased demands for skilled staff providing new diagnostic tests and therapeutic procedures
- Revisions to the current ratio of nurses to population

Alternatively, possible developments such as lower-than-present nurse staffing ratio regulations, lower hospitalization rates, lower numbers of insured people and/or more restrictive benefits could lead to more modest increases in the state's future demand for nurses. Figure 1 below shows projected demand for RNs under three hypothetical scenarios, with the middle scenario assuming that California will demand a constant ratio of nurses to population as is presently used from now until 2020. The high and low estimates are based on possible 20% increases and 20% decreases in demand.

We can use the middle scenario for estimated demand (based on current conservative staffing ratios and population growth only) combined with estimated supply to predict shortages or oversupplies of nurses. Given the current rates of entry into the profession of nursing and workforce models, researchers estimate resulting shortages of 25,000 RNs in California within the next twenty years.

FIGURE 1

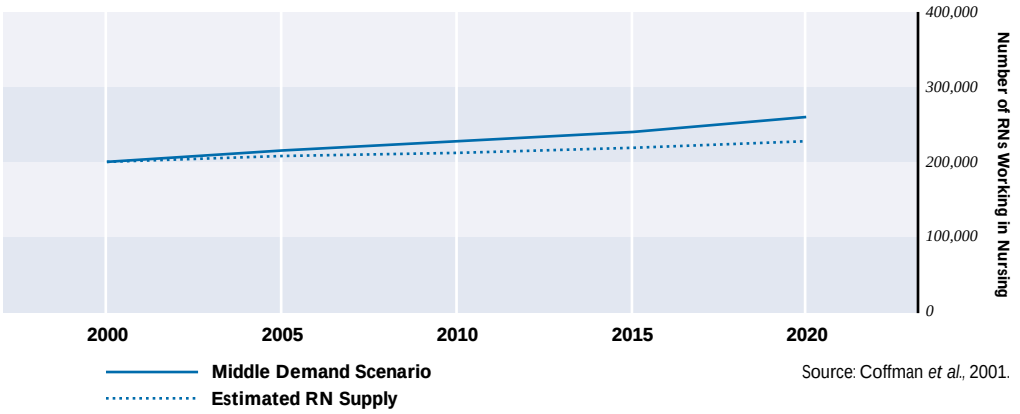
Projected Demand for RNs in California Under Three Scenarios, 2000–2020



Source: Coffman *et al.*, 2001.

FIGURE 2

Projected RN Supply, Demand in California, 2000–2020



Source: Coffman *et al.*, 2001.

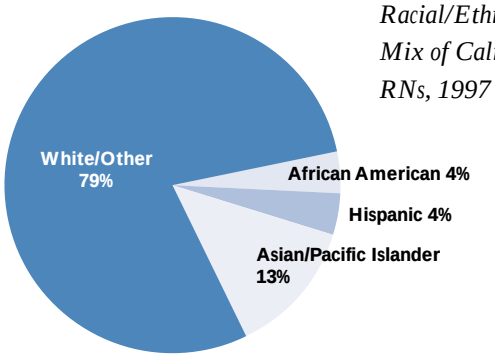
Lack of racial, ethnic and gender diversity

Recent data collected on the workforce confirms long-term concerns that the profile of the nursing profession does not reflect California's diverse population. Rather, California nurses are disproportionately White and female compared to state demographics. Men make up only 6% of the nursing workforce. Among racial and ethnic groups,

Latinos are notably underrepresented, making up over 30% of California's population but only 4% of the nurses in this state (Barnes & Sutherland, 1999). African Americans are under-represented as well (7% of California's population, 4% of California's nurses). These three groups do constitute a larger proportion of nursing graduates than of the workforce generally. In 1998, 13% of California RN and BSN graduates were Latino, 7% were African American, and 11% were men. Despite these increases, the impact of such improvements will not be felt for some time due to their magnitude relative to the general nursing workforce. In addition, these efforts may be mitigated by recent legislative and policy decisions in California to restrict affirmative action programs. (Barnes & Sutherland, 1999; California Postsecondary Education Commission, 1999; US Census Bureau, 1998.)

FIGURE 3

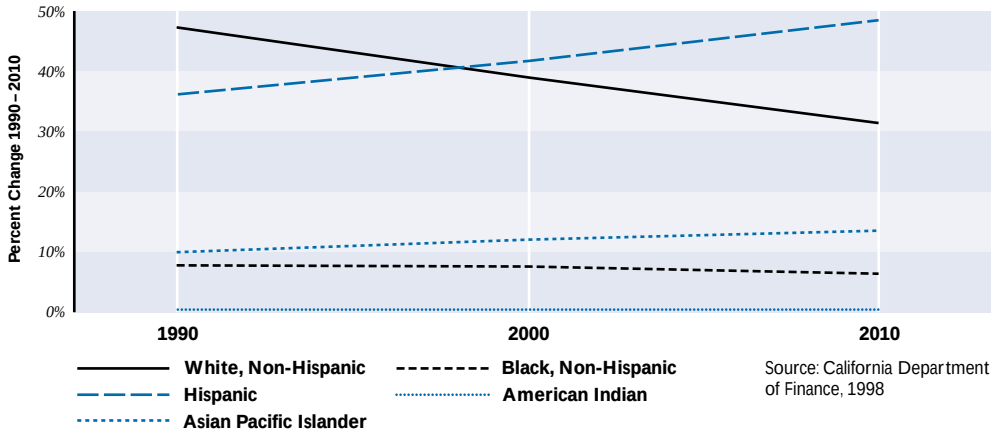
Racial/Ethnic Mix of California RNs, 1997



Source: Barnes & Sutherland, 1999.

FIGURE 4

Percent Change in California Youth Population, by Race/Ethnicity, 1990–2010



Source: California Department of Finance, 1998

Pools of potential nurses

Traditionally, California has relied on a nursing pipeline from high school to post-secondary education that has netted a workforce that is predominantly female and White. In addition, it is worth noting that California draws 50% of its nurses from out-of-state (Coffman *et al.*, 2001). In other words, half of the state's nurses are educated

and trained beyond the state's borders. Some of these nurses come from other US states; others come from overseas.

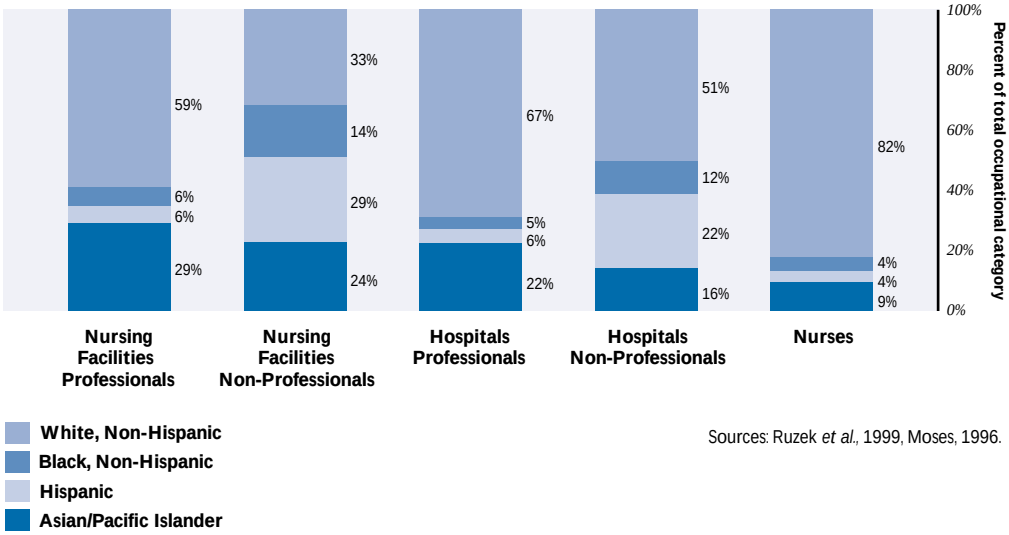
The future of California's nursing workforce must be expanded to include the state's diverse population and its under-employed allied and auxiliary health care workers. Clearly the pool of potential nurses has not been tapped fully. The children in California primary and secondary schools, who will make up tomorrow's workforce, are a diverse and talented group. To date, however, these young people have not been sufficiently encouraged or welcomed into some of the health professions, including nursing.

The other significant pool of potential nurses consists of people already working in health care fields as nurse aides, emergency medical technicians and medical assistants for example. Some of these allied and auxiliary health care fields are disproportionately populated by the same racial and ethnic minorities that are underrepresented in nursing. Moreover, at least some of them are interested in advancing their careers by moving into another health profession such as nursing.

The barriers that are keeping students and allied health workers from pursing careers in nursing will be explored in the following chapters, along with suggestions for removing or at least limiting the impact of those barriers.

FIGURE 5

Racial and Ethnic Representation in Selected Health Occupations, California 1996



Sources: Ruzek *et al.*, 1999, Moses, 1996.

Future Pools of Potential Nurses and the Challenges They Face

Given the likely nursing workforce shortages, the lack of diversity in the profession and a historical pipeline of new nurses that is no longer sustainable, California must look to the two most obvious future pools of potential nurses to meet the state's health care needs. The first of these groups are the allied and auxiliary health care workers interested in pursuing nursing careers.

The benefits derived from creating career ladders from the allied and auxiliary health workforce to nursing are too numerous and advantageous to be ignored. This community consists of persons who have already shown an interest in providing health care, have experience working in health care institutions, have a familiarity with nursing that allows them to make more informed choices about nursing careers than the general public, and, to varying degrees, already possess some requisite nursing skills. In addition, although many of the allied health professions in California are dominated by Whites, overall the allied and auxiliary workforce is more ethnically and racially diverse than the nursing workforce, which remains at nearly 80% White, with less than 5% for each of the Hispanic and Black populations in nursing (Ruzek, Bloor, Anderson, & Ngo, 1999). Some occupations, such as "non-professional" nursing and health facilities employees, are over-represented by non-Whites (Ruzek *et al.,* 1999; p80 – 84).

Most of the respondents interviewed for this report indicated that they know, through their programs or workplaces, some allied and auxiliary health care workers who are interested (though may not have expressed their interest to employers) in advancing through occupational levels to higher-skill and higher-paid positions. This is consistent with findings of a 1999 report issued by the UCSF Center for the Health Professions (Ruzek *et al.,* 1999).

The other significant potential pool of California nurses are the children and young adults in the state considering their career options. These students, who together make up the racial and ethnic profile of California's future, should be entering the health professions, including nursing, in sufficient numbers to meet the state's nursing needs.

However, a review of the literature combined with results of the interviews conducted for this study highlight a number of barriers that members of the pools of potential nurses—underemployed allied and auxiliary health care workers and students choosing careers—face in their pursuit of nursing careers. The table below provides a summary of the barriers these pools of potential nurses face. More detailed discussion about these barriers follows.

Barriers faced by Students and Allied and Auxiliary Health Workers in Pursuit of a Nursing Career

Students		Allied and Auxiliary Health Workers	
Education Barriers	*Poor K-12 education system*	**Workplace Barriers**	*Lack of financial incentive by employers to pursue advanced careers*
	Poor high school career counseling and health professions information		*Incompatible work and school schedules*
	Low expectations and/or "tracking" by educators of low-SES and non-White students		*Lack of mentoring*
	Costs/inadequate financial assistance		*Lack of cross-training on the job*
	Community college lottery system		*Poor atmosphere for encouraging career enhancement*
	Lack of articulation between all levels of education		*Limited knowledge of institutional career options*
Barriers for students from non-White and low-SES populations	*Lack of role models/mentoring*	**Education Barriers**	*Lack of articulation between allied/auxiliary training and nursing education*
	Limited access to health care		*Inflexible class schedules*
	Work needs and family responsibilities		*Limited innovative, adult education options*
	Insufficient financial incentive		
	Culture gap between familiar and professional worlds	**Other Barriers**	*Lack of information about nursing and nursing education*
Other Barriers	*Disconnect between attributes, values and orientation of students and nursing profession*		*Non-workplace responsibilities (70-85% of aides and technicians are women, and many are single parents; children's education and care; adult dependents)*

2 BARRIERS FOR POTENTIAL POOLS OF NURSES TO ENTER *the* PROFESSION

ALLIED AND AUXILIARY HEALTH CARE WORKERS

Workplace barriers

Primary barriers for allied and auxiliary health workers who wish to move into nursing include incompatible work and class schedules and lack of support from employers. Study respondents noted that the inability to synchronize work and class schedules made pursuit of a nursing degree while working in health care extremely difficult. Scheduling was particularly problematic for non-salaried or floating employees, who were rarely allowed release time for educational activities. The work environments of most health care facilities we heard about did not support or encourage allied health care workers taking time off, requesting financial or other types of assistance, or requesting flexible work hours to accommodate further education and training. One respondent summed it up:

> *"The programs have to be where (the workers) are, with time to do it. There must be support by the employer. By this I mean the immediate department staff; (workers) can't be chewed out for taking a class whenever they come back into their departments."*
>
> Dean of community college health sciences program

Financial barriers were also highlighted by interview respondents. These barriers included not only the cost of educational programs but also lack of financial assistance for allied health care workers pursuing nursing education and insufficient financial incentives, particularly from current employers, to move from an allied health job to a nursing position within the same institution.

Another barrier encountered by allied and auxiliary workers at the work site included few if any mentors, advisors or role models to aid their career and education advancement. In addition, interview respondents noted limited or no on-the-job cross training for allied

workers that might assist them in a transition to a nursing career and limited information about career opportunities within the institution where they worked.

Education barriers

Allied and auxiliary workers interested in pursuing a career in nursing face educational barriers in addition to the workplace barriers discussed above. Primary among these is the lack of coordination between allied and auxiliary training programs and nursing education. For the most part, each preparatory route is distinct. Many interview respondents pointed out that individuals who had already worked in health care as allied workers but wanted to pursue a nursing career must enter into a nursing program at the ground floor. He or she is not usually given credit for health care courses and training work done during their preparation for their allied or auxiliary health care job despite the fact that much of the course content could be considered redundant. Nor do nursing education programs give sufficient credit for allied health care work experience and on-the-job training. Our research led us to only one example of a concerted effort to deal with this pervasive lack of articulation between allied training and nursing education (see description of Health Care Integrated Educational System in Arizona on page 24.)

Allied and auxiliary health care workers in California also face inflexible class schedules that sometimes seem to have been created for the full-time student and an extremely limited set of innovative, adult education options (such as computer aided instruction and distance learning options), that are offered in other states or other fields. Finally, the costs and length of academic programs were mentioned in the interviews as stifling the move from allied or auxiliary health to nursing. Allied and auxiliary health care workers often make extremely low wages (Ruzek *et al.*, 1999) that make even the minimal costs of some nursing programs prohibitive.

Other barriers

Allied and auxiliary health workers interested in nursing careers may face additional barriers that are not directly associated with either their workplace or the education system. For example, many of them do not have access to good information about the

nursing profession and nursing education. In addition, according to the interview respondents, many allied health care workers are focused more on supporting their families than on their own career advancement. Several respondents agreed that when one mentions "paying for college" to allied health workers, they think about paying for their children's college education, not their own. Interview respondents indicated that many allied health care workers, particularly those from non-White backgrounds, have already started their families. They may be responsible for childcare or caring for an adult family member in addition to being the household's primary income source. Between 70–85 percent of aides and technicians working in allied health care positions in California are women (Ruzek *et al.*, 1999). For those who are single parents, balancing household and job responsibilities with night or weekend classes is particularly challenging. Many allied health care workers come from poor families or communities where few individuals attend post-secondary education. The structure and provision of job-training programs in the US fails to take this lack of experience and understanding into consideration (Grubb, 1995).

> *"We had a LVN to RN program... half the people dropped out even though it was totally paid for because of things like child care and not being able to take enough time from work (to attend class). Another thing we have done is to pay a half-day work for a half day of school — like a split 50/50 time. The success factors depend on the days you hold class, the age of the employee, the age of their family members. The incentives you put in may not be incentives based on the participants' priorities."*
>
> Nursing administrator

BARRIERS PRE-PROFESSIONAL STUDENTS FACE IN PURSUIT OF NURSING CAREERS

Based on this study's research, students and young adults considering their career options face numerous challenges and disincentives to choosing nursing as a profession. These include overall education barriers, such as a poor K–12 education system in California that does not adequately prepare students for careers in the health sciences; difficulties that are more specific to minorities and low-income students, such as "tracking" some students

into non-professional programs in high school; and a disconnect between the values of today's students and the nursing profession. Each of these is discussed in more detail below.

Overall education barriers

A number of aspects of California's education systems combine to create significant challenges for the student considering a career in nursing. Costs, lack of financial assistance, and insufficient entry-level pay scales relative to educational investment were often cited by interview respondents as barriers to entering nursing.

A primary area of concern identified by interview respondents and confirmed by numerous studies and data points is the California's education system for students in kindergarten through high school (K–12). California's K – 12 education pipeline is not producing a sufficient number of well-educated graduates to meet the state's workforce needs, and nursing shortages are exacerbated by this fact. In particular, our state's education system is failing the two minority groups most severely under-represented in nursing, Latinos and African-Americans. Only one in four African-American high school graduates, and only one in five Latino high school graduates have the requisite skills for college, according to a recent statewide study (Children Now & Fernandez, 2000).

In addition to poor general curricular performance, there is a shortage of adequate high school counseling regarding career options and paths, and post-secondary education. If schools were to provide services for all students, more students could pursue health careers.

> *"Any efforts made (currently in schools) are (only) for the good students — the students who have good grade point averages who will make it anyway. You can't forget about all the other students. The students with a 2.7 (GPA) would be good candidates for allied health positions. But, they aren't exceptional. The services are for exceptional students only. That is a whole employment base that is not tapped."*
>
> Consultant, Latino health issues

California's community college system, which provides much of the nursing education in the state, has some specific problems. Most importantly, attrition in California

community college nursing programs has increased since implementation of lottery systems of admission in the 1990s. The lottery system requires that all eligible students (who have met the pre-requisites) enter a lottery where, in most cases, academic ability and GPA is not considered; all students in the pool are equally likely to be chosen for admission. The inability to consider academic skills and needs for academic support has set up a situation where attrition rates have grown from percentages in the teens to about 40 percent at many institutions in the state (Leovy, 1999).

Admissions policies that do not assess qualitative aspects of students and their motivations for entering nursing (including lotteries and private programs that focus only on grades) can shut out many students who attended poorly-resourced public schools. Second-language English students and students from minority backgrounds may be excluded from consideration for admission because the admissions structures limit individual evaluation of successful outcomes by nursing program faculty or staff. Although there are currently no studies to indicate the best ways to identify students who should be favored for admission or who could become good nurses, the Chancellor of California Community Colleges has appointed a task force to try to design such a mechanism (Martin, 1997).

Interview data in this study indicated frustration with inefficient systems of articulation between high school and post-secondary education. Even more pronounced was the frustration over lack of articulation and coordination between the community colleges and four-year institutions. Interview respondents noted few instances of constructive cooperation between these two institutions. Even in examples where educators worked together to create a seamless articulation process for nursing students moving from associate degree-prepared RN to BSN (Bachelor of Science in Nursing), respondents noted resistance by four-year institutions to accept the academic credits students earned in community colleges. (See Appendix A for more on articulation.)

> *"There is a lack of outreach agreement between the community colleges and the California State University (CSU) system. They (CSU) think that the 2-year (education) is not thorough enough to qualify students for direct transfer into their programs.*

"The credits most students take at community colleges are not transferable. They (CSU) make them take many of their classes over. It's a problem of the programs. The nursing profession is a very aggressive one. There is a lack of trust in what the community colleges have taught. They (the four-year institutions) believe that they can't validate the courses a student has taken.

"Even though they are supposed to have things like the 2+2 programs, they haven't really begun to explore better options for articulation. They need to stop discussing it and get on with doing it.

"If CSU programs don't believe that the community college programs are properly training incoming students, it is time for them to help review the curricula together and revamp what needs to be. For instance, there is no lab tech training program in the Bay Area. We are trying to establish this, and in talking to folks at the CSU institutions where (students) would go on to finish their programs; the reaction was that even though the students will have taken biochemistry, "they won't have OUR biochemistry class." For students, this means that they have to take a whole year over again. This means that the two-year program is really not: it is 3 years. For a lot of community college students, they are older, they are not going to sit in a classroom for 5 years to make $30,000 a year."

Nursing faculty member (emphasis is the respondent's)

Barriers for students from non-White and low-SES (socioeconomic status) populations

In the interviews, project staff explored barriers to nursing specific to students from non-White and low-socioeconomic populations. Students from poor and ethnic and racial minority backgrounds are not attracted to careers in nursing for three main reasons: they do not know about their options in nursing careers; they receive inaccurate information about careers in nursing; and they sell themselves short by choosing quick routes to paying jobs over longer routes to advanced education and career status.

A primary barrier voiced by the respondents was the lack of role models and mentoring. For Black and Latino students, role models and mentors are particularly important motivators to encourage them to pursue nursing or other health careers. Role models and mentors may encourage students to enter nursing because of the good salary, relatively easy entry into the profession, and the stability of the work. On the other hand, respondents noted that if the only types of nurses a Black or Latino student has seen are less-than-BSN nurses, they may limit their own career aspirations based on these role models; they may also see role models who are nurses or other health care workers, who complain about the inequities, hard work and lack of recognition in their workplaces, which serves as a negative motivator. Limited access to health care experienced by many young people from minority and low-SES populations may contribute to the lack of exposure to health care workers as potential career role models generally.

Another area of barriers to nursing is education. A national study on the educational mobility of Hispanic nurses found a dearth of educational models that address the educational mobility needs of Hispanic nurses. The barriers identified in focus groups included financial barriers, institutional barriers (lack of advisement, unsupportive faculty, perceived discrimination by faculty and peers, sense of isolation); Hispanic culture and family (prescribed gender roles); and language difficulties and accents (National Association of Hispanic Nurses, 1998).

> The identification of barriers to pursue nursing education began at the secondary education level for many participants. The lack of counseling to pursue college education in general and nursing education in particular, the tracking of many participants into vocational or non-college bound programs, the inadequate development of studying skills, and the subtle and overt messages that participants would not succeed beyond high school were common experiences of participants (National Association of Hispanic Nurses, 1998; p. 12).

In our own qualitative research, respondents described instances of educators having low expectations and/or "tracking" some students into non-professional jobs based on race, ethnicity and/or socioeconomic status.

"Also, there is racism in schools. We all know about this. The thing about this is that if people don't have access to good education, if they can't develop the skills or they can't have the ability to develop the skills, this limits the pipeline and supply of students (from minority backgrounds who can go on to college)."

Nursing faculty member

"I think the lack of systematic support, from management (in health care facilities) and in the schooling, sets them up for failure. This system limits their participation in (higher) education programs."

LVN in rural community clinic

As for many students, family influences are important in forming young Latino career aspirations and choices. The theory that Latinos from Mexican, Central and South American ancestry discourage their daughters from entering nursing because of the poor reputation this career has in these countries was only borne out to a limited degree in our interview research. Family circumstances, including acculturation to US norms, family knowledge about career options and educational pathways, and SES status, mediate this notion. No interview respondent indicated that the poor reputation of nurses is an absolute message in Latino communities. At the same time, for Latino families who are "close" to their home cultures, perceptions of nursing as a career is flavored by the status and work conditions of nurses in these countries. Latino families who are familiar with the good pay, stability, benefits, and respect associated with nursing and other skilled health care professions in the US do not discourage their daughters from pursuing this career. Acculturation and knowledge about career options, therefore, may outweigh any "cultural bias" against nursing among Latino Californians.

"For Latina/os' parents...don't understand the difference between Amherst and some local college. To Latino parents, all "college" is the same whether it's Harvard or City College. Whites speak this like a language. (In high school, they are discussing the difference between colleges as if they know it inherently)."

LVN in clinic serving Hispanic community

"Another barrier for young students is that often counselors advise them to go to two-year programs because of their ethnicity. I am talking mostly about high school counselors although both counselors at high schools and at the AA (associate degree) level are not well informed about nursing. It is difficult for them to talk to students about this (accurately). They advise them to take the easy way out by going to school for 2 to 3 years. This is a fallacy. Students end up spending more money getting an AA degree rather than a BA. They (counselors) appeal to the financial aspects of it and focus on (students') helping their families in the quickest way possible. Really, these students are often the first or only members of their families to receive higher education. And, they are contributing to the total family income pool. There's that urgency (to be able to contribute money to the family as quickly as possible)."

National Hispanic nursing leader

Our limited data collection from members of Asian communities produced some interesting findings. In Filipino communities across the state, there is support for directing daughters into nursing careers. However, for Chinese, Japanese, Vietnamese and Indian students, whether or not a student would consider nursing as a career is often determined by role models and family influences. There was some supposition by interview respondents that nursing is seen as a good career for women in families and communities where there are positive role models (female relatives as nurses). Again, this was associated mainly with families who are acculturated to US norms, as the cultural norms of each of these groups is associated with nursing as a low-status profession in countries of origin.

Latinos In California

Currently, disparities in health care access and treatment create a situation where more health care professionals are needed in all aspects of care to deliver culturally competent care to the state's growing number and diversity of residents. The fastest growing ethnic group in the state is Hispanic or Latino persons. Nationally, Latinos experience great disparities in the health care they can access and receive. Only 43 percent of Hispanic adults are covered by employer-sponsored health plans. Four states, New York, California, Texas and Florida, account for 73 percent of all uninsured Hispanics in the US. In California, 40 percent of Hispanic residents are uninsured, about twice the rate of the general population. Hispanic Americans have lower rates of health insurance coverage for several reasons including their tendency to work for small employers who cannot offer coverage, their lower rates of participation in publicly-funded assistance programs, and overall lower incomes that simultaneously exclude them from participation in subsidized health coverage programs at the same time their income does is not sufficient to purchase individual coverage (Quinn & The Commonwealth Fund Task Force on the Future of Health Insurance for Working Americans, 2000; Brown, 2000).

An analysis of interview data in this study indicates that more than any other factor, low-income or poverty background is associated with receiving an inadequate preparation for entrance into nursing and other health sciences programs. Aside from obvious connections to paying for tuition, books and fees, students with low-incomes must also pay for child care, transportation, and deferred living expenses associated with training for a career in health. Students from poor backgrounds also experience barriers due to the structure of K–12 and post-secondary educational programs: inferior counseling and advising services; inferior access to advanced science, math and writing classes; and the length of academic programs conflicts with their need to work to support their families.

Accompanying poor students' experience in this structure are cultural effects resulting from a lack of role models in their communities. Interview data indicated that many students who struggle to participate in health sciences educational programs are first-generation college students (and sometimes first to complete high school) who have no one to guide them through the planning of post-secondary training. They often struggle with low self-esteem, low confidence, and having few experiences of academic or occupational success from which to draw a positive attitude about their abilities. A study by the National Center for Research in Vocational Education (NCRVE) found that family structure and experiences has a definite impact on students' perceptions of education and career. Students, whether traditional-aged or adult, form their aspirations, career choice and educational plans on what they see in their own families (Way, Rossman, & National Center for Research in Vocational Education, 1996).

Young people coming from poor communities experience K–12 academic preparation that is inferior to what is needed to enter college and to enroll in health sciences programs. Associated with poor academic preparation is the disparate

Poverty in California

Although poverty in California has decreased in the late 1990s, the state still has the ninth highest rate of poverty in the US. In 1998, approximately 4,525,000 California children (46%) lived in poverty (below 200 percent Federal Poverty Level). Over 27 percent of these children lacked health insurance. Efforts by the state government to enroll children in the CHIP plan will help to increase access for these young people; however, there may be inadequate numbers of health professionals to treat them. Many of the uninsured children and adults in California are non-citizens, but as many as one in five citizens of the state are uninsured. California has the largest population of undocumented aliens in the US, with well over half coming from Mexico and Central American countries (Immigration and Naturalization Service, 1999; US Census Bureau, 2000; Dalaker, Proctor, & US Census Bureau, 2000; Brown, 2000).

allocation of resources to schools in the state, inadequate numbers of guidance counselors who can take time to counsel students about academic preparation for career pathways, and inadequate course offerings that would prepare students for pre-requisite courses in health sciences programs. The only unique barriers for poor students who come from particular ethnic or racial groups concern immigrant status or length of time that the family has been in the US. For more acculturated students from Latino and Asian backgrounds, the difficulties they experience in pursuing health careers are more tied to SES than to cultural issues.

A respondent from a work training program designed to move poor urban residents into health care jobs commented on the socio-cultural factors that must be taken into consideration for recruiting and retaining trainees and workers into health careers pipelines. One of the most potent comments concerned the psychological dilemmas involved in obtaining unsubsidized work in a neighborhood where there are few skilled workers and many examples of persons living with the help of public assistance. For many trainees in this program, attending classes on a college campus or taking work in a wealthy area of their own city was the psychological equivalent of moving to Mars. They had few experiences to support the notion that they could be capable workers, integrate into a classroom or work setting, or interact with people not from their own neighborhoods. The only other comment similar to this was one by a workforce development administrator in a poor Latino community. This respondent suggested that many students who may be interested in pursuing a health career are frightened by thoughts of having to leave their neighborhood. Neither their family or educational experiences prepare them for interacting outside the context of their own communities where they develop social interaction skills and worldviews affecting their own sense of self-esteem and confidence.

> *"We ended up using a really individual approach in helping them to. It was very dependent on their unique situation. ...For one of the students, there was a real concern about placing the child in a center so we were able to arrange payment for a grandmother in the family to care for the child. Some women are just not comfortable enough to be able to place their kids in a care setting."*
>
> Coordinator of training program for underprivileged adults

"I think the key supports were the relationships that were established between the (local community college) instructors and the students. We were really fortunate to have the chair of that department (Nursing department at local community college) behind us. Their instructors came here to teach them. Since the students already had a relationship established here, they are more comfortable about the relationships (going on into the classes at this college). It is important to get an early start on this. ...When we heard that there were problems with particular students, we were able to deal with it once, and never had to do it again. I think this was because of the trust that had been established and the fact that we had very open communications with the students."

Coordinator of training program for underprivileged adults

The structure of educational pathways in California also mediates poor students' decisions in choosing career routes. The length of academic programs is a barrier for many poor students. For students from families who need more members working in order to provide for family financial needs, the need to remain in school for four years of high school, followed by two years of community college or four years of university education creates a financial burden for the family and the student. Often, counselors, educators and family members will advise the student to take the shortest route through certification or licensure programs that do not prepare the student to acquire educational credits or academic preparation for transfer to a degree program. As with allied health workers who later wish to pursue nursing degrees, these students who choose quick routes into health care careers actually experience financial and time setbacks by choosing quicker routes to jobs. When these health care workers return to school, they discover that their work experience is not counted for academic credit, their certificates and licenses are meaningless in course substitution, and yet, they still have between two and four years of schooling ahead of them, as if they were starting from scratch. Interview respondents indicated strong support for 20/20 programs that enable health care workers and less-than BSN nurses to receive full pay for attending school half time towards degree completion. Several good models of structuring these educational and career pathways exist.

According to interview respondents, there are also too few counselors in high schools to deal with advising, discipline and social support problems in addition to career advising for students. Most resources are directed to students who have the highest likelihood of going to college, leaving students with grades between 2.0–3.0 without the support and direction they need to move into post-secondary education.

> *"They are overworked and underpaid. They can't give the individual attention that these students (low-SES, at-risk) need. We must have programs that prepare them through the transitions (from lower to higher grades, then between high school) to college programs. When they graduate, then they'll have the educational, academic and lifeskills needed (by employers). It's not unlike being a parent to these students and your goal is to produce (kids who can be) productive adults."*
>
> Dean of community college health sciences program

> *"I think we confuse students with this two-tiered entry system. There is now the RN and the BSN, but they don't always understand that the RN is a licensure, not a degree. Especially for economically disadvantaged students, they just want the RN to make money quickly, but they don't see that there is a ceiling without a degree."*
>
> California Hispanic nursing leader

Other barriers

Finally, today's students from all racial, ethnic and socio-economic backgrounds may have embraced values, goals, orientations and attributes that vary significantly from those offered by the nursing profession. For example, recent research found that tomorrow's workers hold the following values and orientation: immediacy (managing and moving multiple pieces of information quickly using high technology); independence (autonomy and latitude to feel productive and fulfilled); work-life balance; social responsibility (at the community and individual levels); flexibility (regarding time at work translating to job sharing, telecommuting); and diversity (Ernst, 2000). The incompatibility with nursing in its present form is clear.

3 CASE STUDIES *of* INNOVATIVE APPROACHES

Several models, though limited in number, have demonstrated success and promise. They can be looked to as examples when exploring what has been done to date to address some of the issues and challenges raised in this report. What follows are brief descriptions of these innovative approaches.

Project L.I.N.C. (Ladders in Nursing Careers)

During the 1980s a nursing shortage of crisis proportion lead to an ambitious attempt to create career pathways from the allied health professions into nursing. In 1988 the Robert Wood Johnson Foundation in association with the Greater New York Hospital Association established Project L.I.N.C. (Ladders in Nursing Careers). Project L.I.N.C. was designed to allow its participants to enroll in a work-study program in which they received full-time pay and benefits while working part-time and maintaining full-time enrollment in a nursing education program. In this program the cost of tuition and all school-related expenses were covered by the student's current employer under the pre-arranged conditions agreed to in a contract between the student and employer. The conditions stipulated in these contracts usually involved some arrangement in which the student agreed to be employed as a nurse at that institution for a predetermined period of time upon completion of his or her studies. Also, integral to the program was the establishment of a support system. This was done to provide such services as academic counseling and career development assistance.

By all accounts New York's Project L.I.N.C. was a success. Immediate and widespread interest led Robert Wood Johnson Foundation to attempt to adapt the L.I.N.C. model for use in other communities in 1992. The foundation selected nine hospital associations through a national competitive process in which grants were awarded for Ladders in Nursing Careers projects. Evaluations of these replica programs provide important

lessons. Chief among these is that one must recognize that each community presents unique challenges in the task of meeting its health workforce needs. Flexibility and adaptation must be the watchwords for success in such programs. (Project L.I.N.C., 1997a; Project L.I.N.C., 1997b).

Kaiser Permanente and Health Care Workers SEIU Local 250 Collaborative

In July 2000, Kaiser Permanente and Health Care Workers SEIU Local 250 received a $2.2 million training grant from the United States Department of Labor. This money will be used to establish training programs to establish career ladders within the Kaiser system. Auxiliary health workers will be trained for careers in the allied health professions while their former entry-level positions are to be filled by recruiting participants enrolled in welfare-to-work programs. Similarly, allied health workers will be eligible to receive training for more advanced health care positions (for example, the program may provide opportunities for LVNs to become RNs). Such programs appear to hold a great deal of potential for other institutions, and this program warrants careful evaluation for potential replication (Kaiser Permanente California News Bureau, 2000).

L.A.U.N.C.H. (Learn About Unlimited New Careers in Healthcare)

The goal of recruiting a diverse population of nursing students requires that our K–12 students have accurate and relevant information about careers in nursing. The literature review and interviews done for this report indicated that this is not the case for many young Californians. Inaccurate and antiquated notions about nursing go unchallenged as countless potential nurses explore employment in other fields.

In order to raise awareness about potential career opportunities in health care, the California Department of Education in conjunction with Kaiser Permanente has created a program called "L.A.U.N.C.H." (Learn About Unlimited New Careers in Healthcare.) L.A.U.N.C.H provides K–12 students, their teachers, and their parents with age-appropriate information about occupations in the health care. From standard statistical information about career growth, to zany rap lyrics about the duties of a radiology technologist, the L.A.U.N.C.H program tries to offer something for everyone.

Such programs can help ensure that nursing and other health occupations are given fair consideration by the diverse population of tomorrow's workers. For more information about this program, visit its website at http://www.kaiserpermanente.org/locations/california/launch/index.html (Kaiser Permanente, 2000)

Health Care Integrated Education System, Arizona

In 1998, the Maricopa County (AZ) Community College District combined its numerous and disparate health care training programs and established the Health Care Integrated Educational System (HCIES). This new program was designed in cooperation with community leaders to help meet Arizona's need for a more flexible and multi-skilled health workforce. The Maricopa commission that designed HCIES expressly acknowledged the reality of a shared scope of practice between many allied health professions and nursing. HCIES' attempt at a coherent, competency-based approach to health care training holds promise as a model that facilitates the entry into nursing by interested allied health workers.

The competency-based curricula of HCIES is designed to enable individual students with various levels of education and work experience to pursue an efficient and tailored educational path to meet their needs. The program courses are organized into three "levels of learning." Level I of the HCIES model provides instruction concerning the most elementary and universal skills required by health providers. These "Common Competencies" include basic terminology, behavioral standards, and simple administrative procedures. Instruction in Level II, or "Shared Competencies," is more advanced and covers specialized skills and knowledge that are relevant to many but not all, health professions. The curriculum of each Level III program is very specialized and is designed to enable its students to complete all prerequisites for their specific major. To meet their educational goals, students can exit at multiple levels and re-enter at any time; students can also demonstrate competencies to enter at advanced levels within the model and take only non-redundant courses.

HCIES' integrated approach attempts to eradicate or minimize many of the most daunting problems faced by health care educational institutions including curricular

redundancy, lack of articulation between training programs, and inconsistent educational training standards. (Maricopa Community Colleges and Health Care Education Reform & Health Care Integrated Educational System, 2000).

Cal-HOSA (Health Occupations Students of America)

Cal-HOSA is an affiliate of the national HOSA (Health Occupations Students of America) organization. Founded in 1987, Cal-HOSA has 38 chapters sponsored by the California Department of Education. HOSA activities are incorporated into the academic programming of participating high schools and focus on skill development and practice, leadership and career development and enhancement of physical, intellectual and social characteristics. HOSA students compete for academic scholarships. In 1996, Cal-HOSA initiated Health Career Educational Pathway programs in California high schools. Participating schools restructured their academic programs to address the administrative, counseling, and planning resources required by the program; established performance standards; formed community partnerships; and developed interdisciplinary curricula to enhance students' preparedness for work or higher education in health fields. This evolved in 1999 into a comprehensive initiative for elementary-to-post-secondary health education. Elements of this program address barriers experienced by poor and ethnically diverse students in California. Initial program evaluation indicated that students involved in Cal-HOSA programs performed better than their peers on standardized educational tests. For more information about Cal-HOSA, contact Academic and Career Integration Division, California Department of Education, http://www.cde.ca.gov/shsd/aci/hce.html (California Dept. of Education Academic and Career Integration Office, 2000).

4 SIX SOLUTION THEMES *with* RECOMMENDATIONS

To address the barriers identified through the literature search and interviews, and keeping in mind the innovations tried by various entities (see previous section), the following themes for solution are offered to educators, employers, policy makers and health care professionals. The challenges of addressing the racial and ethnic disparities in nursing, the projected shortages in the profession, and the underemployment of some allied and auxiliary workers will not be overcome quickly or easily. However, looking at these challenges together rather than individually and taking a multi-faceted approach that includes representation from the various groups of stakeholders, may be the necessary next steps.

The following recommendations are explored in more detail on the following pages:

1. Reorient the discussion from "How do we increase diversity in nursing?" to "How do educators and employers address the values, attributes and goals of the potential pools of workers?"

2. Create a sustainable and socially responsible health care workplace

3. Restructure the profession

4. Improve the K – 12 and professional education systems

5. Facilitate life-long learning

6. Target the "influencers" at the decision-making point for pre-professionals

1. Reorient the discussion from "How do we increase diversity in nursing?" to "How do educators and employers address the values, attributes and goals of the potential pools of workers?"

The significant discrepancies between the racial and ethnic profile of California's nursing profession and that of the state's general population easily leads one to focus on the question: "How do we increase diversity in nursing?" However, this perspective

may produce no more than a slick marketing plan that targets traditionally underrepresented minority groups. Well-financed marketing can "successfully" reach its goal of selling a product without any critical analysis of the value of the product or the impact on the buyer.

A more valuable perspective for serious reform is to ask, "How do educators and employers propose to meet the values, attributes and goals of the potential pools of workers in California?" When applied specifically to nursing, this re-framing of the issue may better serve both the needs of the state's diverse population and ensure the long-term sustainability of the profession.

Potential pools of nurses in California are racially and ethnically diverse. They include hospital volunteers, allied and auxiliary workers, young students, and families recently served by health care institutions. What are their goals and values? What are educators and employers doing to understand and meet these goals and values? Why some members of these pools are choosing, or being directed into, one career over another is also worth exploring.

This shift in perspective also forces more critical looks at the workplace, the education system, and the nursing profession itself. It may well be that, until these institutions can change to meet the expectations of the state's workforce, tomorrow's workers will continue to choose other options that better meet their values.

As noted above, the traditional pools of potential nurses (White females and out-of-state trained nurses) can no longer be considered the only resource. Underemployed allied and auxiliary health care workers may be one of the most promising sources of future nurses. Do employers, educators and policy makers know enough about these workers to create programs and jobs that meet their needs and expectations?

Our research found that a significant motivator for allied health workers to pursue nursing is an interest in patient care. Allied health workers who participated in college programs were committed to careers in health care and had long-term goals for advancement. Allied health care workers who go through the effort to pursue further education do so because they are attracted to the patient care aspects of higher level and nursing positions, and to participating in service design and administration

based on their work experience. Interview participants who could speak about the types of allied health care workers who were attracted to nursing education programs indicated that these are primarily nurse aides, medical assistants, certified nursing assistants (CNAs), paramedics, and EMTs. In addition, some office clerks, receptionists, and assistants pursued additional education based on their interest in nursing. One rural clinic described in an interview would find ways to train *any* worker who was interested in advanced level health positions or nursing; in this case, the auxiliary and lower-skilled positions served as a pipeline.

> *"We also see OTAs (occupational therapy aides) and PTAs (physical therapy aides) that have lots of science but their interest is as an auxiliary provider. They want to be more involved in direct patient care. They have a limited career ladder. They want to pursue the career ladders to nursing; they have hit a dead end in allied health. They have the choices to go into direct patient care or administration. After years of doing the same thing, they want to use their experience for further training."*
>
> Director of a California health sciences scholarship program

According to nurses who had worked as allied health care workers while going to school and nursing educators, consideration of the barriers discussed in Chapter 2 is necessary to design successful programs for allied health care workers to move into nursing or other types of advanced training.

Students and the youth population of California make up the other obvious potential pool of future nurses in this state. What do we know about them and their values and attributes? How can we create educational and employment opportunities that meet their needs and expectations?

First Steps

- Conduct new research and build off existing research about the needs and expectations of allied and auxiliary health care workers who wish to move into nursing.

- Explore the values and attributes of California's youth population to better understand possible career choices and how those choices are made.

2. Creating a sustainable and socially responsible health care workplace

The current health care workplace is not sustainable if it cannot attract and retain sufficient numbers of competent workers, including nurses. With thoughtful reform, it can, however, become an environment that is attractive to tomorrow's workers. Business leaders opine that attracting excellent people to one's company is more about making sure one's company is "not unattractive" than anything else. Changing the workplace, while not an easy proposition, is highlighted here because it is probably more likely to change and at a faster pace than the education system. Workplace changes however will require the full participation of a number of different actors and stakeholders, including employers, organized labor, employees and members of the profession. Collaborative structures might be most promising if they include new models of labor representation and staffing policies that focus on quality, not just quantity and numbers.

At the worksite, employers may have to change the way they manage and employ nurses because we will never have the supply we have had in the past. Employers can take the lead in better integrating technical and other skills with work roles, establishing a sensible relegation of responsibilities and authority within health care. This would help clarify the roles of members of different professions, which in turn would provide a better picture of the options for employees wishing to pursue new career directions. Employers may also need to help rebuild relationships among health care workers at the workplace to limit the animosity some report between members of different professions.

Changes in this area may include replicating the best of innovative approaches that have already demonstrated success, such as the Ladders in Nursing Careers (L.I.N.C.) project (see page 22). Promising change includes committing to supporting current workers seeking to advance their careers within other professions. It may also include looking to private sector industry for models of functional on-site mentoring programs using retired or almost-retired nurses to mentor new nurses and/or potential nurses.

One of the values that could be the cornerstone of health care but has recently been relegated to secondary status is that of social responsibility. Hospitals for example could expand their volunteer programs to better expose volunteers to options in the professions; if structured appropriately, volunteer work should qualify for credit in nursing training programs.

Health care organizations are providers of health care services to the public as well as employers providing career opportunities for their employees. Professional development opportunities that target middle management or workers with post-secondary education directs funding away from other workers interested in pursuing health care career advancement.

Competing for Workers

One of the challenges for employers will be dealing with increased demands for health workers of numerous professions. For example, while California may have a projected nursing shortage, and the allied and auxiliary workforce may be one potential pool to fill that shortage, the allied and auxiliary workforce will be expected to grow too. California's fastest growing occupations include a need for 77.2 percent more (n=30,500) medical assistants; and 21.9 percent more (n=19,400) nurse aides and attendants. The need for home health care workers and home care aides for elderly and disabled persons in California are projected to rise between 45 – 48 percent between now and 2008 (Employment Development Department—Labor Market Information Division, 1999).

"Also, nursing has gone through a lot of redesign in the last several years that has resulted in confusion, hostility and turmoil within the profession. Unionism and work disruptions are on the rise. Management is being financially challenged and sometimes RNs appear to be "disposable" in the current economic climate. Financial pushes are so great that most organizations have adopted a "penny-wise, pound foolish" mentality. This activity translates to lack of investment in the current employees. And health care workers are witnesses to this activity."

California nursing leader

The NCRVE determined that more cooperation between employers and educational institutions could overcome the fact that job training programs often fail to take into consideration the lack of experience and understanding necessary for allied health care workers who come from poor families or communities where few individuals attend post-secondary education. Focusing on "connecting activities" and career laddering is an effective, but little used, strategy for building effective job training programs for adult students (Grubb, 1995). Having access to flexible work

scheduling, 20/20 programs, or similar time-education trade-offs for advancement was the most-mentioned barrier for allied health care workers to pursue further education or training.

Workers who are interested in pursuing advanced careers in health care may have a limited view of the options available in nursing careers and may see advancement only in terms of the positions available in their own workplaces. Employers may inaccurately assume that because their employees are adults working in a health care setting, they understand career advancement, educational pathways and the processes involved in pursing further education. Some employers are helping employees understand the options available to them by incorporating career information or job fairs in their annual activities or human resources programming.

> *"We are having a fair for our employees to learn about the schools around the area and their career options in these programs. ...We are one of the largest employers in the area, so, we see it as our responsibility, especially if we can't help them pay for education, we can at least provide them with some information about their career options. Even though one of the programs (we draw graduates from) is across the street from our campus, they just come and go from work every day and don't think about their options there. They don't know about these programs. This (fair) will be a whole day and we plan to make it a regular thing."*
>
> Consultant, Hispanic nursing issues

Employers who monitor occupational trends and work values of young people in the US today will see that young workers are attracted to employment with organizations that offer them flexibility, recognize the importance of family, and who provide opportunities for advancement within the organization. For health care organizations to ignore these values is guaranteeing that they will continue to lose workers who can find these assets in other industries (Pindus & Nightingale, 1995).

First Steps

- Institute mentoring programs using retired (volunteer) or almost-retired (paid) nurses to mentor new nurses and/or potential nurses. Senior level nurses could mentor and coach others. Senior/retired people could work as part-time coaches advising junior levels. Explore possibilities in retirement system to retain institutional experience and skill while addressing financial needs.
- Direct available tuition assistance to re-entry workers and to students based on financial need rather than scholarship.
- Expand volunteer programs at hospitals to expose volunteers to options in the professions. Provide structured mentoring for volunteers and ensure educational credit for community service.

3. Restructuring the profession

Explanations for the present and projected California nursing shortage often cite such factors as the state's aging population, increasing career opportunities for young people, or ever-changing work expectations. Often overlooked, however, is the fact that these are endogenous labor conditions that all prospective employers must face when recruiting and retaining needed personnel. In addition to these issues, the nursing profession may have challenges specific to it. Our research indicates that, as it is presently configured, the professional model for nursing is not attracting enough employees to sustain it.

Those health care needs of Californians currently being met by nurses will remain despite projected nursing shortages. In the face of these circumstances leaders must examine how the health care system can continue to provide that care. Nurses, hospital administrators, and other stakeholders must be willing to make honest appraisals and sound decisions about how best to utilize present and future human capital in supplying the state's health care services. Such measures will entail re-examining nursing's scope of practice, internal divisions of labor and career ladders, workplace culture, and professional identity.

Possible models for effective professional adaptation are countless. In most sectors of the economy, as consumer needs change or workforce shortages arise, the natural vicissitudes of the labor market foster needed changes in professional roles and responsibilities. However, due to such influences as licensing procedures, post-secondary educational policies, and political considerations, scopes of practice for health care workers may lag behind professional development and workplace needs. Nursing should not hesitate to benefit from lessons learned by other industries, where possible, about how to keep itself viable despite relentlessly changing conditions similar to those found in health care.

In order to attract a sufficiently large and diverse population of workers to satisfy those health care needs of Californians currently met by nurses, nurses and nursing organizations, employers, and other health care stakeholders should take the following actions regarding restructuring the nursing profession:

Re-examination of the scope of practice for the nursing profession

With the goal of maximizing the efficiency with which quality care is delivered, the clinical responsibilities and decision making currently delegated to nurses should be expanded, where appropriate, to areas currently prohibited by law or by practice. Similarly, clinical and administrative duties that need not be performed by nurses should be delegated to other health care professionals. The field of nursing needs to be narrowed and refined in order to better attract and retain the professionals sufficient to perform those duties.

First Steps

- Nursing stakeholders must recognize that the profession must be refined for it to remain viable.
- Nurses and their employers should partner in determining best practices regarding the utilization of nursing personnel, and to explore how to proceed with their implementation.

New career paths to nursing

One of the keys to diversifying nursing will be to make it more inclusive not exclusive. Currently there is great confusion about nursing's multiple levels of entry and relatively undifferentiated practice roles. A career ladder that accommodates a broader set of practices and both leads up to and builds upon the RN designation is an essential step in expanding the profession in an inclusive manner. The advanced practice beyond the RN level has developed well, but considerable work needs to be done in developing the career pathways that can capture and track new employees from care-assistant type roles into full-blown nursing practice. These career tracks need to incorporate education components at the work site and use the work experience as a part of the clinical training experience. In addition, employers should help their employees take advantage of any distance-learning opportunities by facilitating the enrollment and completion of such programs.

First Steps

- Nursing stakeholders should collectively develop coherent and consistent division and career paths within nursing, and between nursing and the allied health professions.
- Nursing employers should promote life-long career learning and improved mobility within nursing, including on-site training or counseling.

Reshaping the professional culture of nursing

As 80% Caucasian and 95% female, California's nursing workforce is relatively monolithic. Health care professional organizations should take the necessary steps to ensure that nursing's policies, practices and workplace environments are accommodating and welcoming to all present and potential nurses. Leaders in nursing should take advantage of opportunities to create or facilitate stronger and positive relations with the general public, and minority communities in particular. By increasing mutual familiarity and improved cultural sensitivity, an enriched public understanding of the nursing profession would result in better care and greater exposure for the profession.

Our snowball sampling for interviews led us to an innovative model of adult mentoring in northern California. Started by two nurses at Colusa Hospital and Colusa Family Clinics, this program is being piloted with Yuba College in Yuba City. The program enables nursing students to request a mentoring relationship with experienced nurses related to their field of interest, or geographical (vicinity). This new program has caught the interest of several clinics and hospitals in the area, and if successful, the originators hope to expand this program into a statewide nurse mentor network.

First Steps

- Health care and nursing leaders should collect input from staff and patients about how to improve cultural sensitivity and better nursing/community relations.

Remaking the image of "the nurse"

Our interviews show that young people's impressions of nursing often bear little resemblance to the actual responsibilities of nurses and career possibilities that the nursing profession offers. Many aspects of nursing such as a commitment to helping others, working with cutting-edge technology, relative professional autonomy and flexibility, and a wide variety of career options within the field (Pindus & Nightingale, 1995) could be used effectively to attract potential nurses into the profession. Several interview participants indicated that students who express interest in health careers still associate nursing with "bedpans and making beds," and may choose another profession instead. Nursing stakeholders can combat this image by raising awareness about the exciting and rewarding aspects of nursing that often go unnoticed.

First Steps

- Health care employers and nursing organizations should distribute information about the wide range and career opportunities and rewarding aspects of nursing to target audiences, including school and community career development centers.

- Special emphasis should be placed on nursing's utilization of technology to attract the interest of young people.
- Nursing and health care leaders should explore "lexical" solutions to the widespread confusion about the nursing profession and a lack of public interest in the profession. The word "nurse" may be too broad and too stereotyped to capture the imagination of potential nurses.
- Nurses—from front-line practitioners to professional leaders—should serve as ambassadors for the profession to eradicate unhealthy aspects of the competitive environment within nursing.

4. Improving the K – 12 and professional education systems

California's K – 12 education system, as well as the professional education systems for nursing, need attention if we are to improve nursing. Several professional associations, educational leaders and researchers have noted the importance of the educational "pipeline" leading to professional schools. Student experiences in elementary and secondary education may dramatically affect their interest in, and ability to attend, medical schools, nursing schools and other health professions training programs. Some professions have targeted efforts to high school (and earlier) in an attempt to attract more (or more diverse) students. Medicine has taken the lead on these sorts of efforts. Nursing and some of the allied professions have also explored the possibilities associated with the educational pipeline when dealing with workforce shortages and/or lack of racial, ethnic or gender diversity within their professions. There is considerably more work to be done in this area though.

Use available leverage to reform California's K – 12 education system

California's public education system has received a great deal of attention recently by the state's governor and lawmakers. While information about projected workforce shortages may have little direct effect on education reform, health care leaders should raise awareness about its serious implications for the health of California's communities regarding this issue. The state of California's public education system

is a social and economic problem, but it has the potential to become a public health problem as well.

First Steps

- Health care leaders must raise awareness regarding the public health implications of our failing public education system.

Disseminate information regarding nursing and other health careers

This report presents information about two programs that could serve as models for the dissemination of information about career options in health care—L.A.U.N.C.H. and Cal-HOSA (see pages 23 and 25). However, a broader commitment to educate the state's future workforce about the health professions, and nursing in particular, is required to meet California's health care needs. Professional organizations and employers must be proactive in making information about nursing and other health careers available. Effective means of accomplishing this goal might include the creation of nursing volunteer program that targets high school students who are interested in health care, and augmenting present career counseling services through the provision of additional and alternative resources.

First Steps

- Create opportunities for interested youths to explore nursing and other health careers through volunteer programs and health care facilities.
- Create/expand available resources to help students make informed decisions regarding health care careers and educational tracks.

Reform professional nursing education in California

Nursing education reform could have a significant impact in fostering a larger and more diverse nursing workforce. The lack of articulation between private colleges, community colleges and state university systems stymies the efficient delivery of the requite training to those students who could meet California's nursing needs.

In addition, restrictive financial aid requirements, inflexible class schedules, and a dearth of implemented innovative learning models (such as distance education) all work to compound problems of California's disjointed system to create inhospitable conditions for many to enter or continue nursing education.

Several recent studies of student outcomes and articulation in US high schools indicated that the current structure of three- to four-year high school education before moving into college "doesn't work for most kids" (Basinger, 2000). In response to these studies, the Education Commission of the States suggested that greater systematic articulation of requirements and course transfer are needed to create a system of secondary-to-post-secondary education that more effectively educates and trains students for the future. Recommendations by the National Center on Education and the Economy included ending high school at grade 10 and creating various avenues for further education and training, with community colleges being key pipeline institutions in such a system (Basinger, 2000).

> *Respondent relates a story about her high school experience: As an underclassman, she was prohibited from taking higher science classes (that are pre-requisites for nursing in college) because the school system had a rule that only upperclassmen could take these courses. This meant de facto that a student could only take 2 of the 4 pre-requisites before they graduated since the courses were offered one-per-year. Her mother marched down to the school and demanded that her daughter be allowed to take all four classes. This costs students who don't fight an extra 2 years in college.*
>
> LVN in clinic serving Hispanic community

Project L.I.N.C. and the Health Care Integrated Education System of the Maricopa Community College District (see pages 22 and 24) hold promise as professional education models that facilitate efficient movement both into nursing and within nursing. California's nursing education programs must work to accommodate the needs of potential nursing students who are unable to overcome the institutional barriers to entering and completing the requisite programs.

First steps

- Expand financial assistance to qualified nursing students.
- Reform California's community college lottery system which creates a rate of attrition among nursing students of up to 40 percent.
- Improve articulation between all levels of health education, and within and between nursing programs in particular.
- Increase flexibility of class schedule to accommodate working and "non-traditional" students.
- Utilize innovative education models such as distance education to increase participation in nursing education programs.
- Evaluate the successes/shortcomings of health care academies in California with the goal of improving and building on achievements.

5. Facilitating life-long learning

Education does not stop with the first professional degree or training certificate. Life-long learning must expand beyond the professional world, where it has been primarily relegated for decades, to the overall workplace and educational system for health care workers, including nurses. Career ladders and the less-linear career "jungle gyms" are key components of a nursing field that can attract and retain tomorrow's workers and meet the state's health workforce needs.

To enable allied and auxiliary health care workers in particular to pursue nursing careers, adult learning programs must be built into a system that makes life-long learning easy and accessible. This will necessitate workable partnerships between employers and educators that focus on ensuring compatible schedules, facilitating financing arrangements, and adopting adult learning models that make sense for the targeted audiences.

It will also entail making a commitment to developing workable articulation mechanisms among and between all levels of health professions education, including consistent and coordinated curricula with credit for all courses. This effort must avoid the repetition of course work and lack of credit for prior clinical training that is currently seen as a barrier between allied/auxiliary health and nursing.

For example, a training model used in a Kaiser facility offered a complete training program for physical therapists where tuition was paid by students to participate while they were employed by the health care facility at 50 percent time. The tuition covered Kaiser's costs for the educational program while trainees were able to recoup tuition through their salaries. This also enabled them to gain experience working in the health setting. Even if trainees took positions in another facility, there was no cost to Kaiser since costs had been paid upfront. However, there was a 90 percent hire rate for the trainees in this program (paraphrased from interview with Kaiser nursing administrator).

Respondents from health care facilities and respondents from community colleges agreed that there needs to be more coordination between employers and educational programs to permit meaningful pursuit of additional education and training. Nationally, community colleges are developing close relationships with local employment sectors to develop customized contract education programs that enable employees of partner companies to attend training or educational programs designed to increase skills based on identified needs. Many times, classes can be held in the employer's facility, enabling workers to attend credit classes without having to arrange time off, childcare, transportation, etc. A recent study by the American Association of Community Colleges indicated that about 14 percent of students enrolled in US community colleges are involved in contract education or required retraining for their employers. These numbers steadily increased during the 1990s (American Association of Community Colleges, 2000).

In interviews, we heard several stories of failed, expensive training programs arranged by employers when similar programs already existed and could have been customized at far less cost through local community colleges. How can employers and colleges begin to talk to each other more to avoid costly mistakes while designing responsive and flexible programs that accomplish the triple purpose of training the existing workforce, offering educational pathways to adult students, and increasing attendance in community college programs? This last point is significant since most community colleges in California receive funding based on full-time equivalence (FTE) attendance.

A recent study by American Association of Retired Persons found that only about 18 percent of older learners interested in continued education were attracted to conventional classroom settings. In this study, 64 percent preferred self study through reading materials and 36 percent learned through the internet (Chronicle of Higher Education, 2000). This and other studies indicate that designing health care training and education through conventional means may not be the most effective way to attract and retain adult students.

A national study conducted just prior to the passage of the federal School-To-Work Opportunities (STWO) legislation found that many two-year colleges were engaging students in work-based learning experiences, defined as instructional programs that deliberately use the workplace as a site for student learning. While a number of programs offered work-based learning, and 60 programs were identified where work-based learning was a required component of a student's study, work-based learning was not found to be available on a great scale in most fields. Some exceptions were noted however. Nursing was the only program area to require work-based learning by the majority of responding institutions. Colleges were found to be responsible for selecting, instructing, mentoring, assessing, and certifying students, leaving employers and other agencies with limited responsibility. These results led the report's authors to ask what incentives could be provided to encourage employers or other groups to play a more pivotal role (Bragg, Hamm, Trinkle & NCRVE, 1995).

First steps

- Educators should continue developing workable articulation mechanisms among and between all levels of health professions education. This includes consistent and coordinated curricula with credit for all courses.
- An ad hoc group (with representation from employment, education, organized labor, and policy) should convene to plan and oversee development of clear education articulation mechanisms.
- Educators should fully respond to adult learning needs and innovations.
- Secondary education and health care institutions should explore ways to improve their interactions and communication.

6. Target the "influencers" at the decision-making point for pre-professionals

The final area of recommendations looks to those individuals who help guide and direct pre-professionals into careers. This group includes family members, teachers, employers and others whose contact with anyone who may have an interest in nursing may lead them to pursuing or abandoning the idea. Teachers and career counselors are key people on this point, but their role may be, by necessity, somewhat limited. They cannot promote one profession to the exclusion of others (many of which are facing similar challenges). They can however avoid directing students who are interested in a particular field such as health care, or profession such as nursing, *away* from those options through discriminatory tracking. First steps in this arena may include identifying and targeting other, non-traditional influencers and/or getting information out in non-traditional ways.

According to interview respondents, second only to role models in the student's family or community, is the role played by school counselors in influencing students' decisions to enter specific careers or to pursue educational programs. Counselors assist students from low-SES or non-college educated families to negotiate the complex system of higher education admissions, financial aid and academic planning. Difficulty in negotiating this system was mentioned by interview respondents as affecting not only students from non-college educated families, but also immigrants, students whose first language is not English, and adult students interested in re-entering higher education after years in the workforce.

Counselors and teachers in K–12 education mediate poor students' abilities to enter educational and career pathways by directing mediocre students away from advanced math and science courses, by advising them to enter community college or job training programs to minimize financial burdens of pursuing higher education, and by directing bright poor and ethnic minority students into high paying careers without consideration of the student's work values and choices. This last point deserves clarification: educators and counselors tend to encourage bright students to aim as high on the career ladder as the current job market allows. This means that a bright Black student who does well in science courses may be directed towards technology or medical careers,

when the student may do better or be more interested in a career in nursing. This is a difficult dilemma. Students with high academic abilities receive career advisement based on prestige and money, when this strategy ignores the student's intrinsic career values and desires. The fact that most high-paying career fields lack good representation of racial and ethnic minorities creates a situation where most fields compete to attract highly qualified minority employees.

First steps

- Educational institutions should provide training and support for high school counselors to ensure that promising students are not unfairly "tracked" into non-professional jobs.
- Researchers, foundations and policy makers should explore the possibilities of identifying non-traditional "influencers" of pre-professionals.
- Researchers, foundations and policy makers should explore the possibilities of getting information out about nursing and other health careers to pre-professionals in non-traditional ways.

APPENDIX A: BACKGROUND *in* CALIFORNIA'S ARTICULATION IN NURSING EDUCATION

- 1988: Nursing administrators, educators, and members of California's Board of Registered Nursing formed an exploratory group to investigate ways to streamline articulation in nursing education—the ADN-BSN Statewide Articulation Committee is formed.
- 1990: Two Statewide Articulation Workshops were held and The Articulation Taskforce, a group of nursing educators with expertise in various fields, is formed.
- 1991: The Articulation Taskforce produces and releases a report, *Bridging the Gap: Articulation in Nursing Programs* for distribution to all California nursing education programs. The document contains a recommended model for curricula, degree requirements for ADN and BSN programs. These recommendations are largely ignored.
- 1994: The California Strategic Planning Committee for Nursing (CSPCN) is formed to research California's nursing supply and to produce recommendations to ensure adequate nurse staffing.
- 1996 – 1999: In response to CSPCN findings, the Education/Industry Interface (EII) is formed to investigate ways for the health care industry and educational programs to work together to meet California' nursing needs. The EII concludes that the lack of clearly defined roles for nurses of various levels of educational certification is extremely deleterious to educational mobility.
- October 1999: AB 655 is passed. This bill required the Chancellor of the California Community Colleges, the Chancellor of the California State University, the President of the University of California, and the President of the Associations of Independent Colleges and Universities to issue a report to the Governor and State Legislature recommending a plan and budget to increase the number of nursing students graduating in California, and to provide specialty training to licensed nurses.

- December 1999: CSPCN releases its recommendations for articulation in nursing education in its report *Strategies for Educational Mobility in Nursing.* It is too soon to assess the impact of this report.
- September 2000: AB 655 report released. Key findings include: an increased need for RN specialty nursing, BSN and MSN nurses; a demographically imbalanced nursing workforce; a need for additional resources for nursing education programs and an increase in financial aid to nursing students; a need to increase clinical training opportunities for nurses; and a call for statewide nursing workforce planning.

  Source: Fox and Welch, 1999.

APPENDIX B: METHODOLOGY

Based on a comprehensive literature review, a pilot interview questionnaire was developed and tested. After revising this instrument, snowball sampling of potential respondents began, working from information obtained from professional literature, current media coverage of program innovations in workforce development and education in nursing, and related resources. The format of the telephone interviews was a semi-structured one that enabled the respondent to direct the interview towards her or his unique experiences while maintaining consistency through the use of the interview protocol. Interview transcripts were uploaded into the Atlas/ti qualitative data analysis software program (Muhr, 2000) and analyzed by multiple researchers. The Atlas/ti software program allows researchers to analyze on an equal basis, all types of qualitative data in a study, including audio and written interviews, transcribed and uploaded institutional documents and video clips and graphics. This program enables the researcher to control the construction of non-hierarchical relationship networks between data points in the study.

Respondents received in-kind compensation for their participation: respondents and other informants for this study received assistance in networking and research that enhanced their programmatic efforts. Triangulation (fact checking) of interview data was conducted by members of the research team using available resources and professional literature to verify information.

Demographic and workforce data for this study was provided by several key sources including: the California Department of Finance, Labor Market Information Division; the California Board of Registered Nursing; the California Community Colleges Chancellor's Office; the US Bureau of Labor Statistics; and US Bureau of the Census. The research team cited in the *Coffman et al., 2001* study provided both data and research assistance for this study.

Interview Protocol for Health Care Professionals and Educators

Alternative questions (with an asterisk) are adaptations for educators and others working in nursing-related academic settings.

Q1. In your experience, have you seen or heard about a lack of racial and ethnic diversity in nursing careers? Can you talk briefly about the most significant issues you have seen or heard?

Q2. Could you talk briefly about the barriers you have seen in the settings where you work (or teach) that hinder (Asian, Black, Latina) young adults from entering nursing careers?

Q3. Do you get the sense that (Asian, Black, Latina) allied health care workers with whom you are familiar are interested in pursuing nursing? What do you believe to be the reasons for this (for or against)?

Q3.* In your experience with (Asian, Black, Latina) students, what do you sense are the most common reasons that they pursue health careers? What about nursing over other types of health careers?

Q4. For the allied health care workers whom you work with, what are the institutional barriers they face in pursing nursing or other advanced training?

Q4.* For the allied health care workers from ethnically-diverse backgrounds whom you have encountered in an academic setting, what are the institutional barriers they face in pursuing nursing or other advanced training?

Q5. Are incentive programs offered in your area for current allied health care workers to pursue advanced training in health professions or nursing?

Q5.* Do you know about programs providing financial incentives or support for adult students pursuing nursing?

Q6. Are any organizations and/or partnerships in your community trying to address racial and ethnic diversity in the health care workforce, or to market careers in health care to people in the community?

Q7. If you were to design an ideal program that would enable current allied health care workers to participate in advanced training and education, what key elements would you include?

Q8. Finally, are there other individuals or organizations you would recommend we talk with about our current project? Why do you recommend this individual or organization?

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