

Framingham Concept Paper

RESILIENCE THROUGH HEALTHY AGING: FROM FRAMINGHAM TO
PHOENIX

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EXECUTIVE SUMMARY

This is a request for first phase “seed” funding to develop a Phoenix area Resilience Project. We are confident that investment in this project will yield substantial returns in the form of federal grant support, and substantial immediate and long term benefits to the community. In addition, this project has the potential to make significant contributions to knowledge about health and wellness and healthy behavior by close interdisciplinary examination and intervention with a sample panel of participants over a long period.

Resilience is at the heart individual and community health, and the two are intimately connected. What makes some people and communities more resilient than others? Can greater resilience be developed, nurtured, implanted? These are the kinds of questions that guide our work, answers to them will unlock unused but existing health capacity. Consequences for personal quality of life, ability to retain health and independence among the tidal wave of baby boomers about to retire, and viability of public budgets are enormous.

If resilience is the iron spike unifying this project, “Framingham” provides the model and the method. Following the approach of this famous and invaluable contribution to science and public health, we propose to recruit a sample of Phoenix area residents to learn about cause and effect of resilience and how people might develop greater resilience for better health, particularly as they age. Simultaneously we will examine community resilience and community sources of personal resilience, and their interactive effects.

More than research, this project will offer interventions to promote resilience within the sample and among people in the community to understand most effective resilience strategies. In the near term, our efforts will focus on the careful creation of a project team with needed blend of interdisciplinary insights combined with general commitment to the resilience theme, crafting of large and long term proposals to sustain the project, and development of diverse and robust sample of people and communities. All of this will proceed with building of genuine community partnerships and collaboration around the project. Immediate benefits from our first phase would include community “Resilience Dialogues” designed to develop community leadership and support and facilitate exchange between people in the community and university team members with intervention ideas, technologies, and strategies. A Community Forum at the end of our

first phase is also proposed to place the resilience project firmly at the center of the Phoenix public health agenda.

Overtime, our project will become a well from which many will drink. We are confident that this initial investment would leverage ten to twenty times this amount resulting in multiple direct public health and quality of life benefits for individual and community participants as well as indirect and immensely important benefits associated with better understanding and promotion of resilience.

PROPOSAL

The Heart of the Matter

Alexis Tocqueville was the first to note that Americans are a nervous people. Nowhere is this more evident than in the rapidly changing communities of the Southwestern United States, and no metropolitan area better represents emergent restlessness of urban peoples of 21st century America than Phoenix, Arizona. This is a metropolis on the run: Quick to develop, anxious to grow, eager to build. It has been in an expansive mood for 30 years.

Not all forward moves are forward-looking, however. When rushed, our community leaders can look more desperate and eager to please than thoughtful about growth. In everyday life, we may find that many people react rather than act, with defensive reflex rather than rational choice. The nervous push takes its toll on the health and wellbeing of whole communities. A good example is our penchant for fast food. The 99-cent burger on virtually every major intersection in Phoenix attests to the popularity of one-minute solutions to a fundamental human need for nourishment. The 33% rate of obesity and consequences of a tripled risk for diabetes, threats of cardiovascular disease, and soaring rates of impaired functioning from osteoarthritis are testimony to the health consequences of the quick fix for human appetites. In one study, just the simple instruction to be more patient with consumption, to pay attention to the taste of the food, and be mindful of one's satiety, produces significant improvements in people's health. Many problems come down to this: The failure to look into the heart of things before acting to fill a need. Individually and collectively, we seem to live for the moment, and to base decisions on "wishful thinking," more than rational choice. From fast food to public budget decisions, we seem compelled to avoid consideration of long-term consequences, to aim for the quick fix. Our understanding of people's health cannot be hurried either. We need to study our people's problems conscientiously, and guide people to see themselves as worthy enough to be thoughtful about their present health and self-reliant enough to take charge of their future health.

Lessons in thoughtfulness might be enough if our world stood still. But change, not stability, is more the norm, and for some members of our communities, change is highly stressful, and their environments less sustaining for health during times of upheaval. There are certain inevitabilities in all our lives. We will all face highly stressful situations, we will all experience profound loss, and we will all see our family members become ill. Instead of running from these darker times, or pretending they will not affect us, we need to foster awareness of these naturally occurring difficulties in the lives of all within our communities. The real test of a thriving community of people is how its

members are able to continue on a forward path, and persevere in the face of these inevitabilities, not how capable they are of avoiding challenges altogether. We cannot outmaneuver illness, aging, and death. What we can do is observe and learn how to adapt best following calamities that affect the mind and the body. We need to know how to bounce back, reestablish our balance after losing our footing, and rise again from the ashes after our fall. This symbol of the Phoenix can serve us well. In the science of human health it is the study of the capacity of the mind and body to regain homeostasis following stress. In the language of everyday life, resilience is at the heart of it all. And community is at the heart of capacity. Resilience is intimately connected to social context, to the values and behaviors of larger communities and groups. Tocqueville also described with a mixture of admiration and anxiety, American “habits of the heart”—his expression for the mix of traits of the American people. He warned of potential conflict between the American ability to build strong communities through the interlacing of voluntary associations of citizens and the potentially isolating features of American individualism. In the decades following Tocqueville, major books (e.g. Bellah et al., 1985, Putnam, 2000) have documented the conflict between fierce American individualism and urgent needs for community and commitment and the serious decline in social capital and community values needed to reinforce resilience. Individual capacity is to some degree dependent on community capacity, which raises the question: Can significant gains in resilience be made without building healthier communities?

The focus of health care has also been on the quick fix, the symptom-cure, rather than on the building of resourcefulness with the person, family, work and community. To advance our community’s health, we need to embrace a new model of health, one that focuses less on the presence or absence of disease and more on the preservation of health and quality of life. Health cannot be defined as the absence of pathology but as a way of life that promotes a sustained capacity for well-being even as people age. Health may best be seen as a resourceful integration of mind with body within a responsive community. For this health, there must be internal fortifications to defend against the inevitable stresses of life, and social resources that can nurture healing among those struck down by forces beyond their own restorative capacities. What we can do is prolong this form of good health, and reduce the severity of illness through building and sustaining resilient communities.

Two recent St. Luke’s Health Initiatives publications point the way to new understandings and action in public health. In *The Coming of Age*, John Hall and his team present the challenges that confront the urban communities within Arizona. They show that the shift to high proportions of elders within our communities in the coming decades is undeniable. Baby-boomers are just now beginning to find themselves with chronic illnesses or with heightened vulnerability to those illnesses. Biotechnology and medical advances hold much promise for the future. But reliance solely on biomedical approaches to treat those who become ill will not solve this dilemma. Furthermore, the changing demography is not proportional across ethnic and cultural lines. One statistic stands out in this report, in particular. In 50 years, the authors project that Hispanic elders will increase in population by 593%. In contrast, the increase is 82% for European Americans. But even as the authors present these sobering figures, they retain optimism for our collective

futures, provided we find a better approach to health care. They note “disease and disability are not the inevitable consequences of getting older.” New technologies, applied in partnership with community, coupled with an awareness and commitment to promoting a healthy lifestyle for all our residents, can enable us to meet the challenges as we age.

In a second Arizona Health Futures report, *Building a Public Health Movement in Arizona*, the authors identify two fundamental requirements for us to transform the future of public health in our communities: Leadership and partnership. To develop health care practices that extend beyond the physician’s office and put in place preventative programs that strengthen resistance to disease and promote resilient lifestyles, we need people with ideas to lead and collaborative partnerships among our institutions. As the authors state we need to foster a culture within which public health can flourish.

What Arizona’s Universities can do.

The University, through the strength of its faculty and readiness to work with community partners, is poised to take a leadership role as “**citizen-scientists**” in the development of this vision. We need a bold approach, one that extends beyond the standard public health model and embraces knowledge-based interventions informed by the best of social-behavioral science, biotechnology and medicine (see McKinlay & Marceau, 2000). Multi-level models are needed to track the trajectory of health and illness with our communities, refined by scientists and practitioners working within interdisciplinary teams. We propose to develop a new, interactive type of “**urban observatory**” to test and refine our models of prevention of disease and disablement and the promotion of health through longitudinal study of the course of healthy aging in our communities. We also need to do more than observe. We propose to develop community-based “**community resilience centers**” that will offer and test interventions that inform the public of methods for sustaining health and fostering resilience within themselves, their families and their communities. Our plan is an ambitious one, never before attempted on the scale that we propose. It is a vision commensurate in scope with the challenges that confront our communities in the coming decades.

Framingham: A Framework for Observation and Participation

There are several examples of successful university-community partnerships to study public health. The best known and arguably the most fruitful of these University-community engagements has been the Framingham study. This investigation began in 1948 in Framingham Massachusetts as a study of the onset of heart disease with the recruitment of 5,209 healthy men and women between the ages of 30 and 60 years. The United States Public Health Service and the National Heart Institute (now NHLBI) worked with Boston University to build and sustain this study for over 50 years, following these residents with biannual assessments, and adding their children along with other cohorts over time. The accomplishments of Framingham have been remarkable. Among them were discoveries of the increase in heart disease due to cigarette smoking, the identification of cholesterol and blood pressure as risk factors, the benefits of exercise

and weight management in reducing vulnerability to disease and the association of psychosocial factors to heart disease onset and progression. These relationships are well known today. But, only through careful methods of epidemiological inquiry with a large, randomly selected cohort, was the Framingham group able to verify their results and recommend public health initiatives designed to reduce the incidence of heart disease.

Framingham is a valuable model to follow, but not to copy. We would follow their lead in the grand design of their epidemiological work. Their assessment of both biological and behavioral data is an essential multidisciplinary focus to retain in future studies, as is the use of repeated measurement for an extended period in order to chart the course of health and illness systematically. Modern methods of inquiry would include many features not available at the time that Framingham studies were launched. Genetic testing, psychological, hormonal and immune profiles of people at rest and during stress challenges, and the study of physical environment and culture have all emerged from the 20th century with valid instruments with which to examine the health and illnesses of peoples over the life course. We propose multilevel assessments that examine factors at the level of molecules, behavior, culture and community to obtain data needed to inform interventions that target health and illness risk factors and resistance resources that appear at different levels of analysis of the problem. Further, we plan to simultaneously assess individuals across the lifespan in a “cross-sequential” longitudinal design. This design has the advantage of almost immediately yielding results on all ages and stages of functional health and disease. These initial results can then inform community-based interventions. Adding the longitudinal component then permits us to test causal models and examine the relative contribution of various risk factors and resilience resources in the preservation of health and well-being as people age.

We would draw several key distinctions between what we are advocating and the original Framingham study:

1. Framingham was known for identifying individual vulnerabilities to disease. Indeed, some scholars attribute the coinage of the phrase “risk factor” to the Framingham investigators. A modern study would focus not only on factors that place people at risk, but also factors that are protective, and that promote resiliency. Attention to the positive is needed if we are to build a model of health instead of one focused solely on illness. Modern research has opened up this revolutionary “dual approach to health and illness. One of our group, Professor Alex Zautra, summarizes this new perspective in a book just released by Oxford University Press entitled, *Emotion, Stress and Health*.
2. The original Framingham cohort was European American, almost exclusively. In Phoenix, we have communities with many diverse cultures, and ethnicities. One in three Arizonans are members of a racial/ethnic minority group, with Hispanics making-up two thirds of this group. The patterns of health, illness, healthcare utilization and predetermined level of risk for disease is highly variable across these groups. Many racial/ethnic minority persons are uninsured leading to significant disparities in health care have been

documented across racial/ethnic groups, and the factors that perpetuate these inequalities need to be addressed if we are to take seriously the task of enhancing the health futures for all Arizonans. We have more to learn as well of the strengths of cultural traditions. From a research perspective, epidemiological paradoxes including the robust health profiles of low-income traditional Mexican American mothers and their infants despite their low-income status, and the lower rates of mental disorder among new immigrant populations, constitute research areas worthy of study to understand the mechanisms that contribute to these healthy outcomes despite their disadvantaged status. Within communities with diverse cultures, people have much to learn from one another about preserving health and sustaining quality of life.

3. Framingham focused on the prediction of a single set of diseases: those of the cardiovascular system. They now have expanded the range of their research to other illnesses. We think the focus of our efforts ought to be on a wide range of determinants of health through the many stages of life, not on single disease entities. Therefore, the focus of our efforts is on the preservation of functioning. Physical illness and mental disorders are among the outcomes we will monitor, with the ultimate goal being the prevention of disablement in all its forms, and the promotion of resilience.
4. Framingham did not introduce interventions to further the public health of the community under study. Though the studies were of great scientific value, and eventually helped many reduce risk of heart disease, it did not offer programs to the Framingham community itself. As citizen-scientists we ask ourselves what Robert Lynd would have asked at this juncture, “Knowledge for What?” A true partnership between the interdisciplinary team of scientists and its study population is one in which there is give and take. There is much that can be done now, without waiting for new discoveries. Indeed, the methods of introducing and testing the efficacy of behavioral interventions has been developed in years of careful work by NIH Prevention Centers around the country including one such center housed with the Department of Psychology at Arizona State University. We propose the development of “Community Resilience Centers.” These centers will be dedicated to the development and testing of interventions will target known risk and resilience factors responsible for onset and progression of the most prevalent disabling illnesses.
5. Framingham examined the psychophysiological risk factors among people of a single community. The Phoenix metropolitan area is not a single homogeneous cluster. The City of Phoenix alone has been divided into 14 distinct urban villages. We advocate the selection of at least two of these villages for our projects. Doing so allows development of models of health that take into account the cultural and physical environmental contexts within which people live and work, and permits the shaping of interventions that are

culturally responsive, and pass the test of relevance as defined by the communities themselves.

The First Steps

We plan to carry out our goals for this project in two initial phases. The steps and timelines for the completion of this work are detailed below.

Phase I: Project Development Phase: July, 2003 to December, 2004.

- Identification of candidate sites for community study and intervention
- Initiate resilience dialogues with community leaders of urban sites under consideration
- Visit “urban observatories” and “healthy community programs” that developed from university-community partnerships in other states
- Build interdisciplinary teams to construct assessment and intervention strategies
- Conduct needs assessment of candidate sites
- Select urban villages for healthy communities program
- Hold community forum to present program plan
- Establish a sampling framework for individual health and lifestyle assessments
- Develop detailed proposal for Phase II

Phase II: Initiation of a “Community Resilience” Program: December 2004 to June 2006.

- Evaluate state of individual health, risks of disease and disablement
- Assess individual capacity for adaptation and resiliency
- Evaluate state of community health and preventive resources
- Develop “Community Resilience Centers” perhaps as partnerships with existing community centers for the promotion of healthy communities within each urban village
- Develop NIH proposals for funding of longitudinal studies and intervention research

The benefits of a “Framingham” for Arizona

Throughout these phases our team of researchers will be developing proposals, culminating in the receipt of NIH-level funding to extend our projects for an additional five years. Our ultimate goal is to follow our study participants for a lifetime, evaluating existing hypotheses and developing new knowledge about the coming of age, offering participants programs that promise to advance their health futures, and establishing a lasting partnership between Arizona State University and their community.

By the end of Phase I we plan to create strong, multidisciplinary teams able to evaluate health at multiple levels of analysis (e.g., microbiological, biological, behavioral, mental) and develop community-based interventions.

In addition to success in obtaining extensive funding for the longitudinal portion of our studies, we will be able to point to a number of accomplishments by the end of Phase II. Among those accomplishments will be:

- Develop a baseline inventory of resilience among people and communities in the sample
- Complete an initial assessment of the health of individuals as it exists within the broader context of family, social relationships, culture, and community, leading to the development of innovative, testable models of health that consider social, physical, community and cultural environments.
- We will be able to answer one of the key questions first raised in *Coming of Age*: Are Arizona's "Baby boomers" in better health than previous generations, and are those gains distributed equally across socioeconomic and ethnic groups within the community?
- Identify culturally responsive and valid methods for enriching the health futures of individuals, families, and community groups.
- Report on disparities in health, access to preventive health resources, and health-related quality-of-life across racial, ethnic, and socioeconomic groups in Phoenix communities.
- Lay the groundwork for long-lasting, mutually beneficial, collaborative relationships between Arizona State University, local businesses, and the community.

Project Partnership

To launch this work, a partnership between St. Luke's Health Initiatives and Arizona State University has been forged. Each partner would provide a share of the financial resources required in phase 1. More importantly, the partners would interact from the beginning of the project forward over critical project issues and decisions such as selection of the community samples. Because of their important and on-going community efforts, St. Luke's will provide invaluable connections to community organizations, leaders, programs that are all part of community resilience fabric to be incorporated in resilience inventories and designs of the project. The ASU team will rely on this community knowledge in its development of proposals for federal funding, which are both methodologically sound and meaningful.

The Citizen-Scientist Team: Founding members

Professors Alex Zautra and John Hall are the leaders of the team, but all members bring unique expertise, past success in leading large-scale health research and community programs as well as considerable enthusiasm for the project. The different interests, experience and expertise complement one another, and each member will take a

leadership role in developing those specific aspects of the program where they have the most to contribute. In addition, we will also be identifying additional partners during Phase I to broaden the scope of our multidisciplinary efforts.

Alex J. Zautra is Professor of Psychology at Arizona State University. He has published over 80 scientific papers, and is the recent author of *Emotions, Stress and Health*, published by Oxford University Press, February 2003. He is currently the principal investigator on four multi-year national grants. His work focuses on the role of stress and resilience in the health and well-being of older adults. He has established expertise in methods of assessing psychosocial risks and the design of preventive interventions. He will oversee the development of projects focused on assessment and intervention with individuals and their families

John Stuart Hall is Professor of Public Affairs and Public Service. He has written numerous articles, books and reports about applied urban public policy issues. Hall has directed over 20 large scale, funded interdisciplinary public policy research projects. Most recently he served as project director and principal investigator of *The Coming of Age*, an interdisciplinary inquiry and analysis of multiple dimensions and impacts of aging and health in Arizona. He will oversee the examination of community-level factors and the development of community-level interventions.

Mary Davis is Associate Professor of Clinical Psychology. She examines how individual differences in physiological, emotional, and behavioral responses to stress are related to subsequent health and quality of life. She is currently Co-PI on three 5 year grants designed to explore the longitudinal relationship between stress responses and adaptation in chronic pain patients, and testing interventions designed to increase resiliency in the face of stress and pain. She will assist the team by visiting sites that have developed successful, ongoing community-university partnerships, and developing methods for assessing the physiological stress responses of community members.

Linda Luecken is Assistant Professor of Clinical Psychology. She has research and clinical expertise in the impact of stress on cardiovascular and hormonal function, and the long-term impact on physical and psychological health. Dr. Luecken has current funding from the American Heart Association and NIH/NIMH for ongoing studies on the long-term impact of family stressors on health. Her efforts for the team will include assisting with selection of candidate sites, conducting needs assessment of the sites, and developing the Community Resilience Centers.

Kathryn S. Lemery is Assistant Professor of Developmental Psychology, specializing in early risk and resiliency factors for later psychological and physical health. Currently she is funded by the National Institute of Mental Health to study genetic and environmental precursors to childhood mood and behavioral disorders. She will assist the team in the development of an assessment methodology to examine genetic and social environment factors contributing to risk of disease and functional impairment within the family.

Felipe Gonzalez Castro is Professor of Clinical Psychology. His work focuses on the design and evaluation of health promotion and disease prevention interventions that promote healthy lifestyles in a culturally proficient manner for Hispanics and other minority populations, and persons at high risk for major chronic diseases such as cardiovascular disease, cancer, diabetes, and substance abuse. He will help the team develop culturally relevant community and individual interventions.

John W. Reich is Professor of Social Psychology with expertise in the relationship between physical, social and emotional well-being. Dr. Reich has a record of substantial accomplishment in funded research, and is currently a co-investigator on three federal grants investigating the role of social stress in adaptation to chronic illness among older adults. He will assist this team by coordinating the submission of interdisciplinary grant proposals.

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