

Literature Search on the Public Health Governmental Agency Pipeline

January 2007

The National Library of Medicine (NLM) conducted several literature searches to help the Council on Linkages Between Academia and Public Health Practice (Council) begin to compile information relating to the public health governmental agency pipeline. Searches were conducted of several different databases. The name of the database is located at the front of each section and in the header of each page.

At NLM's request, please do not copy these abstracts and post them on any other website.

You may copy the bibliographic citations. The Council would like to thank NLM and, in particular, Catherine Selden and Lisa Lang for compiling these resources.

Public Health Workforce Issues, 35 references, printed 1/28/2007

1. Aarons GA, Sawitzky AC. Organizational climate partially mediates the effect of culture on work attitudes and staff turnover in mental health services. *Adm Policy Ment Health*. 2006 May;33(3):289-301. Available from: 16544205
ABSTRACT: Staff turnover in mental health service organizations is an ongoing problem with implications for staff morale, productivity, organizational effectiveness, and implementation of innovation. Recent studies in public sector services have examined the impact of organizational culture and climate on work attitudes (i.e., job satisfaction and organizational commitment) and, ultimately, staff turnover. However, mediational models of the impact of culture and climate on work attitudes have not been examined. The present study examined full and partial mediation models of the effects of culture and climate on work attitudes and the subsequent impact of work attitudes on staff turnover. Multilevel structural equation models supported a partial mediation model in which organizational culture had both direct influence on work attitudes and indirect influence through organizational climate. Work attitudes significantly predicted one-year staff turnover rates. These findings support the contention that both culture and climate impact work attitudes and subsequent staff turnover.
SUBJECT HEADINGS: *Attitude\Data Collection\Female\Humans\Job Satisfaction\Male\Mental Health Services/*organization & administration/*Organizational Culture/*Personnel Turnover\United States
NOTES: PUBLICATION TYPE: Journal Article
2. Amodeo AR. Commentary: developing and retaining a public health workforce for the 21st century: readiness for a paradigm shift to community-based public health. *J Public Health Manag Pract*. 2003 Nov-Dec;9(6):500-3. Available from: 14606189
ABSTRACT: The Partnership for the Public's Health work in supporting partnerships between local health departments and community-based organizations has offered important insights into the difficulties of changing public health practice to a more community-based model. Keys to these difficulties are workforce issues: availability, appropriateness of initial training, recruitment, retention, and issues of continuing education. These challenges and some positive examples are discussed.
SUBJECT HEADINGS: California*Community Health Planning\Employment\Humans\Institute of Medicine (U.S.)\Interinstitutional Relations\Local Government*Professional Competence\Program Development\Public Health/*education\Public Health Administration/*manpower/standards\Social Change\Staff Development\United States
NOTES: PUBLICATION TYPE: Journal Article
3. Baker EL, Potter MA, Jones DL, Mercer SL, Cioffi JP, Green LW, Halverson PK, Lichtveld MY, Fleming DW. The public health infrastructure and our nation's health. *Annu Rev Public Health*. 2005;26 :303-18. Available from: 15760291
ABSTRACT: Threats to Americans' health-including chronic disease, emerging infectious disease, and bioterrorism-are present and growing, and the public health system is responsible for addressing these challenges. Public health systems in the United States are built on an infrastructure of workforce, information systems, and organizational capacity; in each of these areas, however, serious deficits have been well documented. Here we draw on two 2003 Institute of Medicine reports and present evidence for current threats and the weakness of our public health infrastructure. We describe major initiatives to systematically assess, invest in, rebuild, and

evaluate workforce competency, information systems, and organizational capacity through public policy making, practical initiatives, and practice-oriented research. These initiatives are based on applied science and a shared federal-state approach to public accountability. We conclude that a newly strengthened public health infrastructure must be sustained in the future through a balancing of the values inherent in the federal system.

SUBJECT HEADINGS:

Accreditation/organization & administration\Chronic Disease/epidemiology\Clinical Competence\Communicable Disease Control\Communicable Diseases/epidemiology\Disaster Planning\Financing, Government/organization & administration\Health Care Reform/organization & administration\Health Policy\Health Priorities/organization & administration*Health Status\Humans\Institute of Medicine (U.S.)\Models, Organizational\Needs Assessment/organization & administration\Personnel Staffing and Scheduling/organization & administration*Public Health/education/methods/standards/statistics & numerical data\Public Health Administration/education/methods/standards\Public Health Informatics\Terrorism/prevention & control/statistics & numerical data\Total Quality Management/organization & administration\United States/epidemiology\United States Public Health Service/*organization & administration\Wounds and Injuries/epidemiology/prevention & control

NOTES: PUBLICATION TYPE: Journal Article
PUBLICATION TYPE: Review
NUMBER OF REFERENCES: 73

4. Campbell SL, Fowles ER, Weber BJ. Organizational structure and job satisfaction

in public health nursing. *Public Health Nursing*. 2004;21(6):564-71.

ABSTRACT: The purpose of this descriptive study was to describe the characteristics and relationship of organizational structure and job satisfaction in public health nursing. A significant relationship was found between organizational structure variables and job satisfaction for public health nurses employed in down state Illinois local health departments. The findings of this study suggest that work environments in which supervisors and subordinates consult together concerning job tasks and decisions, and in which individuals are involved with peers in decision making and task definition, are positively related to job satisfaction. This information will assist nurse administrators in development of work structures that support participative decision making and enhance job satisfaction, critical to retaining and attracting a well-qualified public health nurse workforce.

SUBJECT HEADINGS: Job satisfaction; Nursing shortage; Organizational structure; Public health nursing; Retention

5. Dunn EJ, Mills PD, Neily J, Crittenden MD, Carmack AL, Bagian JP. Medical team training: applying crew resource management in the Veterans Health Administration. *Jt Comm J Qual Patient Saf*. 2007 Jun;33(6):317-25. Available from: 17566541

ABSTRACT: BACKGROUND: Communication failure, a leading source of adverse events in health care, was involved in approximately 75% of more than 7,000 root cause analysis reports to the Department of Veterans Affairs (VA) National Center for Patient Safety (NCPS). **METHODS:** The VA NCPS Medical Team Training (MTT) program, which is based on aviation principles of crew resource management (CRM), is intended to improve outcomes of patient care by enhancing communication between health care professionals. Unique features of MTT include a full-day interactive learning session (facilitated entirely by clinical peers

in a health care context), administration of pre-and postintervention safety attitudes questionnaires, and follow-up semistructured interviews with reports of program activities and lessons learned. RESULTS: Examples of projects in these facilities include intensive care unit (ICU) teams' patient-centered multidisciplinary rounds, surgical teams' preoperative briefings and debriefings, an entire operating room (OR) unit's adoption of "Rules of Conduct" for expected staff behavior, and an ICU team's use of the model for daily administrative briefings. DISCUSSION: An MTT program based on applied CRM principles was successfully developed and implemented in 43 VA medical centers from September 2003 to May 2007.

SUBJECT HEADINGS:

Aviation/organization & administration*Communication\Humans*I nterprofessional Relations\Job Satisfaction\Patient Care Team/*organization & administration\Pilot Projects\Quality Assurance, Health Care/methods\Safety\Staff Development/*organization & administration\United States\United States Department of Veterans

Affairs/*organization & administration

NOTES: PUBLICATION TYPE: Journal Article

PUBLICATION TYPE: Research Support, U.s. Gov't, Non-P.h.s.

6. Edgar DL, Rosa-Lugo LI. The critical shortage of speech-language pathologists in the public school setting: features of the work environment that affect recruitment and retention. *Lang Speech Hear Serv Sch.* 2007 Jan;38(1):31-46. Comment in: *Lang Speech Hear Serv Sch.* 2007 Oct;38(4):414. PMID: 17890520. Available from: 17218534

ABSTRACT: PURPOSE: The primary focus of this study was to elicit the perspectives of speech-language pathologists (SLPs) regarding features of the work environment that contribute to and/or hinder recruitment

and retention in the public school setting. METHOD: A questionnaire was distributed to SLPs employed in 10 school districts in Central Florida representing small, medium, and large school districts. The primary goal of the questionnaire was to elicit the perspectives of school-based SLPs regarding (a) factors in the work environment that contribute to retention, (b) factors in the work environment that hinder retention, and (c) issues that may contribute to the recruitment and retention of SLPs in the school setting. A total of 382 questionnaires was obtained, yielding a 64.5% response rate. RESULTS: The participants ranked working with children, school schedule, and educational setting as primary reasons for their satisfaction with working in the public school setting. The participants ranked workload, role ambiguity, salary, and caseload as primary reasons for their dissatisfaction with working in the public school setting.

CONCLUSION: Themes emerged from the data that provide insight into several factors that serve as powerful influences in understanding issues of recruitment and retention of SLPs in the public school setting.

SUBJECT HEADINGS:

Humans\Personnel Staffing and Scheduling/*statistics & numerical data\Personnel Turnover/*statistics & numerical data\Public Sector\Questionnaires*Schools*Social Environment\Speech-Language Pathology/*manpower/*statistics & numerical data\United

States/epidemiology*Workplace NOTES: PUBLICATION TYPE: Journal Article

7. Freeman LC. R(X) for recruitment and retention of veterinarian scientists: money, marketing, mentoring. *J Vet Med Educ.* 2005 Fall;32(3):328-36. Available from: 16261493

ABSTRACT: Veterinary medicine is failing both to sustain its academic base and to meet national needs for research in the fields of comparative medicine (translational

research), public health, and food production. The basis for the shortage of veterinarians with research expertise is multi-factorial and related to the substantial commitment of time and money required to obtain both a DVM and advanced training, as well as the lack of motivation among veterinary students to engage in biomedical science. Effective strategies for increasing the number of veterinarian scientists must address these issues using a balanced combination of money, marketing, and mentoring. Success will require not only that we increase and improve opportunities for research training, but also that we create and sustain veterinary college environments that attract, foster, and reward dedication to research. The "research pipeline" needs to be transformed into a "research manifold" with multiple portals for entry and re-entry of trainees. Age-appropriate educational and mentoring programs should be implemented at K-14, baccalaureate, veterinary college, post-graduate, and junior faculty levels to promote recruitment, training, and retention of veterinarian scientists. New initiatives are especially needed to attract students with primary interests in science and biomedical research to the veterinary profession and to facilitate transition of motivated veterinary graduates from private practice to research careers. Specific examples of such programs are presented and future directions are discussed.

SUBJECT HEADINGS:

Animals\Education, Veterinary\Financial Support\Humans\Marketing*Mentors\Models, Educational*Personnel Selection\United

States*Veterinarians*Veterinary Medicine

NOTES: PUBLICATION TYPE: Journal Article

8. Gamm L. The state of rural hospital nursing and allied health professional shortages : final report. College Station, TX : Southwest Rural Health Research Center, School of Rural Public Health, Texas A&M University System Health Science Center

. 2005;55, 4 leaves. Available from: NLM: 101284771 [Book]

SUBJECT HEADINGS: Allied Health Personnel/supply distribution\Hospitals, Rural/manpower\Medically Underserved Area\Nursing Staff, Hospital/supply distribution*\Personnel Downsizing\Rural Health Services/manpower\United States

9. GAO. Foreign physicians : data on use of J-1 visa waivers needed to better address physician shortages . GAO-07-52. 2006;46 p. Available from: <http://www.gao.gov/new.items/d0752.pdf>
ABSTRACT: Many U.S. communities face difficulties attracting physicians. To address this problem, states and federal agencies have turned to foreign physicians who have just completed graduate medical education in the United States under J-1 visas. Ordinarily, these physicians must return home after completing their programs, but this requirement can be waived at the request of a state or federal agency if the physician agrees to practice in an underserved area. In 1996, GAO reported that J-1 visa waivers had become a major source of physicians for underserved areas but were not well coordinated with Department of Health and Human Services (HHS) programs for addressing physician shortages. GAO was asked to examine: (1) the number of waivers requested by states and federal agencies; (2) waiver physicians' practice specialties, settings, and locations; and (3) the extent to which waiver physicians are accounted for in HHS's efforts to address physician shortages. GAO surveyed states and federal agencies about waivers they requested in fiscal years 2003-2005 and reviewed HHS data. What GAO recommends: GAO recommends that the Secretary of Health and Human Services collect and maintain data on waiver physicians and use these data when identifying areas experiencing physician shortages and placing physicians in these

areas. HHS concurred with GAO's recommendation.

NOTES: NLM 101307616 [Book]

10. GAO. Nursing Workforce: HHS needs methodology to identify facilities with a critical shortage of nurses. GAO-07-492R. 2007 Apr ;28 p. Available from: <http://www.gao.gov/htext/d07492r.html>

ABSTRACT: In order to target funding effectively for the Nursing Education Loan Repayment Program (NELRP) and the Nursing Scholarship Program (NSP) to nurses working in health care facilities with a critical shortage of nurses, we recommend that the Secretary of HHS: (1) identify the specific steps and a time frame for implementing an empirical methodology for identifying health care facilities with a critical shortage of nurses; and (2) direct the Administrator of HRSA to include a description of steps taken and progress on its time frame for implementing such methodology in HRSA's annual report to Congress on these programs.

11. Gebbie K, Goldstein BD, Gregorio DI, Tsou W, Buffler P, Petersen D, Mahan C, Silver GB. The National Board of Public Health Examiners: credentialing public health graduates. Public Health Rep. 2007 Jul-Aug;122(4):435-40. Available from: 17639645

ABSTRACT: The National Board of Public Health Examiners (NBPHE, the Board) is the result of many years of intense discussion about the importance of credentialing within the public health community. The Board is scheduled to begin credentialing graduates of programs and schools of public health accredited by the Council on Education for Public Health (CEPH) in 2008. Among the many activities currently underway to improve public health practice, the Board views credentialing as one pathway to heighten recognition of public health professionals and increase the overall effectiveness of

public health practice. The process underway includes developing, preparing, administering, and evaluating a voluntary certification examination that tests whether graduates of CEPH-accredited schools and programs have mastered the core knowledge and skills relevant to contemporary public health practice. This credentialing initiative is occurring at a time of heightened interest in public health education, and an anticipated rapid turnover in the public health workforce. It is fully anticipated that active discussion about the credentialing process will continue as the Board considers the many aspects of this professional transition. The Board wishes to encourage these discussions and welcomes input on any aspects relating to implementation of the credentialing process.

SUBJECT HEADINGS:

*Credentialing\Governing Board\Health Occupations/*standards\Humans\Professional Competence\Public Health Administration/*standards\Public Health Practice/*standards

NOTES:

PUBLICATION TYPE: Journal Article

12. Gebbie K, Merrill J, Sanders L, Gebbie EN, Chen DW. Public health workforce enumeration: beware the "quick fix". J Public Health Manag Pract. 2007 Jan-Feb;13(1):72-9. Available from: 17149103

ABSTRACT: The most common source of information on workforce in the United States is the Bureau of Labor Statistics (BLS), a branch of the Department of Labor. In 1998, 14 public health workforce titles were added to the BLS Standard Occupational Classification (SOC) system. While this was a constructive step, it is not a "quick fix," because these additional titles do not solve the longstanding problems inherent in capturing accurate PH workforce data. As is true for all currently available sources, BLS statistics capture a limited segment of public health's broadly defined and multidisciplinary workforce. A standard system of data collection is needed to guide planning to sustain the present and future workforce. Revision of the 1998 SOC in

preparation for the 2010 Census is now underway. This presents an opportunity for the public health community to act on prior recommendations regarding workforce data and advocate for more inclusive enumeration of public health occupations that can inform policies and planning for the current and future workforce.

SUBJECT HEADINGS:

Employment/*statistics & numerical data*Public Health Practice\United States

NOTES: PUBLICATION TYPE: Journal Article

13. Gebbie KM, Turnock BJ. The public health workforce, 2006: new challenges. *Health Aff (Millwood)*. 2006 Jul-Aug;25(4):923-33. Comment in: *Health Aff (Millwood)*. 2006 Nov-Dec;25(6):1744-5. PMID: 17102201. Available from: 16835170

ABSTRACT: Efforts to develop the public health workforce since 2001 have benefited from increased funding resulting from concerns over terrorism and other public health threats. This largesse has been accompanied by the need for greater accountability for results. The size, composition, and distribution of the public health workforce have long been policy concerns. Production and retention of public health workers remain important issues, although new dimensions of readiness are also taking center stage. We offer here policy recommendations in the areas of assessing the public health workforce and its needs, organizing development efforts around essential competencies for public health practice, credentialing workers, and accrediting agencies.

SUBJECT HEADINGS:

Accreditation\Disaster Planning\Health Services

Research\Humans\Motivation\Organizational Objectives\Personnel

Management/*standards\Policy

Making/*Professional Competence\Public Health/education/*manpower\Public Health Administration/education/*manpower\Social Responsibility\Staff Development\United States NOTES: PUBLICATION TYPE:

Journal Article

14. Harmon J, Scotti DJ, Behson S, Farias G, Petzel R, Neuman JH, Keashly L. Effects of high-involvement work systems on employee satisfaction and service costs in veterans healthcare. *J Healthc Manag*. 2003 Nov-Dec;48(6):393-406; discussion 406-7. Available from: 14671948

ABSTRACT: Two strong imperatives for healthcare managers are reducing costs of service and attracting and retaining highly dedicated and competent patient care and support employees. Is there a trade-off or are there organizational practices that can further both objectives at the same time? High-involvement work systems (HIWS) represent a holistic work design that includes interrelated core features such as involvement, empowerment, development, trust, openness, teamwork, and performance-based rewards. HIWS have been linked to higher productivity, quality, employee and customer satisfaction, and market and financial performance in Fortune 1000 firms. Apparently, few prior studies have looked at the impacts of this holistic design within the healthcare sector. This research found that HIWS were associated with both greater employee satisfaction and lower patient service costs in 146 Veterans Health Administration centers, indicating that such practices pay off in both humanistic and financial terms. This suggests that managers implementing HIWS will incur real expenses that are likely to be more than offset by more satisfied employees, less organizational turmoil, and lower service delivery costs, which, in this study, amounted to over \$1.2 million in savings for an average VHA facility.

SUBJECT HEADINGS: Decision Making, Organizational\Efficiency, Organizational\Health Services Research\Hospitals, Veterans/manpower/*organization & administration\Humans*Job Satisfaction\Organizational Culture\Personnel Administration,

Hospital/*methods\Personnel,
Hospital/*psychology\Power
(Psychology)\Psychology,
Industrial\Questionnaires\United
States\United States Department of
Veterans Affairs\Workload/*psychology
NOTES: PUBLICATION TYPE: Journal
Article
PUBLICATION TYPE: Research Support,
U.s. Gov't, Non-P.h.s.

15. Hsu RH, Roberts MW, Tulloch JF, Trotman CA. A study of military recruitment strategies for dentists: possible implications for academia. *J Dent Educ.* 2007 Apr;71(4):501-10. Available from: 17468311

ABSTRACT: Results of the annual American Dental Education Association surveys of dental school seniors show approximately 10 percent of graduates enter federal government services while less than 1 percent enter dental academia. To examine this difference, this study sought the perceptions of senior dental students and junior military dental officers regarding their choice of a military career in order to determine how military recruitment strategies influenced their career decisions. Official documents explaining military recruitment efforts were requested from the military services and summarized. In-depth telephone interviews were conducted to gather perception data from the students and dental officers on successful strategies. By employing several strategies, the military was able to inform potential recruits about the benefits of being a dentist in the military. The opportunity to have the military finance a student's dental education was a successful military recruitment tool. Other enticing factors included guaranteed employment upon graduation, prestige associated with serving in the military, access to postgraduate training, minimal practice management responsibilities, and opportunities to continue learning and improve clinical skills without significant financial implications. It was concluded that dental education can use the same strategies

to highlight the benefits of an academic career and offer many similar incentives that may encourage students to consider a career path in dental education.
SUBJECT HEADINGS: Attitude\Career Choice\Clinical Competence\Education, Dental/economics\Education, Dental, Continuing\Education, Dental, Graduate\Employment*Faculty, Dental\Fellowships and Scholarships/economics\Financing, Government\Humans\Interviews as Topic\Military Dentistry/*manpower\Motivation*Personnel Selection\Practice Management, Dental\Students, Dental/psychology\United States NOTES: PUBLICATION TYPE: Journal Article

16. Hurt L, Jones AM. R&R triumph: 128 new nurses hired in 90 days. *Nurs Manage.* 2005 Jun;36(6):26-7. Available from: 15980728
ABSTRACT: A large Southeastern public health system developed recruitment strategies that reduced agency contract labor cost by millions.
SUBJECT HEADINGS: Georgia\Humans\Nursing Staff/*organization & administration\Organizational Objectives\Personnel Selection/*methods\Personnel Turnover
NOTES: PUBLICATION TYPE: Journal Article

17. Kash BA, May ML, Tai-Seale M. Community health worker training and certification programs in the United States: findings from a national survey. *Health Policy.* 2007 Jan;80(1):32-42. Available from: 16569457
ABSTRACT: OBJECTIVE: To analyze trends and various approaches to professional development in selected community health worker (CHW) training and certification programs in the United States. We examined the expected outcomes and goals of different training and certification programs related to individual CHWs as

well as the community they serve.

METHOD: A national survey of CHW training and certification programs. Data collection was performed through personal interviews, phone interviews and focus groups. Data sources included public health officials, healthcare associations, CHW networks, community colleges, and service providers. Initial screening interviews resulted in in-depth interviews with participants in 19 states. We applied human capital theory concepts to the analysis of the rich qualitative data collected in each state.

RESULTS: CHW programs in the U.S. seem to have been initiated mainly due to lack of access to healthcare services in culturally, economically, and geographically isolated communities. Three trends in CHW workforce development were identified from the results of the national survey: (1) schooling at the community college level - provides career advancement opportunities; (2) on-the-job training - improves standards of care, CHW income, and retention; and (3) certification at the state level - recognizes the work of CHWs, and facilitates Medicaid reimbursement for CHW services.

CONCLUSION: Study findings present opportunities for CHW knowledge and skill improvement approaches that can be targeted at specific individual career, service agency, or community level goals. Trained and/or certified community health workers are a potential new and skilled healthcare workforce that could help improve healthcare access and utilization among underserved populations in the United States.

SUBJECT HEADINGS:
 *Certification\Community Health Aides/*education\Data Collection\Interviews as Topic\State Government\United States

NOTES:
PUBLICATION TYPE: Journal Article
PUBLICATION TYPE: Research Support, U.s. Gov't, Non-P.h.s.
PUBLICATION TYPE: Research Support, U.s. Gov't, P.h.s.

18. Kaufman K. Compensation for nurse educators: findings from the NLN/Carnegie National Survey with implications for recruitment and retention. *Nurs Educ Perspect.* 2007 Jul-Aug;28(4):223-5. Available from: 17715808
SUBJECT HEADINGS: Education, Nursing, Baccalaureate/economics\Education, Nursing, Graduate/economics\Educational Status\Faculty, Nursing/*organization & administration\Humans\Income/*statistics & numerical data\Nursing Administration Research\Occupations/ statistics & numerical data\Personnel Selection\Private Sector/statistics & numerical data\Public Sector/statistics & numerical data\Questionnaires\SALARIES and Fringe Benefits/*statistics & numerical data\United States\Workload/statistics & numerical data
NOTES: PUBLICATION TYPE: Journal Article

19. Lin HL, Rowland ML, Fields HW. In-state graduate retention for U.S. dental schools. *J Dent Educ.* 2006 Dec;70(12):1320-7. Available from: 17170323
ABSTRACT: Currently, dental school graduates are viewed as a resource by their institutions and those who underwrite their educational costs. The purpose of this study was to determine the percentage of dental school graduates who practiced dentistry in the same state as their dental school. Using the American Dental Association database of approximately 35,000 graduates between 1985 and 1995, the data were analyzed to determine the percentage of graduates who were retained and currently reside in the state of their dental school versus those located outside of that state ("exported"). It was also possible to calculate the number of dentists who moved into each state but were educated elsewhere ("imported"). The ratio of imported to exported graduates was calculated and indicated a positive flow into the state when greater than one and an outflow when less than one. Overall, mean graduate retention was 67.3 percent, 65.4 percent, and 44.3 percent for public, public

state-related, and private schools, respectively, while the median graduate retention of 71.1 percent and 71.6 percent for public and public state-related schools made them indistinguishable. The mean import-export ratio for public school graduates was 2.9, indicating that on average nearly three dentists were imported to a state for every public dental school graduate exported. States' total import-export ratio for all types of graduates was 2.2, indicating that on average a little over two dentists were imported to every one exported by a state with a dental school of any kind. The medians for all these ratios were much more modest (0.95 and 0.80 for public dental schools and states with dental schools), indicating that they sent more students out of the state than they imported. Six public dental schools exported greater than 50 percent of their dental graduates, while five public schools retained more than 85 percent of their graduates. Only one private state-related school retained less than 50 percent of its students. In view of these results, it is apparent there is great variability in graduate retention, and the total yield of new dentists for each state is determined by both the retention rate for graduates and its import-export ratio. Most public and public state-related schools do a good job of retaining graduates. When they do send graduates out of state, the median shows they do not gain quite enough to offset those exported. In most instances, this becomes highly problematic only when a low retention rate is paired with a low import-export ratio. Each state must consider its unique situation carefully and consider its yield, the types of problems that face the state in terms of dental workforce, and possible solutions.

SUBJECT HEADINGS:

Dentists/*statistics & numerical data\Humans\Private Sector\Professional Practice Location/*statistics & numerical data\Public Sector\Schools, Dental/*statistics & numerical data\United States

NOTES: PUBLICATION TYPE: Journal Article

20. Mazade NA, Glover RW. State mental health policy: critical priorities confronting state mental health agencies. *Psychiatr Serv.* 2007 Sep; 58(9):1148-50. Available from: 17766556

ABSTRACT: The authors of this column report on an environmental scan conducted via intensive interviews of the 55 state and territorial state mental health agency (SMHA) directors who collectively oversee a \$28 billion budget and serve nearly six million Americans who have a serious mental illness. Currently, a dynamic set of forces are substantively reshaping the role, resources, and capacities of the SMHA within the larger fabric of state government. As such, SMHA directors developed year 2007 priorities. These priorities include integrating health and mental health care, enhancing consumer empowerment, addressing mental health workforce crises (for example, training and recruitment), and ensuring financial stewardship.

SUBJECT HEADINGS: *Health

Policy\Humans\Interviews as Topic\Mental Health Services/legislation & jurisprudence/*organization & administration\Organizational Objectives\State Government\United States

NOTES: PUBLICATION TYPE: Journal Article

21. Moon MW, Henry JK, Connelly K, Kirsch P. Public health nurses for Virginia's future: a collaborative project to increase the number of nursing students choosing a career in public health nursing. *Am J Public Health.* 2005 Jul;95(7):1102-5. Available from: 15983267

ABSTRACT: A shift in the role of public health practice in the United States to population-focused care, together with demographic shifts increasing the diversity and age of the population, has created a need for a public health workforce more highly skilled in community and population-based practices. Despite this need, few changes have been made in the pattern of field placements for nursing students, in part because many public health nurses in population-focused

roles are unfamiliar with models of successful student fieldwork in their areas. We describe the Public Health Nurses for Virginia's Future project, a successful project undertaken by nurse educators and public health leaders to increase the number of highly qualified graduates working in state and local health departments.

SUBJECT HEADINGS: *Career Choice\Goals\Humans\Public Health Nursing/*education/trends\Students, Nursing/*psychology\Virginia NOTES: PUBLICATION TYPE: Journal Article PUBLICATION TYPE: Research Support, U.s. Gov't, P.h.s.

22. National Public Health Leadership Institute, Florida Team. Florida public health nurse workforce initiative: opportunity through crisis. Fla Nurse. 2005 Jun;53(2):30. Available from: 16021814

ABSTRACT: The National Public Health Leadership Institute (NPHLI), a partnership between the Centers for Disease Control and Prevention and the University of North Carolina at Chapel Hill invites public health professionals to participate in a 2 year leadership program. Three Florida nurses participated in the NPHLI along with a cadre of 40 to 50 participants from the United States and foreign countries. Part of

repayment, direct financial incentives, and resident support programs-with little documentation of their effectiveness. OBJECTIVE: The objective of this study was to assess outcomes of states' support-for-service programs as a group and to compare outcomes of the 5 program types. DESIGN: We conducted a cross-sectional, primarily descriptive study. PARTICIPANTS: We studied all 69 state programs operating in 1996 that provided financial support to medical students, residents, and practicing physicians in exchange for a period of service in underserved areas; federally funded initiatives were excluded. We also surveyed 434 generalist physicians who served in 29 of these state programs and a matched comparison group of 723 nonobligated young generalist physicians. DATA COLLECTION: Information on eligible programs was collected by telephone, mail questionnaires, and from secondary sources. Obligated and nonobligated physicians were surveyed, with 80.3% and 72.8% response rates, respectively. MAIN OUTCOME MEASURES: Levels of socioeconomic need of communities and patients served by physicians, programs' participant service completion and retention rates, and physicians' satisfaction levels. RESULTS: Compared with young nonobligated generalists, physicians serving obligations to state programs practiced in demonstrably needier areas and cared for more patients insured under Medicaid and uninsured (48.5% vs. 28.5%, $P < 0.001$). Service completion rates were uniformly high for loan repayment, direct incentive, and resident-support programs (93% combined) but lower for student-targeting service-option loan (mean, 44.7%) and scholarship (mean, 66.5%) programs. State-obligated physicians were more satisfied than nonobligated physicians, and 9 of 10 indicated that they would enroll in their programs again. Obligated physicians also remained longer in their practices than nonobligated physicians ($P = 0.03$), with respective group retention rates of 71% versus 61% at 4 years and 55% versus 52%

at 8 years. Retention rates were highest for loan repayment, direct incentive, and loan programs. CONCLUSIONS: States' support-for-service programs bring physicians to needy communities where a strong majority work happily and with at-risk patient populations; half stay over 8 years. Loan repayment and direct financial incentive programs demonstrate the broadest successes.

SUBJECT HEADINGS: Adult\Analysis of Variance\Cross-Sectional Studies\Fellowships and Scholarships\Female\Humans\Male*Medically Underserved Area\Middle Aged\Physician Incentive Plans/*legislation & jurisprudence\Physicians, Family/economics/*supply & distribution\Primary Health Care/manpower\Professional Practice Location/*economics\Questionnaires\Rural Health Services/economics/*manpower*State Government\Training Support/*legislation & jurisprudence\United States NOTES: PUBLICATION TYPE: Comparative Study PUBLICATION TYPE: Journal Article PUBLICATION TYPE: Research Support, U.s. Gov't, P.h.s.

24. Perlino, Courtney M. The Public health workforce shortage: left unchecked, will we be protected. Issue Brief. American Public Health Association. 2006 Sept;12p.
25. Perrin JM, Fluet CF, Honberg L, Anderson B, Wells N, Epstein S, Allen D, Tobias C, Kuhlthau KA. Benefits for employees with children with special needs: findings from the collaborative employee benefit study. Health Aff (Millwood). 2007 Jul-Aug;26(4):1096-103. Available from: 17630452

ABSTRACT: Approximately 13-15 percent of U.S. children have special health care needs. The demands of their caregiving can affect their parents' health and workplace performance. We interviewed forty-one U.S. employers and conducted focus groups

with working parents in four U.S. cities to determine the extent to which employers understand the needs of these families and to identify opportunities for improving workplace benefits for these employees beyond health insurance. Employers saw value in improving workforce performance and employee retention through expanded benefits and indicated promising opportunities to improve their response to the needs of employees with children with chronic conditions.

SUBJECT HEADINGS:

Boston\Caregivers/*economics/psychology\
Child\Child Care/economics/statistics &
numerical data\Disabled Children/*statistics
& numerical data\Family\Family
Leave/economics/legislation &
jurisprudence/utilization\Florida\Focus
Groups*Health Benefit Plans,
Employee\Home
Nursing/*economics\Humans\Interviews as
Topic\Occupational Health
Services/methods\Ohio\Organizational
Policy\Private Sector/statistics & numerical
data\Public Sector/statistics & numerical
data\United States/epidemiology\Urban
Health\Washington

NOTES:

PUBLICATION TYPE: Journal Article

PUBLICATION TYPE: Research Support,
U.s. Gov't, P.h.s.

26. Resnick B, Zablotsky J, Farrow O, Glotfelty R, Heard P, Kelly S, Mitchell C, Phillips F, Burke T. Enhancing the Maryland environmental public health workforce: a collaborative approach. *J Environ Health.* 2007 Jul-Aug;70(1):32-6, 63. Available from: 17802814

ABSTRACT: The practice of environmental public health (EPH)-ensuring food, water, and sanitation protection-is the traditional cornerstone of public health. Demands on the EPH infrastructure have broadened, however, to involve issues such as chemical and physical hazards in the environment, the role of the built environment in health, and disaster preparedness. Maryland, with its varied geography and population densities, faces many of the EPH challenges

that are present elsewhere throughout the nation. A strong and stable EPH workforce is an essential ingredient in addressing these challenges. Yet significant workforce obstacles exist, including recruitment shortfalls, inability to retain qualified staff, impending retirements, inadequate training opportunities, insufficient compensation, and the absence of a robust career advancement pathway. Recognizing the importance of EPH protection for Maryland's future, state and local agencies and academic institutions are working collaboratively to address EPH challenges. Much progress has been made: Communication and interaction between state and local agencies have been strengthened; practitioners and academic institutions have collaborated to improve EPH training opportunities; and workforce development efforts have been made to address recruitment and retention challenges. Although there have been significant accomplishments, much work remains. It is imperative that these efforts continue and that they be supported at all levels of government. Coordination and communication, as well as the training, recruitment, and retention of the workforce, are critical to a strong and responsive EPH infrastructure.

NOTES: **PUBLICATION TYPE:** Journal Article, **PUBLICATION TYPE:** Research Support, U.s. Gov't, P.h.s.

27. Savage L. Epidemiologists in short supply, states say. *J Natl Cancer Inst.* 2007 Jun 6;99(11):834-5. Available from: 17551141
SUBJECT HEADINGS: Education, Medical, Graduate\Epidemiology/education/*manpower/trends\Health Manpower/*statistics & numerical data\Humans\Public Health/manpower\United States
NOTES: **PUBLICATION TYPE:** News
28. Simpson RL, Bolton LB. Roundup: Perspectives on a perfect storm. *Nursing Administration Quarterly.* 2007

Apr;31(2):99-104.

ABSTRACT: This article offers perspectives on the nursing shortage and how to deal with them from a variety of healthcare leaders.

SUBJECT HEADINGS:

Consumerism\ Diversity; Education\ Nurse shortage\ Nursing practice\ Policy\ Public health\ Research\ Technology\ Workplace

29. Smith AP. Misery finds collaborative company: Addressing the health workforce shortage through a multidisciplinary approach. *Nursing Economics*. 2005 Sept;23(5):261-64.

ABSTRACT: Like nursing, many health care professions are experiencing significant workforce shortages including social work, public health, pharmacy, medicine, science/research, and other allied health disciplines. ? Recruitment efforts from other disciplines can easily be viewed as a competitive threat, but one organization convened multidisciplinary leaders to address their common problems with a collaborative approach.

30. Styron TH, Shaw M, McDuffie E, Hoge MA. Curriculum resources for training direct care providers in public sector mental health. *Adm Policy Ment Health*. 2005 May-Jul;32(5-6):633-49. Available from: 16082799

ABSTRACT: Direct care personnel who do not have graduate-level professional degrees provide a substantial amount of client care in mental health organizations across the nation. Training for them is minimal in many settings. This shortcoming may negatively affect client care, staff recruitment and retention, and the effective use of scarce resources. In this paper, we identify and review curriculum resources available to mental health organizations interested in implementing or enhancing training programs for direct care personnel. These include two relevant competency sets and six portable training curricula, as well as information on how to access these resources.

SUBJECT HEADINGS: Behavioral Medicine/*education/standards*Clinical Competence*Curriculum\Education, Continuing\Education, Graduate\Humans\Mental Disorders/*therapy\Mental Health Services/manpower/*standards\Program Development\Public Health Administration/*education/standards\Quality of Health Care\Staff

Development/*methods\Teaching

Materials\United States NOTES:

PUBLICATION TYPE: Journal Article

PUBLICATION TYPE: Research Support, U.s. Gov't, P.h.s.

31. Swain GR, Schubot DB, Thomas V, Baker BK, Foldy SL, Greaves WW. Three hundred sixty degree feedback: Program implementation in a local health department. *Journal of public health management and practice*. 2004;10(3):266-71.

ABSTRACT: Three Hundred Sixty Degree Feedback systems, while popular in business, have been less commonly implemented in local public health agencies. At the same time, they are effective methods of improving employee morale, work performance, organizational culture, and attainment of desired organizational outcomes. These systems can be purchased "off-the-shelf," or custom applications can be developed for a better fit with unique organizational needs. We describe the City of Milwaukee Health Department's successful experience customizing and implementing a 360-degree feedback system in the context of its ongoing total quality improvement efforts.

SUBJECT HEADINGS: Staff Development/*organization & administration/Public Health Administration/*standards/*Employee Performance Appraisal/*Feedback

32. Thacker K. Academic-community partnerships: opening the doors to a nursing career. *J Transcult Nurs*. 2005 Jan;16(1):57-

63. Available from: 15608100

ABSTRACT: With the belief that diversity is strength, the community of Reading, Pennsylvania, set forth an effort to meet the challenges of the disparity within the local nursing workforce with a comprehensive, long-term approach for the recruitment and retention of an underrepresented group. An academic-community partnership was formed to develop multifaceted programs and support across school and community agency systems. The Alvernia College Nursing Department has taken a leadership role to coordinate many community and health care agencies with the goal of increasing the number of baccalaureate-prepared Hispanic and bilingual nurses to provide culturally competent and sensitive care to the community.

SUBJECT HEADINGS: *Career Choice*Community-Institutional Relations*Consumer Participation\Cultural Diversity\Education, Nursing, Baccalaureate/*organization & administration\Health Services Needs and Demand*\Hispanic Americans/education/psychology\Humans\Leadership\Multilingualism\Organizational Objectives\Pennsylvania\Personnel Selection/organization & administration\Poverty Areas\Private Sector/organization & administration\Program Development\Public Sector/organization & administration\Schools, Nursing/*organization & administration\Social Support\Training Support/organization & administration\Transcultural Nursing/education\Urban Population\Vocational Guidance/organization & administration

NOTES: PUBLICATION TYPE: Journal Article

PUBLICATION TYPE: Review

NUMBER OF REFERENCES: 19

33. Trinkoff A, Geiger-Brown J, Brady B, Lipscomb J, Muntaner C. How long and how much are nurses now working? Am J

Nurs. 2006 Apr;106(4):60-71, quiz 72.

Available from: 16575241

ABSTRACT: **OBJECTIVE:** Extended work schedules-those that vary from the standard eight hours per day, 35 to 40 hours per week-are common in nursing and contribute to problems with nursing recruitment and retention, in addition to compromising patient safety and the health and well-being of nurses. This study describes the nature and prevalence of such schedules across nursing settings. **METHODS:** Quantitative survey data collected as part of the Nurses Worklife and Health Study were analyzed. The sample consisted of 2,273 RNs. Demographic data, information about respondents' primary jobs (position, workplace, and specialty), and specific work schedule variables were analyzed, including data on off-shifts, breaks, overtime and on-call requirements, time off between shifts, and how often respondents worked more than 13 hours per day and on scheduled days off and vacation days. Respondents were also asked about activities outside of work, commuting time, and other non-nursing activities and chores. **RESULTS:** More than a quarter of the sample reported that they typically worked 12 or more hours per day, as did more than half of hospital staff nurses and more than a third of those with more than one job. A third of the total sample worked more than 40 hours per week, and more than a third worked six or more days in a row at least once in the preceding six months. Nearly a quarter rotated shifts. Almost one-quarter of nurses with more than one job worked 50 or more hours per week, and they were more likely to work many days consecutively, without sufficient rest between shifts, and during scheduled time off. Single parents were as likely as those with more than one job to work 13 to 15 hours per day, 50 to 60 hours or more per week, and many days consecutively. Seventeen percent of all nurses worked mandatory overtime, as did almost a quarter of the single parents. Nearly 40% of the total sample and more than 40% of hospital staff nurses had jobs with on-call requirements.

CONCLUSIONS: The proportion of nurses who reported working schedules that exceed the recommendations of the Institute of Medicine should raise industry-wide concerns about fatigue and health risks to nurses as well as the safety of patients in their care.

SUBJECT HEADINGS: Adult\Age Factors\Cross-Sectional Studies\Employment/*organization & administration\Female\Guidelines as Topic\Health Services Needs and Demand\Humans\Institute of Medicine (U.S.)\Longitudinal Studies\Male\Middle Aged\National Institute for Occupational Safety and Health (U.S.)\Nursing Administration Research\Nursing Staff/*organization & administration\Occupational Health\Personnel Staffing and Scheduling/*organization & administration\Questionnaires\Safety Management\Single Parent/statistics & numerical data\Specialties, Nursing/organization & administration\Time Factors\United States\Work Schedule Tolerance\Workload/*statistics & numerical data NOTES: PUBLICATION TYPE: Journal Article PUBLICATION TYPE: Research Support, N.i.h., Extramural

34. Waite PJ, Richardson GE. Determining the efficacy of resiliency training in the work site. *J Allied Health*. 2004 Fall;33(3):178-83. Available from: 15503750

ABSTRACT: Resilience and resiliency training, an approach that encompasses the complementary and alternative medicine movement, seems to be an important concept and philosophy that can be embraced by allied health professionals. The purpose of this study was to determine the efficacy of a worksite resiliency training program (personal resilience and resilient relationships [PRRR]) by evaluating its impact on innate resilience/reintegration, selected resilient qualities (self-esteem, locus of control, purpose in life, and

interpersonal relations), and job satisfaction. The experimental group received the PRRR training, and the control group did not receive any training. The PRRR training comprised five 8-hour training modules. The study was implemented at a large government organization's facility in Northern Utah. A total of 232 participants were assigned randomly by work unit into the PRRR training group (n = 123) and the control group (n = 109); 150 participants (73 in the experimental and 77 in the control group) were present at all three data collections and were eligible for analysis. Significant and positive change occurred in the experimental group, based on combined survey data, with regard to five of the six variables, with job satisfaction being the only variable not showing positive change in this group. The control group saw no positive effects. The results of the study support the efficacy of the PRRR training as implemented in the work site.

SUBJECT HEADINGS: *Adaptation, Psychological\Adult\Analysis of Variance\Female\Health Education/*methods\Health Promotion/*methods*Holistic Health\Humans\Internal-External Control\Interpersonal Relations\Job Satisfaction\Male\Middle Aged\Program Evaluation\Self Assessment (Psychology)\Self Concept/*Self Efficacy\State Government\Utah\Workplace/*psychology NOTES: PUBLICATION TYPE: Clinical Trial, PUBLICATION TYPE: Journal Article, PUBLICATION TYPE: Randomized Controlled Trial

35. Warren N, Hodgson M, Craig T, Dyrenforth S, Perlin J, Murphy F, Veterans Health Administration. Employee working conditions and healthcare system performance: the Veterans Health Administration experience. *J Occup Environ Med*. 2007 Apr ;49(4):417-29. Available from: 17426525

ABSTRACT: OBJECTIVE: The authors explored the association between health

care employees' perceptions of their organizations and objective measures of system performance. **METHODS:** A national survey of employees conducted in 2001 by the Veterans Administration (VA) assessed employee perceptions of hospital organizational characteristics. The authors analyzed cross-sectional associations between these perceptions and objective measures of health care system performance--employee and patient care outcomes. **RESULTS:** Employee perceptions of organizational climate (indicators of the organizational culture) were strongly related to overall satisfaction and measures of system performance. Overall, change in perceptions of organizational climate by 1 standard deviation (SD) was potentially associated with changes of 2% to 35% in selected outcomes. **CONCLUSIONS:** Organizational climate, policies, and resultant working conditions in health care institutions appear to be strong drivers of system performance. Interventions directed toward improving care quality and safety should address these factors.

SUBJECT HEADINGS: Adult\Cross-Sectional Studies\Health Care Surveys\Humans*Job Satisfaction\Middle Aged*Organizational Culture\Outcome Assessment (Health Care)\United States\United States Department of Veterans Affairs/*organization &\administration/standards\Workplace/*psychology **NOTES:** **PUBLICATION TYPE:** Journal Article **PUBLICATION TYPE:** Research Support, U.s. Gov't, Non-P.h.s.