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Project Report

Minnesota Health Workforce Redesign

Policy Incubator for Innovation in Health Workforce Education, Deployment, and Services Delivery

Status Report: January 2001 to June 2002

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The National Institute of Health Policy's (NIHP) links the worlds of health services research, practice, and policy to create positive change in the health care system. The NIHP seeks to transform the health care system by first identifying failures in our current system. The NIHP then involves stakeholders in generating ideas and finding common-ground solutions that are positive for the whole system and not any particular stakeholder. With this approach, the NIHP works to redefine the health system to achieve optimal quality, access, and cost.

One result of systemic failures in the current health care system is significant workforce challenges. In January 2001 the NIHP began a project in pursuit of health workforce innovation to create an optimal Minnesota health care workforce by the year 2013—the year that baby boomers first reach retirement age. The Minnesota Health Workforce Redesign Project addresses health workforce redesign using one state, Minnesota, as a policy incubator for workforce innovation. Health system “transformation” depends heavily upon health workforce redesign because the character of the health workforce substantially determines the nature of the health system. And health system “transformation” requires not just increased workforce supply, but real systemic changes in the health workforce character.

Although the Minnesota Health Workforce Redesign Project plan currently spans six years, it ultimately intends to serve not only as a circumscribed project, but also as a basis for permanent, continual health workforce redesign as a key element in health system transformation. This ultimate goal—a permanently established enterprise that engages in continual health workforce redesign—is the essence of this effort as an element of the overall NIHP mission.

The first three phases of this eight-phase project encompassed eighteen months (January 2001 to June 2002) of statewide collaboration. This report details progress through the first three phases of this project as it now prepares to move into phase four, Demonstration and Evaluation of Priority Workforce Innovations, in the summer and fall of 2002.



NIHP Project Report

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Executive Summary

The health workforce crisis is national and international in scope. This project addresses systemic health workforce problems through a “Minnesota Health Workforce Redesign” as an incubator for national health workforce innovation. The first three phases of this eight-phase project encompassed eighteen months (January 2001 to June 2002) of statewide collaboration, including two stakeholders’ dialogues, over 100 one-on-one stakeholder consultations, and design pilots of the top three proposed workforce innovations that resulted from stakeholder input. In the summer and fall of 2002, the project will enter Phase 4, “Demonstration and Evaluation of Priority Workforce Innovations.”

Phases 1 to 3: January 2001 to June 2002

Phase 1. Identifying Potential Workforce Innovations

After preliminary discussions with multiple stakeholders in early 2001, NIHP convened a “Health Workforce Stakeholders Dialogue” in April 2001, involving over 60 senior leaders of the Minnesota health sector. The dialogue sought innovative approaches to redesign in education, deployment, and effectiveness of the health workforce for implementation during the coming decade. Project staff further developed the ideas for workforce redesign that resulted from this dialogue in over 100 subsequent one-on-one consultations with Minnesota health leaders.

Phase 2. Prioritizing Potential Workforce Innovations

In September 2001 NIHP convened a second stakeholders’ dialogue with participation from over 70 Minnesota health leaders. The stakeholders critiqued, revised, and expanded the proposed innovative approaches to workforce redesign and then prioritized the ideas using a quantitative rating process. This collaborative effort produced a clear sense of priorities among the possible innovations.

Phase 3. Design Pilots by Breakthrough Teams

Between January and June 2002 the Breakthrough Teams engaged in three design pilots of proposed workforce innovations selected from the 15 priority innovations developed in Phase 2. The Breakthrough Teams comprised of Minnesota health care providers, academics, government, and consumer advocates, developed the design pilots for further development in Phase 4, “Demonstration and Evaluation of Priority Workforce Innovations.” The three priority innovations addressed in the design pilots are:

- Home-Based, Long-Term Care: Mobilization and Training of Community and Family Resources
- Standardized Pre-Professional Core Curricula and Health Career Guidance
- Educating Health Professionals for Integrated Interdisciplinary Primary Care

Additionally, project staff concluded that two key infrastructure issues must be addressed in order to support significant workforce innovations:

- Workforce database redesign
- Certification, licensure, and scope of practice regulations

Phases 4 to 8: Next Steps—2002 to 2006

The work of the initial three breakthrough teams provides the basis for proceeding to Phase 4, “Demonstration and Evaluation of Priority Workforce Innovations” and thereafter to the remaining four phases during the next three to five years.

As the project evolves, several phases will overlap substantially; additional “Design Pilots” will develop as earlier design pilots undergo demonstration and evaluation. “Infrastructure Redesign” will occur while all other phases continue. Implementation of workforce innovations, demonstrated successfully in the “Demonstration and Evaluation” phase, will proceed while other potential innovations develop in pilot designs by Breakthrough Teams. Dissemination of results to other states will occur continuously. Ultimately, success will be measured by the extent to which this project’s approach to health workforce innovation and redesign becomes a permanent, ongoing element in the character of the Minnesota health enterprise.

Following are the five phases planned for continuation of Minnesota Health Workforce Redesign.

- Phase 4. Demonstration and Evaluation of Priority Workforce Innovations
- Phase 5. Workforce Infrastructure Redesign—Databases and Licensure/Scope of Practice
- Phase 6. Implementation of Effective Workforce Innovations
- Phase 7. Dissemination of Results to Other States and Regions
- Phase 8. Workforce Redesign Collaborative—Established as Permanent Effort of Minnesota Health Enterprise

Project Overview

Introduction

This project addresses health workforce redesign using one state, Minnesota, as a policy incubator for workforce innovation. The NIHP has based this “Minnesota State Health Workforce Redesign Project” on eighteen months of statewide collaboration with health and education sector stakeholder organizations. This collaboration includes two stakeholders’ dialogues, over 100 one-on-one consultations, and design pilots of the top three proposed workforce innovations that resulted from stakeholder input.

Minnesota’s Health Workforce

The health workforce crisis is national and international in scope.

In Minnesota several events and critical decisions during the past two years have amplified the workforce crisis and offer timely opportunities for health workforce redesign. Those critical questions address central workforce and health system issues in labor relations, organizational structure, finance, educational programs, and political forces. Prominent among these events and decisions, with continuing impact in future years, are:

- A several week strike involving 1,350 nurses and two major Twin Cities metropolitan hospitals as well as near strikes in 11 other hospitals involving 8,000 additional nurses.
- Cost inflation rate at twice the national average in 2000 to 2001, a reversal from the early 1990’s when Minnesota costs and inflation trends were lower than the national average.
- Shortfall in state funding for the two principal health workforce educational systems: the University of Minnesota and the Minnesota State Colleges and Universities.
- A strike involving half of all state government employees, precipitated partly because of fears that the increased cost of their health benefits could endanger their families’ access to care.

- An audit by the Minnesota Attorney General, which drew public attention that questioned the operational effectiveness of integrated health systems in Minnesota. Specifically, the audit contributed to a major restructuring of Allina, one of four dominant integrated health systems in Minnesota, with 17 hospitals, 47 clinics, \$2.9 billion in annual revenues, and 22,000 employees.

While similar forces are at work in many other states, the challenges of these major decisions and events in Minnesota have precipitated interest in substantive changes in the health system with particular emphasis on system redesign for the future workforce.

We have focused this project at the state level for several reasons.

- State governments provide most workforce databases.
- State revenues fund most educational programs producing the health workforce.
- State regulations control most health professions licensure and scope of practice.
- States serve as the principal health care safety net.

Minnesota is particularly well poised as a national incubator for health system and workforce innovation both because of current forces at work in the state and its past history of reform. Many Minnesota institutions have already invested heavily on workforce analyses and development efforts to address near-term supply and demand issues, including:

- The University of Minnesota Academic Health Center, Minnesota State Colleges and Universities (MnSCU), and private academic institutions.
- The Healthcare Education Industry Partnership (HEIP).
- State government agencies (Departments of Health, Human Services, Economic Security).
- Several Minnesota health organizations, including the Medical Association, Nurses Association, Hospital and Healthcare Partnership, Public Health Association, Center for Rural Health, and Colleagues in Caring.
- Large health care delivery systems and other health-related organizations.

Additionally Minnesota produces health workforce and services for several contiguous state markets.

- Northeastern Minnesota, northern Wisconsin and Michigan Upper Peninsula served by the Duluth center.
- Southeastern Minnesota and southwestern Wisconsin served by the Rochester, Winona, LaCrosse corridor.
- Southwestern Minnesota, northern Iowa, South Dakota and served by the Sioux Falls center.
- Northwestern Minnesota and North Dakota served by the Fargo-Moorhead center.
- Structured interview surveys of stakeholders broadly representing principal public and private institutions and organizations relevant to the health system.
- Several breakthrough teams of 6 to 10 members each charged with developing short (6 months) design pilots of innovations from several sources, including recommendations emerging from the dialogues, consultation with numerous health industry opinion leaders, structured interview surveys, databases, and other input.

Project Objectives

Principle health workforce redesign efforts are:

- Develop workforce innovations for redesign in education, deployment, and effectiveness of the health workforce through key input from all health sector stakeholder organizations using facilitated dialogues, structured surveys, and other information from health systems stakeholders.
- Use multiple specialized breakthrough teams to create health workforce innovation design pilots for demonstration, evaluation, and implementation of workforce innovations.
- Analyze, modify, and integrate existing health workforce databases in the public and private sector in order to enhance information for continual redesign of the future health workforce.
- Comprehensively analyze and modify current accreditation, licensure, and scope of practice provisions to facilitate workforce innovations, with emphasis on those provisions that significantly impact the effectiveness and efficiency of the health workforce.
- Apply methods and results of the Health Workforce Redesign Project in several other states and regions by establishing collaborative relationships with other states' health sectors.
- Demonstration, evaluation, and implementation of workforce innovations deemed feasible through creation of design pilots and broad stakeholder consultation.
- Infrastructure redesign (databases and licensure) through engagement of all key health sector stakeholders in collaboration with state workforce database repositories and regulatory/legislative authorities for redesign of databases and health workforce regulatory provisions.
- Consulting team for health workforce redesign in other states.
- Analysis and refinement of benchmark educational program performance measures through consultation with public and private colleges and universities, related academic institutions, state government, health service delivery organizations, private industry.
- Consultation and dissemination of results to higher education governing bodies, state government agencies, legislative leadership, and key organizations representing the health system.
- Work groups on specific policy interventions to recommend and implement government and private sector policy changes indicated by project results.

Project Components

Key elements of the Minnesota Health Workforce design include.

- Advocacy and support from a Workforce Advisory Group comprised of public and private opinion leaders from health care, education, and other sectors
- A series of facilitated health workforce stakeholders dialogues representing the health care industry, purchasers, providers, academic institutions, health professions associations, and related organizations.

Expected Outcomes

Ultimate health workforce redesign outcomes:

- Workforce innovations that substantively reengineer the education, deployment, and effectiveness of the health workforce.
- An institutionalized process of continual workforce analyses and redesign through collaboration of health services purchasers, health services providers, academic institutions, state government, health professions associations, and related organizations.
- Redesigned state health workforce databases responsive to the data needs of higher education, health care delivery systems, and state government.
- Revamped accreditation, licensure, and scope of practice provisions that facilitate optimal education, deployment, and effectiveness of the health workforce
- Consensus recommendations on benchmark educational program performance measures for health workforce programs.
- Dissemination of results, including methods for health workforce redesign predominantly through stakeholders' influence, to other states and regions.

Project Staff

The project staff includes experts from all parts of the Minnesota health sector. Additionally, the project has received valuable advice and support from a Workforce Advisory Group as well as endorsements from virtually all major health sector organizations, academic institutions, and Minnesota government health leaders.

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Endorsements

Allina
Avera
Buyers Health Care Action Group
Blue Cross/Blue Shield
Citizens League
Fairview Health Services
General Mills
HealthPartners
Healthcare Education Industry Partnership
Minnesota Chamber of Commerce
Minnesota Department of Health
Minnesota Legislative Leadership
Minnesota State Colleges and Universities
3M
Park Nicollet
United Health Care
University of Minnesota Academic Health Center

The NIHP

The National Institute of Health Policy, a collaborative institute of the University of Minnesota and the University of St. Thomas, began the developmental phase of this project in January 2001.

The NIHP effort focuses on reengineering for long-term impact built on the current multiple near-term works in progress in Minnesota.

The central mission of NIHP is essential to this effort. The NIHP seeks to stimulate health policy and health system change by serving as a neutral facilitator and convener of all key health sector institutions to foster collaboration and minimize barriers inherent in institutional self-interest. The two largest public and private universities in the midwest (University of Minnesota and University of St. Thomas) founded NIHP for this specific purpose. This project derives critically important benefits from this NIHP neutral facilitator role as evidenced by formal endorsements of the proposal, and commitments to participate, by virtually all major health-related institutions in the state.

The NIHP approach addresses this complex issue in Minnesota and also provides a model for similar efforts throughout the nation.

Project Funding

Project funding to date totals \$320,000 from multiple sources.

This project was initially funded by a \$75,000 grant from the University of Minnesota Academic Health Center plus \$25,000 in additional core funding from NIHP corporate sponsors and six month's salary support by Texas A&M University System for the project director.

The NIHP provided an additional \$60,000 in support for the principal project staff. Another \$160,000 for the three design pilots came from a consortium of the University of Minnesota Academic Health Center, the Minnesota Department of Health, Department of Economic Security, Department of Trade and Economic Development, and Minnesota State Colleges and Universities.

Progress to Date

Overview: January 2001 to June 2002

The following describes in detail the results of the first three phases in the eight phases of the Minnesota Health Workforce Redesign.

Phase 1: Identifying Potential

Workforce Innovations

Over 300 potential workforce innovations emerged from the April 3, 2001 stakeholders dialogue. After this dialogue, the project team further refined these ideas to thirty-five potential workforce innovations based upon over 100 subsequent consultations with numerous stakeholders and stakeholder organizations, analysis of current and recent workforce innovations, literature review, and other inputs.

On September 10, 2001, the NIHP convened more than 80 health care leaders to review the thirty-five potential workforce innovations resulting from the April 3, 2001 workforce dialogue and subsequent input. These stakeholders critiqued, revised, and expanded the proposed innovative approaches to workforce redesign and then prioritize the ideas using a quantitative rating process. The analysis was conducted from various vantage points, including education, care delivery, data management, and overall workplace environment. From the resulting products, participants further brainstormed approaches for pilot testing the top priority innovations.

The following pages describe innovations developed in the first ninth months of the redesign. The project team grouped these innovations into the following seven categories:

- New Health Care Delivery Models
- Certification, Scope of Practice
- New Worker Types
- Patient-Centered Services
- Workforce Information
- Workforce Education
- Enhanced Work Environment

New Health Care Delivery Models

Health Extension Service

Through a Health Extension Service concept, provide increased access to health care for underserved rural and urban populations, while also offering valuable and diverse health educational experiences for all types of health professions students. Accomplish this Health Extension Service by taking advantage of the University of Minnesota land grant tradition and the structure of its University Extension Service network throughout all 87 counties in Minnesota.

School-Based Comprehensive Primary Care

Test the feasibility of public schools (and work sites) as a major alternative to current principal delivery sites for comprehensive primary care provided to families.

Access to Care at Educational Sites (ACES)

Establish clinical sites at higher education institutions throughout the state to provide both clinical services for underserved populations and diversified clinical experiences for students in multiple health work force disciplines (allied health, dentistry, medicine, nursing, pharmacy, public health).

Telecommuting Clinicians

Physicians, nurse practitioners, nurses (“Web Nurses”), physician assistants, patient educators and others provide routine primary care and patient education through distance connection to patients (e-mail and web based).

Patients’ Automated Continuous Consultation Online (PACCO)

Automated systems provide 24-hour advice for patients online to aid individual judgments on the significance of perceived health problems and decisions to seek clinical services.

Categories of Interventions

Add categories of interventions that not only will be more proximal and collaborative, but also will decrease duplication and fragmentation. These might include community, public health, lifestyle, and emphasis on health versus illness.

New Role for State Agencies

Seek a different role for state agencies in addition to regulatory enforcement, perhaps by adapting the Health 2030 visioning. Determine the role of departments such as Health and Human Services in workforce development.

Housing Options for Seniors

Evaluate housing services for seniors. This might take the form of diverse “housing with service options,” perhaps from a central hub to overcome travel and time issues.

Patient Participation

Develop pilots to increase patient participation in care delivery through education and guidance. This would promote greater patient-centeredness and involvement. Design a group visit approach to management of patients with chronic diseases to provide health maintenance and support. Train patients with chronic diseases in self care.

Financial Incentives

Develop a program where communities or organizations select a provider and offer financial incentives for that provider and other health care workers. This could be matched by statewide organizations.

Care Teams

Create innovative teams of physicians, nurses, and pharmacists to design a delivery system for their own setting. These teams would need financial support, freedom from interference and protected time in which to work. Break down barriers between parts of the system involved with public health and those involved with medical care. Establish moving networks of specialists who travel around the state, decreasing the need for site-specific specialists. Develop models for interdisciplinary collaborative clinical practice settings.

Sites of Care

Increase the use of alternative sites of care delivery, including churches, schools, supermarkets, pharmacies, and shopping malls. Integrate and connect health care delivery systems to where people live and work. Expanding school-based comprehensive care (including oral care) for the entire community may have the added benefit of bringing families together. Offer life skills, such as diet, exercise, stress management, and group support through community-based centers supported by incentives (similar to Workforce Information Boards).

Use of Computers for Seniors

Devise new technology methods of solving problems for the elderly, including the use of “ubiquitous computing” to help with short-term memory loss.

Emergency Departments

Explore methods of incorporating pharmaceutical care into emergency departments to help with drug interactions and adverse drug reactions in emergency situations. Incorporate dental care to provide a safety net for persons with acute dental needs.

Government Regulations

Address government regulations and marketplace issues such as repealing the provider tax, changing marketplace reimbursement, and leveling the playing field with dominant third-party players.

Dental Care

Develop a system of focused dental disease management under the direction of physicians as part of the team management of care. Establish publicly funded safety-net dental clinics in greater Minnesota, where the need is greatest.

Certification, Scope of Practice

Comprehensive Home Care Support Services

Waive certification regulations so that a single health worker, “Home Support Caregiver,” may provide integrated, basic support services for chronically debilitated patients. Diminish service fragmentation by using the “Home Support Caregiver” and replacing the multiple, separately licensed/certified professionals from several different agencies or delivery organizations that provide separate support services.

Family Training for Voluntary Support Home Care

Provide targeted, in-home training programs for family members and waive certification regulations such that family members may provide integrated, basic support services for chronically ill family members and those with developmental disabilities. Provide financial reimbursement for family members or community volunteers who provide care for which others, such as home health workers, might receive pay.

Waivers

Test effects of waiving accreditation, certification, and/or scope-of-practice regulations for specific types of acute health care provider disciplines in controlled and closely monitored and evaluated conditions.

Conditions might include a single clinical organization, a specified population of patients, a well-defined community, or other defined test focus, with quality assured through continuous and comprehensive evaluation of outcomes.

Licensure

Accommodate the licensure of foreign-trained health care professionals to meet requirements in the United States. Also, link interpersonal communication skills to licensure. Define certification and scope of practice by outcome and quality evaluations, not by legislative politics and processes. Also, revisit the issue of physician scope of practice.

New Worker Types

Individual Patient Care Navigators

Develop generally trained health advocates who guide patients through the health care system for all interactions, including scheduling procedures, negotiating finances, and interpreting clinical information. In some cases these would be liaisons between direct caregivers and regulatory compliance professional, to free caregivers from administrative paperwork.

Care Coordinators

Combine the role of patient care navigator with that of cost-risk-benefit coordinator to bring information, decision-making, and communication together. (Note: broader changes in technology and practice may make this idea moot.) Institute a role for individuals to assess the overall health care experience from the patient's perspective.

Community Care Teams

Create teams of multi-professional workers responsible for the care of a community tied to specific geographic service areas. Provide health care expertise to people who are knowledgeable about communities, such as social workers and community developers, in an effort to develop opportunities to integrate health care into the community.

Early Retirees

Recruit early retirees to emerging health care careers. These people tend to be service-oriented and more flexible. The redesign should not limit them to entry-level positions, but use their skills in appropriate areas, giving retirees a "second shot" at life.

Home-Based Biomedical Technicians

Create technicians provide technical support and service for home-based biomedical devices used in electronic diagnosis, monitoring, therapy, and other applications. Assure quality control, system equipment installation in the home, information tracking, training and equipment maintenance, as well as education of patients regarding appropriate system equipment operations and safety.

Dentists' Assistants

Create a new dental care provider type, "Dentist's Assistant," by developing expanded duties for dental assistants and dental hygienists to provide dental services under general supervision of dentists.

General Health Workers

Educate multipurpose health workers at the associate and baccalaureate level to serve in bridge roles across disciplines and in new roles emerging with health system change. Emphasize core knowledge in health system organization and function, population health, interpersonal skills, communications skills for patient education, collaborative team function, systems function, and general insights into applications of information systems. On-the-job training will mold these "generalists" into specific roles.

Voucher Counselors

Create "Voucher Counselors" to assist and advise patients in controlling (or substantially influencing) decisions on expenditure and utilization of services through use of personal health care purchasing vouchers.

Cost-Risk-Benefit Interpreters

Create "Cost-Risk-Benefit Interpreters" to assist and advise patients on access, interpretation, and decision-making based about information on risks, benefits and costs of diagnostic, therapeutic, and preventive interventions.

Clinical Outcomes Analysts

Create clinical outcomes analysts to provide timely, relevant and valid analyses of clinical outcomes resulting in continuous feedback to clinicians and others through development of the essential components for an electronic database using comprehensive, pooled data from multiple sources.

Health Behavior Bonus Brokers

Create "Health Behavior Bonus Brokers" to assist and advise patients on measurable changes in individual health-related behavior resulting in patient "bonuses" (cash or other) provided by health plans.

Clinical Genomics

Be alert to the need for specialists in clinical application of genomics to individual patients.

Health Information Systems Architects

Create systems architects to design information systems integrating new and old technology with simplified input of information from multiple users to obtain desired output.

Internet Information Specialists

Create monitor and provide quality control over the vast amount of Internet information available, including evaluation and recommendations on health care Web sites for patient access to screened, legitimate information with a formal “seal of approval” that reduces patient misinterpretation. Additionally, translate the language of providers into language understandable to consumers and provide as certified and legitimate Internet information.

Coordinator of Chronic Care

Develop and expand the role of care coordinator for patients with long-term chronic conditions, such as Alzheimer’s or diabetes, to provide advocacy, triage, and general information.

New Pools of Workers

Leverage individuals from workhouse programs, the mentally ill, those with disabilities, the elderly, homeless people or law offenders to provide more positive contributions to the health care system. These workers could be highly trained, but would help with low-tech assignments, such as social support and continuity of care. This might involve a different, more therapeutic, role for employers. In addition, men need to be encouraged to enter health care professions such as nursing, dental hygiene, and dental assisting.

Patient-Centered Services

Confidential Patient-to-Worker Feedback

Create statewide, standardized data collection on patient satisfaction with health worker encounters providing confidential and reliable feedback information to individual health care workers aimed at continuous improvement. Provide aggregate performance measures for each type of health work force discipline, without attribution to individual providers.

Team Care

Expand the interdisciplinary clinician team to include participants from family, community organizations, and nontraditional institutions as members of the team and reimburse all team participants.

Vouchers

Provide vouchers for families to use for 24-hour care. This would act as a financial incentive for patients to become more involved in their own and their families care.

Defined Contributions

Pilot defined contribution health plans for a given geographic region using mechanisms such as direct contracting to allow caregivers to deliver care with less paperwork.

Healthy Children

Institute a “no cost” health care system for all children under 18. We would benefit from having a healthier young population.

Volunteers

Enhance the link between volunteerism and the health of the volunteer in order to promote contributions to community health.

Incentives

Develop care plans for healthy people, including reverse incentives that reward people for not using drugs or not being hospitalized. Likewise, health insurance should not be linked to employment. Remove disparities in health by understanding the basis of the disparity and any fiscal issues that maintain those disparities. Build in accountabilities and change incentives.

Society Decisions

Society needs to decide how much a life is worth in order to make some of the hard decisions we face, including those about health priorities. Our society is highly individualized, yet we need to make society-based decisions.

Geography

Assign population to health care workers by geographic area, similar to socialized medicine.

Workforce Information

Database Synthesis

Analyze existing Minnesota health work force databases in the public and private sectors in order to enhance information for continual redesign of the future health work force. Make recommendations for modification of databases to improve integration, synthesis, and continuous feedback to educational institutions, health care delivery organizations, and state agencies.

Computerized Medical Record

Develop a computerized medical record so patients can move between facilities with minimal paperwork. This portable record, able to give care information in real time, is essential to performing outcomes studies. (HIPAA is a barrier.)

Integration of Data

As consumers demand better information on which to make better decisions and provide better care, the industry needs to develop transportable patient-centered and patient-controlled data systems. These systems must not provide pieces of data or data in silos, but an integrated data management approach. In addition, patient education and communication with providers should be integrated through the Internet, with appropriate reimbursement provided.

Workforce Education

Educational Program Relevance Analysis

Assess the relationship between educational preparation and the actual services practitioners provide through detailed follow-up of graduates.

Elementary and Middle School Health Careers Programs

Create an awareness of health careers at early ages in elementary and middle school through contributions of time to public schools by volunteer clinicians and health professions educators. Evaluate longitudinally the impact on health career choices and successes. Middle school students should be given financial incentives to work some hours in health care organizations. Programs should emphasize minority students and include non-school specific health care career information for parents.

Curriculum Reform

Broaden and deepen curriculum so all health professionals understand the management of multiple, chronic diseases and the use of information. In addition, all health care educational organizations should employ a seamless curriculum so that students can continue their education while working and never be forced to repeat competency training. Professional education needs to incorporate diverse perspectives of different professions and disciplines.

Interpersonal Skills Education

Increase teaching on the human element of health care, emphasizing the human sensitivities that many students inherently possess but sometimes lose during their educational experience. Include lifelong learning skills and training on professionalism for all levels of workers. This should include commonly held codes of ethics, practices, and principles.

Patient Empowerment

Build training into nursing curriculum to enable nurses to educate, coach, and facilitate patients to become more empowered and better advocates on behalf of their own health care. This is especially important in chronic disease management. Public education regarding “self-care navigation” will encourage appropriate use of health care resources.

Virtual Reality Education

Increase access to clinical educational experiences by teaching clinical skills in protected environments using technology such as virtual reality and simulation. New educational programs should be developed which utilize the Internet to allow health workers to continue their education while employed.

Team-Based Clinical Education

Provide clinical training for students in interdisciplinary team formats including participants from family, community organizations, and nontraditional institutions as members of the team. Develop a statewide initiative for clinical education.

Students

A pending crisis in the education of the work force is the increasing reluctance of patients to allow students on the care team, yet there is pressure within the systems for providing clinical education opportunities. A possible solution might be to have systems sign on the “package deals” for clinical education. Combine education with an in-service program in which students are allowed to work and go to school at the same time. This takes greater advantage of what they already know and can do.

Educational Program Performance Measures

Develop benchmarks and performance measures for assessing health work force educational program productivity through joint consultation among academic programs, health care delivery organizations, health-related state agencies, legislative representatives, and corporate representatives. A prospective and proactive approach to development of accountability measures, derived from broad consultation, will provide a product that benefits the general public served by the state’s academic institutions. Rational development of such measures cannot readily occur during the compressed timeframe of a legislative session.

Cultural Diversity

Build structured input from communities of color into the training curricula of health care professionals. Listen to communities and understand their needs better before imposing the western idea of medicine. Workers should participate in cultural competence training, including immersion experiences.

Financial Incentives for Collaborative Education

Establish financial and market incentives that encourage collaboration in work force education among academic institutions, health care providers and employers. Create joint decision-making on program emphases and joint funding from state, health care, and corporate sources. Use incentives to create meaningful models for joint faculty appointments between health systems and educational institutions.

Learning Objectives

Create a program where the next level up determines the learning outcomes and objectives for a particular educational level. For example, hospital systems would actively participate in determining learning outcomes needed in registered nursing.

Scholarships

Provide scholarships for health care workers of all levels, including those in entry-level positions, those already employed, and new workers. The scholarships would continue as long as the individual stays employed.

Enhanced Health Work Environment

Staff Authority for Admissions

Authorize clinical unit staff (nursing and other staff) to decide immediate capacity for additional hospital admissions through joint consultative processes (nursing, medicine, management, and other key work force members).

Recruitment and Retention

Coordinate the approach to recruitment, especially at urban schools that are overloaded with recruitment efforts. Increase nonmonetary incentives for people to go into health careers, such as improving the work environment and payment systems, creating more flexible work configurations, and developing opportunities for employees to enhance their life skills at work.

Enhanced Interdisciplinary Professionalism

Develop methods to enhance interdisciplinary cooperation and mutual respect, thereby improving the traditional hierarchical authority structure of health care delivery organizations.

Resource Allocation Decisions

Create joint decision processes for determining allocation of resources within health delivery organizations (nursing, medicine, management, and other key work force members).

Immigrants

Remove barriers to participation in US health care workforce by immigrants. Rather than assume that all immigrants must start in entry-level positions, acknowledge their education in other countries, and start them in positions closer to their abilities. This also would have a quicker positive impact on diversity.

Staffing: Joint Decision Making

Develop collaborative models (nursing, medicine, management, and other key work force members) for determining optimal staffing levels in clinical delivery organizations. Identify system workforce redeployment needs by evaluating the structure and compensation of the support infrastructure in delivery settings. Conduct job evaluation of all positions below the executive level in hospitals and at health plans and below the physician level at individual clinics.

Effects of Legislated Staffing Ratios

Analyze the effect, positive and negative, of legislated staff-to-patient ratios such as the 1999 law enacted in California mandating nurse-to-patient ratios in hospitals.

Flexible Work Schedules

Provide increased options for part-time and shared positions.

Career Growth

Design systems necessary for effective employee career laddering. Provide resources such as information, contacts, and educational options for health care workers to evaluate and change careers. This also might result in a new type of worker.

Marketing Health Careers

Use existing health professionals with positive attitudes and commitment to serve as role models and recruiters in health career marketing efforts.

Professional Duplication

Identify and reduce duplication and overlap between health professionals, within a teamwork environment, while maintaining an individual professional framework.

Nursing Assistant Support

Create programs to build self-esteem, personal life management, role modeling, life coaching, and mentoring for nursing assistants, who face a high turnover rate.

Compensation

Redesign the compensation system to reward efficient, high-quality care delivery. Match resource allocation with deployment and compensation at all levels with the health care delivery system. Eliminate wage discrimination at the site of care.

Improve Benefits

Provide affordable health insurance to all health care workers, perhaps using S-CHIP funds for long-term care workers' children. Improve retirement packages.

Phase 2: Prioritizing Potential Workforce Innovations

In the second phase of workforce redesign, the project enlisted health sector stakeholders to refine and prioritize the proposed innovations developed in Phase 1. The stakeholders employed the following criteria as guides in priority judgments.

- Potential for positive systemic transformation in the character of the health workforce and the health system
- Potential for positive impact on the health care system's success in enhancing the health of the population
- Potential for re-conceptualizing the roles of caregivers, patients, technology, educators, and payers
- Innovative work force and health system models that have the potential to transcend deficiencies in current established models of provider types, supply, and distribution

Participants allocated points to potential health workforce innovations, resulting in the following rankings.

Priority 1 (875 points)

Team care and team-based clinical education

Interdisciplinary team care and team-based education are critical to the future efficiency and effectiveness of health care. The optimum health care delivery team should be more broadly constructed than it is today, with accountabilities allocated accordingly. New care teams should include family members, community organizations, and nontraditional institutions, all of which must be reimbursed for their efforts.

In this new scenario, physicians would be responsible for differential diagnoses and difficult treatment decisions. Allied health professionals would be responsible for care, drug, and condition management. Community members would provide support, education, oversight, and transportation. Training, certification, and compensation would need to be restructured to support this model of care delivery, but the results will be greater continuity of care, increased respect for what others do, a single access point, and flexibility of location.

In short, team care will allocate the right work to the right people who can deliver the right care at the right time, eliminating much of the existing hierarchy. To

support this new system of team care, the educational system must develop team-based clinical education and training in the same interdisciplinary team formats.

Priority 2 (585 points)

Community-Based Life Skill Education

Creating opportunities for community-based education in life skills, such as diet, exercise, and stress management, not only would enhance and redefine community norms, but also would positively impact chronic disease management and primary disease prevention.

Community-based education has the potential to include many groups, from children to the elderly, from primary to long-term care. In the process it would remove redundancies within the health care system and help users develop a better understanding of a community's essential resources and allocation, ultimately increasing the capacity of a community. At the same time, it would help a community begin dialogue about its priorities and develop appropriate leadership. Through group care and education, consumers would become empowered, leading to better decision-making and accountability.

Priority 3 (435 points)

Common Health Science Curriculum

Through a common health science curriculum, general health workers at the associate and baccalaureate levels would serve in bridge roles across disciplines and in new roles emerging with health system change. An emphasis would be placed on core knowledge in health system organization and function, population health, interpersonal skills, communication skills for patient education, collaborative team function, systems function, lifelong learning skills, cultural competence, relationship building, a common understanding of ethical rationing, and general applications of information systems. There would be a link across educational programs in health policy, public health, medicine, nursing, ethics, pharmacy, and dentistry, with on-the-job training to mold these generalists into specific roles.

Priority 4 (390 points)

Incentives for Collaborative Education

Financial and market incentives to encourage collaboration in workforce education among academic institutions, health care providers and employers would result in a new kind of faculty/clinical education model. With education and industry as partners, there would be shared decision making on program emphasis and joint funding from state, health care, and corporate sources. Using the example of Northeastern University, where service and education are combined in the curriculum, students would be allowed to work and put money toward their tuition. This model would increase teaching of the human element of health care, emphasizing the human sensitivities that many students inherently possess but sometimes lose during their educational experience.

Priority 5 (380 points)

Family Members as Care Providers

The management of certain disease states, such as chronic illness, requires the coordination of multiple elements and interventions. Training family members as part of a larger care provider team would require targeted, in-home programs and waivers of some certification regulations, but it would expand the available workforce and improve care by legitimizing the role of family members.

Priority 6 (370 points)

Enhanced Interdisciplinary Professionalism

Health care delivery organizations traditionally have been hierarchical. By developing methods to enhance interdisciplinary cooperation and mutual respect, health care can improve upon this structure, starting with academic curriculum. Public education regarding “self-care navigation” would encourage the appropriate use of health care resources, focusing on preventive and chronic care.

Other areas of change include the creation of collaborative models (nursing, medicine, management) for determining optimal staffing levels in clinical delivery organizations, thus broadening the scope of practice and practice models. To do this, one might first analyze the effects, positive and negative, of legislated staff-to-patient ratios such as the 1999 law enacted in California mandating nurse-to-patient ratios in hospitals. Another method of improving the interdisciplinary professionalism would be to break down barriers between the system parts involved with public health and those involved with medical care.

Priority 7 (325 points)

Computerized Medical Records

Computerized medical records will soon be essential for accurate outcomes studies and improved integration of patient care, providing information in a timely fashion for patients, providers, and payers. Privacy issues are important considerations, but there are ways to share medical records with all parties involved. Right now patient care is too fragmented, and information is not accessible to those who need it.

Priority 8 (320 points)

Individual Patient Care Navigators

The health care system is in need of generally trained health advocates who can guide patients through the system for all interactions, including scheduling procedures, negotiating finances, and interpreting clinical information.

Priority 9 (315 points)

Immigrants' Entry to Health Care Professions

It is in the best interest of the future health care system to remove barriers for new immigrants to enter health care professions. Immigrant professionals are highly educated and should be allowed to enter the system at an appropriate level, not necessarily entry level. We need to assess and recommend what education is needed to bring the skill levels of these people to U.S. standards, while accommodating the licensure of foreign trained health care professionals. Removing barriers for immigrants also would better meet the needs of a growing diverse community. Recent legislation has directed dentistry to look into this issue, as well.

Priority 10 (310 points)

Multiple Community Care Sites

In order to expand access to health care, the health care system should test the feasibility of using public schools and work sites as major alternatives to current principal delivery sites for comprehensive primary health care. Other sites might include churches, grocery stores, pharmacies, or shopping malls. Moving care closer to the patients increases convenience, provides a greater incentive for participation, increases the opportunity for integrating health care into the community, and provides a judicious use of health care resources.

Priority 11 (300 points)

Dental Care Assistants

There is a need for a “dentist’s assistant,” to provide services under the general supervision of dentists. This is important in order to supplement the current supply of dentists, create new points of contacts with physicians, provide earlier contact with children, and embody a more comprehensive approach to oral health.

Priority 12 (255 points)

Care Administrative Specialist

It is critical that we begin to separate administrative work from direct care delivery, allowing providers to focus on care delivery and administrative services to be delivered in a way that supports patient care, rather than detracts from it. Under this scenario, professionals would act as liaisons between direct caregivers and regulatory compliance.

Priority 13 (240 points)

Data Synthesis

Health care workforce redesign will require real time, all-the-time assessment of data to enhance informed decision-making. By adding outcomes measurement to the health care database, administrators can construct compensation systems that reward for efficient, high-quality care delivery and match resource allocation with deployment and compensation throughout the entire system. An analysis of existing Minnesota health workforce databases in the public and private sectors would be helpful.

Priority 14 (200 points)

Access to Care at Educational Sites

Public schools and work sites can be major alternatives to current delivery sites for comprehensive primary care to families. Clinical sites at higher education institutions throughout the state would help to facilitate the delivery of clinical services to underserved populations and diversified clinical experiences for students in multiple health work force disciplines, such as allied health, dentistry, medicine, nursing, pharmacy and public health. The close proximity to students would help with recruitment in the future and would allow health professionals to act as role models within the educational system.

Priority 15 (100 points)

Health Extension Service

Through a “Health Extension Service” concept, the health care system would provide increased access to health care for underserved rural and urban populations, while also offering valuable and diverse health educational experiences for all types of health profession students. It is recommended that the system take advantage of the University of Minnesota land grant tradition and the structure of its University Extension Service network throughout all 87 Minnesota counties. Each care team might look somewhat different in different communities, based on that community’s particular needs.

Phase 3: Designing Pilot Projects

Between January and June 2002, Breakthrough teams engaged in three design pilots of proposed workforce innovations selected from the 15 priority innovations developed in Phase 2. Breakthrough teams comprised expertise drawn from Minnesota health care providers, academics, government, and consumer advocates.

The three priority design pilots are:

- Home-Based, Long-Term Care: Mobilization and Training of Community and Family Resources
- Standardized Pre-Professional Core Curricula and Health Care Guidance
- Educating Health Professionals for Integrated Interdisciplinary Primary Care

Additionally, the Breakthrough Teams have concluded that two key infrastructure issues must be addressed in order to support significant workforce innovations:

- Certification, Licensure, and Scope of Practice Regulations
- Workforce Database Redesign

The three design pilots have received funding and in-kind support from the University of Minnesota Academic Health Center, the Minnesota Department of Health, Department of Economic Security, Department of Trade and Economic Development, and Minnesota State Colleges and Universities.

These funding commitments derive from statewide concerns that we currently invest vast resources in health workforce production, but lack sufficient insights into future workforce redesign and optimal deployment to rationally justify the expenditures. The NIHP will soon pursue initial design pilots on the infrastructure issues.

Following the design pilots stage, the most promising workforce redesign innovations will undergo full demonstration and evaluation, involving stakeholder organizations, and will ultimately result in workforce innovations implemented in Minnesota and other states. Thereafter we will continue multiple design pilots, further demonstration and evaluation, and implementation of workforce redesign for the next several years in several states.

The following pages outline the initial results of the three design pilot efforts. The project plans to initiate the “Phase 4 Demonstration and Evaluation” in the summer and fall of 2002, using the final pilot designs developed by the Breakthrough Teams in Phase 3.

Workforce Innovation Concept 1: Home-Based, Long-Term Care

Identified Problem/Need

There is a current shortage of health care professionals to care for the growing number of long-term and home-based patients.

Components of the Innovation Concept

- Provide targeted, in-home training programs for family members and address certification regulations such that family members may provide “activities of daily living” and other services for chronically ill family members with appropriate financial support for services provided.
- Redeploy retired people to the health workforce by providing specialized training programs in the community for skills in home-based “activities of daily living” and other services for chronically ill patients.
- Deploy this resource under supervision of health professionals in the community and address certification and licensure regulations such that these “Mobilized Community And Family Resources” may provide services to augment the existing workforce. Candidates for participation in the “Mobilized Community And Family Resources Workforce” include family members of patients, retired health professionals, and other people whose educational level facilitates success in the training program.

Objectives

- Develop a training curriculum.
- Test a model for deploying a small number of trainees in one or more communities through collaborative efforts of major health care delivery organizations and higher education partners (the University of Minnesota, a MnSCU state university, MnSCU community/technical college, or a private college).
- Develop a plan and timetable for pilot testing the model in several forms, including family members, retired/retrained/redeployed workforce, “Home Care Services Coordinator,” and others.
- Recommend changes needed in certification and licensure regulation to facilitate the innovation.
- Develop an oversight, quality control, and consultative resources model.

Project Status

The Breakthrough team has prepared a demonstration and evaluation design and submitted proposals to interested funding sources.

The demonstration and evaluation phase will:

- Create targeted training curriculum and methodologies for deployment and offering training to family members, retired people seeking to reenter the workforce, and others within the community who are inactive in the workforce. This training will focus on ADL’s (Activities of Daily Living), IADL’s (Instrumental Activities of Daily Living), the social aspects of care, and any other identified care needs.
- Develop and implement models of collaboration among established community organizations.
- Develop and implement models for the recruitment of volunteers in collaboration with established community agencies.

Sites proposed for demonstration and evaluation include communities in Hennepin and Blue Earth counties. Both counties have expressed interest in the project and a willingness to collaborate. Successful implementation at these sites will create a model we can use with other urban and rural Minnesota sites.

Evaluation of the project’s outcomes will assess:

- The effectiveness of the training program by measuring the identified skill levels of the caregiver, the satisfaction of the caregiver with his or her role, the satisfaction of the chronically ill family member his or her care, and measures of burden of illness to the caregiver. Evaluation will include measures of burden of illness and satisfaction of the caregiver and family member in collaboration with the community agencies.
- The effectiveness of recruitment strategies by measuring the numbers of caregivers who receiving training to care for the dependent elderly and the retention rate of those recruited.
- The effectiveness of the collaborative efforts necessary to administer the program by working with partners of major health care delivery organizations and a consortium of higher education partners (the University of Minnesota, Minnesota State Colleges and Universities System institutions, and/or private colleges).

Breakthrough Team for Design Pilot

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The project will provide policymakers with the data they need to stimulate discussions for public and private funding of the recruitment and training of caregivers.

One potential method for assuring sustainability for this project includes integration into a well-supported, capitated, comprehensive care program that has, as part of its mission, the maintenance of older people in the community. Such a program (e.g, the Program of All-Inclusive Care for the Elderly (PACE) or one organized around a sizeable enrollment of MSHO seniors) could include patient, caregiver, and volunteer training programs in its service package.

With appropriate policy initiatives, funding could become available for expansion of service packages in less specialized organizations of care, based on the demonstrated ability of the training program to delay institutionalization, reduce rates of rehospitalization, and/or reduce inappropriate use of emergency services, in addition to promoting patient and caregiver quality of life.

Workforce Innovation Concept 2: Standardized Pre-Professional Core Curricula and Health Career Guidance

Identified Problem/Need:

The future success of our health care system depends on the education and preparation of pre-health professional students. Current inefficiencies in the educational system pertaining to effectiveness of career counseling, flexibility of educational pathways, career laddering for returning adults, and the ability of the curriculum to prepare students for the future of health care create barriers to successful recruitment and retention of students.

A number of factors in the health care environment affecting workforce retention make this an important time to attract and retain students into health professions careers. An aging patient population, advanced technology, changing ethnic and cultural demographics, and the health care work environment itself all contribute to a current shortage of health professionals, especially nurses, pharmacists, medical technologists, and dentists. With the need for health professionals increasing and the interest in health careers by the 18 to 22 year-old-age group decreasing, now is a crucial time to develop innovative and systemic changes in pre-health professional education.

Components of the Innovation Concept

- Enhanced health care guidance and information available to assist students in identifying the career option in which they will find the most satisfaction.
- The incorporation of joint work-experience programs cosponsored by academic institutions and Minnesota health care delivery organizations to provide pre-health professionals and mid-career returning students' insights into health careers as an element of career counseling. This program could potentially provide career counseling while providing students an opportunity to earn income in support of their education, decreasing financial burdens.
- The development of common standardized core curricula for most pre-health professional education prerequisites as a joint effort of the University of Minnesota, Minnesota State Colleges and Universities (MnSCU), and private colleges in Minnesota.

Objectives

- Explore the concept for testing by a higher education experimental group comprising one MnSCU state university, one MnSCU community/technical college, one private college, and the University of Minnesota.
- Determine timetables for implementation for the higher education experimental group and for all of Minnesota higher education.
- Project probable number of participants by discipline in the first five years for the higher education experimental group and for all of Minnesota higher education.
- Estimate start-up and annual costs of implementation and operation, including cost per student disciplinary type for a higher education experimental group and for all of Minnesota higher education.
- Recommend governance structure representing each participating higher education institution.
- Elucidate barriers to implementation and methods for overcoming barriers.
- State a feasibility conclusion

Project Status

The core curriculum and guidance breakthrough team has made significant progress during the past six months in understanding the current pre-health professional education system and in developing relationships with key stakeholders in the industry. This team will expand to include academic deans, health care counselors, and work experience coordinators and will become the steering committee to guide this demonstration project.

The first stage of the project will focus on enhancing pre-professional guidance, and later stages will focus on work experience and integration of core curriculum across systems. The team proposes an initial one-year demonstration project to further test their recommendations. They have designed the demonstration project to dovetail into a four-year project which will effect statewide and, eventually, national changes in the American health care system.

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Stage 1

The first phase of this demonstration project will begin with a dialogue of key stakeholders including faculty, guidance counselors, students, new practitioners, and legislators discussing the team-identified current issues in pre-health professional education, proposed changes to the system and responding to the team recommendations. The results of the dialogue will form the basis for enhancement of the demonstration project. The project team will survey students and faculty about their perception of the current pre-health professional education system and the proposed model of combining core curriculum, guidance and work experience. Students who change majors or who are not accepted into the professional program of their choice will be important sources of information of what is not working.

Anticipated short term outcomes:

- A clear understanding of the current system of pre-professional counseling:
 - potential health careers
 - prerequisites and academic requirements of health professions throughout higher education
 - access to coursework needed to meet requirements
 - effectiveness of career counseling
 - flexibility of the educational pathways
 - accessibility of the career laddering for returning adult students
 - ability of the curriculum to prepare students for the future of health care
- Establishment of education and industry partnerships to create work experiences for pre-health professional students.
- Support for the development of a pre-health professional core curriculum.

Stage 2

During the second stage of the project, the team will develop an ideal model with a longitudinal analysis and assessment of its effect on retention. The integration of core curriculum, guidance, and work experience is an integral part of the success of the demonstration project. The project will bring together public and private universities and colleges with multiple health care institutions to bridge the gaps in supporting pre-health professional students to make the right career choice. First year pre-health professional education students at three or four educational institutions who identify a major or an interest in the health care field will be recruited into the demonstration project. Students' perception of the model will be assessed. Cohorts may be drawn from the College of St. Catherine, the University of Minnesota, a state university, and the Minneapolis Community and Technical College. Realizing the importance of pre/post secondary preparation, the team will develop an assessment of high school guidance programs as a secondary phase to the project.

Anticipated long-term outcomes include:

- An increase in the number of students recruited and retained in health care education.
- Core curriculum is integrated at multiple levels through the pre-health professional education system.
- Students receive personal, effective career counseling.
- Students move among different pre-health professional programs and find the right career choice for them in an efficient manner.
- Commonalities among pre-health professional programs are identified, programs integrated and silos reduced.
- Students become health professionals who are adaptable to economic, technical and social changes in health care and can transition into different careers within health care. They experience spiral pathways that allow them to work in health care, re enter education, change careers and re emerge into health care.
- Health care is perceived as an attractive career and education choice.
- There are adequate numbers of providers in Minnesota meeting patient demand and providing quality care.

Workforce Innovation Concept 3: Educating Health Professionals for Integrated, Interdisciplinary Primary Care

Identified Problem/Need

The optimal delivery of primary health care relies on multiple health disciplines operating in an integrated, interdisciplinary model. To effectively prepare students for this type of practice, an interdisciplinary group of clinician educators should role model and teach within the context of this model.

Components of the Innovation Concept

- Create a comprehensive, integrated primary care and education system in a clinical setting using interdisciplinary teams of “traditional” primary care health professionals: physicians, nurse practitioners, and physicians’ assistants.
- Augment the system through additional clinical care and educational relationships with practitioners, faculty and students in allied health, dentistry, pharmacy, social work, and other disciplines.
- Explore/define roles of new and emerging primary care providers in the integrated primary care system.
- Design a system that maximizes efficiencies in care and educational resources.
- Consider strategies to prepare students in a common preclinical program with multi-disciplinary faculty groups to teach and role model enhanced interdisciplinary collaboration, professionalism, and effective clinical practice.

Objectives

- Explore the concept with one or two multi-disciplinary student and faculty teams.
- Determine timetable for implementation with a significant number of multi-disciplinary student and faculty teams.
- Estimate start-up and annual costs of implementation and operation including cost per student disciplinary type.
- Recommend governance structure representing each participating health discipline.
- Elucidate barriers to implementation and methods for overcoming barriers.
- State a feasibility conclusion.

Project Status

The educating health professionals for integrated, interdisciplinary primary care breakthrough team has made significant progress during the past six months in exploring a model for integrating interdisciplinary education in a practice at a primary care site.

To a great extent, the education of health professionals tends to take place in isolated institutions whose disciplinary approaches do not require knowledge of, or work with other health professions. Additionally, authentic interdisciplinary collaborative practices are not the norm; therefore, role models for health professionals-in-training are few. Institutions of higher education are called on to implement significant restructuring in order to overcome the barriers to interdisciplinary training inherent in discipline-based, silo education.

In addition, while the redesign of classroom-based education is essential, models of collaboration in primary care are also necessary to infuse a critical sense of reality into the learning process. This requires educational institutions to identify and build working relationships with exemplary collaborative practices to provide experiential opportunities for students to develop and apply new skills.

The literature consistently cites identifying and partnering with practice sites where practitioners model collaborative team skills as a significant barrier to implementing the experiential component of interdisciplinary education. Therefore, new integrated practice and teaching models will also need to be implemented to provide ample opportunities to teach students how to practice in interdisciplinary health care teams (IHTCs). The breakthrough team developed the following criteria to serve as guides to determining a suitable site:

1. Minimum of three disciplines need to be involved in the site.
2. Previous experience with clinical/experiential education of health professions students is desirable.
3. System should be in place within the health care setting to facilitate team care among professionals, including: communication, cooperation, common goals and access to documentation.

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4. The teams need to come to joint agreement on evaluation methods for educational function.
5. Mutual agreement of financial terms for interdisciplinary care and education should be negotiated prior to implementation of the model.

The team explored the following in their work:

1. A definition of primary care, interdisciplinary team practice, and interdisciplinary education
2. A model for an integrated, interdisciplinary care and education practice
3. Key public policy issues related to successful implementation of an interdisciplinary model for practice and education

The breakthrough team completed extensive research on the definitions of primary care, interdisciplinary team practice, and interdisciplinary education. Additionally, the group reviewed educational models for interdisciplinary health care teams already developed and implemented both at the University of Minnesota and elsewhere.

Next, the breakthrough team began detailing a model that integrates interdisciplinary practice with interdisciplinary education, overcomes the barriers and maximizes the strengths and resources of each. Such a model will allow emerging health care professionals to work in an environment that demands a focus on reducing costs, improving quality and access to care, and improving the perceived satisfaction of both patients and caregivers.

The educational program in this model is designed to be integrated into the practice site so that students are simultaneously learning clinical competencies and team care skills. While there are general team competencies that should be mastered, each site will have characteristics, and competencies will need to be designed based upon the situation. Therefore, this integrated, interdisciplinary practice and education model should offer unique opportunities for clinicians and students to develop practice-specific competencies. Drawn from the characteristics of IHTCs, these competencies should include understanding and respect for other professions, group problem-solving, critical thinking, conflict management, communication skills, health professions cultural competence, role and scope of practice definition, trust building, group dynamics and facilitation, and knowledge of system.

After discussing the literature of interdisciplinary practice and education, the group determined that discussions needed to focus on a specific practice to test the concepts. To serve that purpose, the group utilized the University of Minnesota Physicians Primary Care Center as a focal point. In those deliberations, the group began to identify practice and educational outcome measures to be collected. These include: patient health outcomes, patient satisfaction, employer satisfaction, provider satisfaction, financial/ productivity, and learner outcomes. The group will continue to redesign this clinic as one integrated model.

Finally, the group identified the following health and higher education policy issues that will need to be addressed to implement this model. They include: financial/ reimbursement issues for interdisciplinary care, liability coverage issues, scope of practice issues, productivity issues, varying disciplinary perspectives on financing clinical education, maintaining disciplinary competencies while teaching interdisciplinary skills, definition of who teaches, and intellectual property issues.

The breakthrough team is continuing to meet to complete the following tasks.

- Implement interdisciplinary practice and education at various sites in conjunction with the University of Minnesota Academic Health Center
- Continuing to develop the conceptual model
- Consider writing a proposal to fund model developing in existing practice sites and the University of Minnesota Physician Primary Care Center

Health Workforce Infrastructure Issues

In addition to the three priority design pilots, two key infrastructure issues are essential to support significant workforce innovations.

Infrastructure Issue 1: Redesign Workforce Database

Comprehensive workforce data must be collected and analyzed to inform health professional workforce and education system decisions for continuing redesign of the health care system.

Components

- Determine the critical data elements necessary for continual redesign of the future health workforce.
- Analyze existing Minnesota health workforce databases in the public and private sector and make recommendations for modification of databases to improve integration, synthesis, and continuous feedback to educational institutions, health care delivery organizations, and state government.

Infrastructure Issue 2: Certification, Licensure, Scope of Practice

The certification, licensure, and scope of practice regulation system of the health professions must be overhauled.

Components

- Conduct a comprehensive analysis of all existing health professions certification, licensure, and scope of practice regulations and recommend any changes that will increase efficiency and effectiveness of health care delivery. Determine method for involving all health system stakeholders including health care delivery organizations, educational institutions, state agencies, and consumers. Consider potential changes in regulations such as
 - Authority for licensure and certification shared among health care delivery organizations, educational institutions and state agencies
 - Consolidation among currently separate health workforce categories
 - Increased flexibility in scope of practice among existing health workforce categories.
- Test effects of temporarily waiving accreditation, certification, and/or scope-of-practice regulations to the extent that will reduce severe shortages (nursing, pharmacy, dentistry, several allied health disciplines, and others) and to facilitate development of new health professionals between now and 2013. Test in controlled and closely monitored conditions such as a single clinical organization, a specified population of patients, a well-defined community, or other defined test focus, with quality assured through continuous evaluation of outcomes. Waivers will require clear commitment of health system employers and educational programs to assure continual oversight, evaluation, and quality control.

Next Steps

The extent and timing of Phases 4 through 8 will depend upon availability of funding. The following briefly describes the plan for future phases of this project.

Phase 4. Demonstration and Evaluation of Priority Workforce Innovations

The initial three design pilots will undergo full demonstration and evaluation beginning in the summer/fall 2002, involving stakeholder organizations. The most promising additional pilots planned in the future also will undergo full demonstration and evaluation. The project plans three new design pilots each year through 2006.

Phase 5. Workforce Infrastructure Redesign—Databases and Licensure/Scope of Practice

Pilot designs for the two major infrastructure issues will begin in 2002-03, with initial databases descriptive analysis, and initial analysis of current accreditation, licensure, and scope of practice provisions. Recommendations on database modifications and modifications in accreditation, licensure, and scope of practice provisions are planned for 2003-2004, with implementation of essential legislative and regulatory changes in 2004-2005.

Phase 6. Implementation of Effective Workforce Innovations

Upon completion of the initial demonstration and evaluation efforts, work groups on specific policy interventions will convene to determine implementation strategies for workforce innovations. These work groups will include representatives from academia, government, and the private sector to collaborate on both public and private sector policy changes necessary for implementation. The first work groups will likely convene in summer/fall 2003.

Phase 7. Dissemination of Results to Other States and Regions

The effort will serve as a national incubator for health workforce innovation through application of methods and results to other regions of the United States as follows:

- After full development of the workforce innovations, we will provide consultation to states in other regions of the US and facilitate creation of facilitated stakeholders dialogues in those states following the model used in Minnesota. We will provide state consultation teams, drawn from breakthrough team and demonstration project leaders in Minnesota, to offer ongoing consultation and advice on the methods and results from the Minnesota project to the additional states' project staffs.
- Disseminate results of stakeholders dialogues, pilot tests, and breakthrough teams using the NIHP web site and publications.

Phase 8. "Workforce Redesign Collaborative"—Established as Permanent Effort of Minnesota Health Enterprise

The ultimate goal of "Minnesota Health Workforce Redesign" is health workforce innovation and redesign as a permanent, ongoing element in the character of the Minnesota health enterprise. Furthermore, ultimate success will stimulate similar efforts in other states and regions of the country.

Several factors justify a state focus for health workforce innovations including predominance of state public educational institutions in health workforce production, state regulatory and licensure authority, state workforce data repositories, state role as health services provider of last resort, and past history of health policy innovation largely occurring in the state "laboratory" more than federal initiatives. Specifically, Minnesota is currently particularly well poised as an incubator for health system and workforce innovation both because of current forces at work in the state and past history. Numerous Minnesota institutions have already invested heavily in workforce analysis and development efforts. The tradition of collaboration among health industry stakeholders in Minnesota provides an essential ingredient for this effort. Additionally, Minnesota has frequently developed innovative approaches to health care

exemplified by MinnesotaCare, the Buyers' Health Care Action Group (BHCAG), development of the original "Health Maintenance Organization" concept at InterStudy, prominence and mature development of managed care organizations, and cutting-edge biomedical and health services research.

This time in history further justifies health workforce innovation and redesign as a permanent commitment of the health enterprise through public and private sector collaboration. Broad consensus exists on the reality of a health workforce shortage "crisis" in the United States. However, we must resist the temptation to explain the current "crisis" as another phase in recurrent cyclical shortages and surpluses in various healthcare disciplines, most notable during the past several decades in nursing. This "crisis" has several critically important features unprecedented in history. Most prominent among those features are:

- Profound cultural changes in career decisions of women, which dramatically alter the recruitment pool for health disciplines historically dominated by women
- Increasing recognition that the health care system needs systemic change and that incremental reform will not address current and future consumer needs
- International character of the health workforce shortage
- Increased chronic disease prevalence, resulting from unprecedented expansion trends in the aging population and therapeutic advancement, with consequent increased demands on our health, medical and long-term care capacity exacerbating workforce inadequacy
- Technological innovations that require major changes in skill and knowledge sets among current and future health workers
- Need for creation of new types of health workforce to serve new applications of biomedical devices, informatics, genomics, bioengineering, and other frontiers

- New consumer demands for information, control, and accountability
- Systemic financial stress in both education of the health workforce and the delivery of health services

Finally, workforce policy changes are critical to health system transformation because the character of the health workforce substantially determines the nature of the health system. And health system transformation requires not just increased workforce supply, but real **systemic** changes in the health workforce character. "Minnesota Health Workforce Redesign" seeks to serve as one catalyst toward the long-term goal of systemic change in the health enterprise.

Minnesota Health Workforce Redesign

A Review of the US Health Care Workforce Literature

by Jay Noren, M.D., M.P.H., Project Director and Cathy Wisner,

This document is a literature review of the US healthcare workforce. This document provided a knowledge base, grounded in the scientific literature, for moving forward in exploring what can be done to assist the healthcare workforce in meeting the needs of the future of the US healthcare system. Information in this literature review includes:

- The supply, demand and distribution of the US healthcare workforce
- Minnesota specific healthcare workforce problems
- Costs to bring US workforce supply to the level of projected demand
- Available databases to study workforce issues
- Innovations that have been studied
- Predictions of the future of the healthcare workforce

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progress of this project but visiting our
web site at www.nihp.org**