The daily headlines reflect a steady supply of issues of interest to UNLV’s School of Public Health.

The feared flu pandemic, lead levels in children, disparities in the provision of health care to underserved populations, and the leukemia cluster in Fallon, Nev., are just a few of the urgent public health concerns facing the community and state.

All of them present distinct research challenges to Dr. Mary Guinan, the founding dean of UNLV’s School of Public Health, and her 15-member faculty.

Perhaps the biggest challenge of all, however, is deciding which to address first, Guinan says.

“The state can benefit dramatically from the research and education offered through UNLV’s School of Public Health, and there’s much to be accomplished,” Guinan says, a former chief scientific officer for the Centers for Disease Control and Prevention. “The state can benefit dramatically from the research and education offered through UNLV’s School of Public Health, and there’s much to be accomplished.”

Established in 2004, UNLV’s School of Public Health has enrolled more than 230 students, 130 of them graduate students, in its first two years and has garnered more than $7.1 million in external funding. Like its counterparts across the country, the school seeks to achieve multiple goals – educating the next generation of public health professionals, partnering with government agencies and community groups to examine and help address pressing health concerns, and working to inform officials involved in public health decision- and policy-making.

Research, Guinan notes, plays an integral role in virtually all aspects of the school’s activities, which are guided by a commitment to community engagement.

“Public health emphasizes disease and injury prevention and health promotion in communities rather than individual health care,” Guinan says. “So the research agenda for the UNLV School of Public Health will always involve a wide spectrum of health issues. But the one consistent element will be a focus on community. We will always address concerns of the community and state, as well as partner with them on important public health issues.”

Guinan, who formerly served as executive director of the Nevada Public Health Foundation and the Nevada State Health Officer, notes that it is conventional, necessary, and appropriate for schools of public health to partner with various governmental agencies and citizen and advocacy groups because of the nature of public health issues. Vast amounts of data are collected by public health agencies, and faculty researchers can aid in the analysis of that data. Community groups can be extremely valuable in outreach efforts, and both agencies and community groups can open many doors for researchers.

She notes as an example one research project in UNLV’s Environmental and Occupational Health Laboratory.
School of Public Health that involves the study of elevated lead levels in a number of products and environments. UNLV researchers recently began assisting officials from the Southern Nevada Health District as they examine the homes of children diagnosed with lead exposure in order to identify and remove dangers posed from lead-based paint and other products.

“This is a very exciting partnership,” Guinan says. “It’s the first time that lead testing has been conducted on a systematic basis in homes in this community. It will have a profound effect on prevention of lead poisoning in children.”

Community partnerships will play an integral role in all of the school’s five primary disciplines, which include environmental and occupational health, epidemiology, biostatistics, health promotion; and health care administration, Guinan notes, explaining the nature of each.

Environmental and occupational health emphasizes the role of air, water, the home environment, and the workplace as critical determinants of health. Researchers in this program examine, identify, and analyze what chemical, biological, or physical agents present health risks, and then work to propose ways to minimize or eliminate those risks. The previously discussed study of lead exposure serves as an example of the kind of research conducted in this field.

In epidemiology and biostatistics, researchers investigate human disease trends and patterns through extensive analysis of data provided from a variety of information sources, including birth and death statistics, disease registries, and other public health records. To identify the patterns or concentrations of disease in a given location—such as the aforementioned high incidence of childhood leukemia in the town of Fallon, Nev.—analysis from this field of study is required.

Health promotion, as its name implies, seeks to promote healthy lifestyles and disease prevention using a combination of strategies, including health education, risk factor detection, behavioral change, and health maintenance and enhancement. One example of a health promotion project under way at UNLV involves the North Las Vegas Fire Department. Faculty members in UNLV’s health promotion department have established a partnership with the organization to help firefighters adopt healthy exercise regimens with the goal of preventing heart disease.

Finally, health care administration is the study of health care delivery systems and examines the quality, nature, and extent of the relationship between the health care profession and the community. An example of the type of project undertaken in this discipline is a planned study of the cost of—and access to—health care in Nevada. The department will soon hire a new health economics faculty member who will work to help improve access to quality health care for all Nevadans, including the unusually high number of those without health insurance in the state.

Additional research being conducted by the School of Public Health faculty has attracted substantial grant funding, according to Guinan. Some examples of these projects include the following:

• Dr. Shawn Gerstenberger, the chair of the environmental and occupational health department, is leading a team that analyzes lead levels in Mexican candy sold in local stores. Gerstenberger and his graduate student researchers have tested more than 4,000 pieces of candy and their wrappers using a sophisticated portable lead analyzer. Of approxi-
mately 100 brands tested, 25 have consistently tested posi-
tive for lead. Gerstenberger, who has received more than $1.5 million in grants to conduct his research, is working with health district officials to have the lead-laden candy removed from retailers’ shelves. He is also involved in the previously mentioned effort to visit and inspect the homes of children diagnosed with lead exposure.

• Dr. Chad Cross, the director for the epidemiology and biostatistics program, is leading an effort to cre-
te the Nevada Center for Environmental and Health Surveillance (NCEHS) with a $1 million federal grant. The center will function as Nevada’s principal environmental health surveillance organization. The NCEHS will compile statistical information to guide data-generated activities to meet Nevada’s need for accurate statistics relative to a broad range of health and public health-related services, financing, planning, management, and policy issues. Researchers at the center will collaborate in the development, exchange, and utilization of information to address six subjects areas: toxic substances; injury prevention and control; occupational and envi-
ronmental health; biostatistics; epidemiology; and health services research.

• Dr. Michelle Chino, an associate professor of public health, and Guinan received a $1.2 million grant in 2004 from the National Institutes of Health to establish an academic center for the study of health disparities. The three-year grant has helped the UNLV School of Public Health improve its research capacity and provide outreach and education to Nevada’s minorities and other medically underserved populations. The school’s Center for Health Disparities, directed by Chino, has resulted from the grant. Dr. Linda Stetzenbach, a public health professor, is the principal investigator on three research projects involving the study of indoor air quality in education and office buildings. The projects are being funded with more than $3 million in grants from the National Center for Energy Management and Building Technologies. She and her team have also received a UNLV Planning Initiative Award for the study of the prevalence of an antibiotic-resistant bacterium in pediatric patients in the Las Vegas valley.

• Dr. Melva Thompson-Robinson, a health promotion profes-
sor, has received a $1 million grant over three years from the University of South Carolina (through the Centers for Disease Control and Prevention and the Association of Schools of Public Health) to form the Institute for HIV Prevention Leadership. The institute was established to enhance the ca-
pacity of community-based organizations to provide effec-
tive HIV prevention programs to their targeted populations. It seeks to assure the viability of minority community-based organizations, as well as other organizations that serve popu-
lations with and at-risk for HIV/AIDS. Thompson-Robinson will analyze how HIV prevention information is used and disseminated within these organizations. The goal of her research is to enhance individual and organizational capac-
ity to function effectively and efficiently.

These are just a few of the community-oriented research projects under way in the school, according to Guinan, who is always attuned to new public health issues that the school might address. For example, she notes, she is beginning to examine ways the university could help the community if a flu pandemic were to occur. She is also considering plans for community interventions that could help prevent obesity-re-
lated diabetes.

“There are so many opportunities for UNLV’s School of Public Health to help the community,” she says. “We have a committed group of faculty and students with excellent academic and analytical skills who are dedicated to improv-
ing public health. We are very enthusiastic about our abil-
ity to produce the kind of research that can inform policy-
making and begin to make a difference in the lives of our state’s population. That is what schools of public health are designed to do.”

Degree Programs in the School of Public Health

UNLV’s School of Public Health currently offers a master’s degree in public health and a master of education degree in health promotion. A master’s degree in health care administration is expected to be offered soon, and planning is under way for three doctorates in public health. Both health promotion and health care administration offer undergraduate degrees. For more information about the School of Public Health’s degree programs, visit http://publichealth.unlv.edu.

“We are very enthusiastic about our ability to produce the kind of research that can inform policy-making and begin to make a difference in the lives of our state’s population.” — Mary Guinan, dean of the UNLV School of Public Health

Center for Health Disparities Research Director Michelle Chino, left, examines data with student research assistant Rubi Miller.