

# Florida Public Health Association 2009 Survey of Academic Public Health Programs in Florida

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## ABSTRACT

*Preparing the public health workforce is essential to the protection of the health and wellbeing of the state and the nation. Yet, a workforce shortage is looming. It is anticipated that by 2020, the nation will be facing a shortfall of more than a quarter of a million public health workers. To address this impending shortage, the Association of Schools of Public Health (ASPH) has stressed the need to build public health education capacity, with emphasis on competencies and curriculum in emerging diseases, with joint degrees, and with diverse approaches to education, including certificates and distance learning. To assess Florida's available public health professional preparation programs in meeting workforce needs, the Academic Committee of the Florida Public Health Association (FPHA) undertook a survey of the nine public and private universities offering the MPH degree in the state.*

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## Background

Preparing the public health workforce is essential to the protection of the health and wellbeing of the state and the nation. Yet, a workforce shortage is looming. It is anticipated that by 2020, the nation will be facing a shortfall of more than a quarter million public health workers (Association of Schools of Public Health, 2010). Shortages of public health physicians, public health nurses, epidemiologists, health care educators, and administrators are anticipated.

Although the U.S. population is growing, there were 50,000 fewer people working in public health in 2000 compared to 1980. Additionally, 1 in 4 current government public health workers will be eligible to retire next year. This shortage translates to suboptimal capacity. A national survey by the Council of State and Territorial Epidemiologists found that the number of epidemiologists in state health departments decreased approximately 12% from 2004 to 2009. Two-thirds or more states reported less than substantial (< 50% of optimum) surveillance and epidemiology capacity in five of nine program areas. State health departments need 68% more epidemiologists to reach optimal capacity in all program areas (Boulton et al, 2011).

To address this impending shortage, the Association of Schools of Public Health (ASPH) has stressed the need to build public health education capacity, with emphasis on competencies and curriculum in emerging diseases, with joint degrees, and with diverse approaches to education, including certificates and distance learning (Association of Schools of Public Health, 2010).

*Healthy People 2020* identifies the need for a strong public health infrastructure, including an adequate work force for planning, delivering, and evaluating public health. Among the national objectives for *Healthy People 2020* is to increase the proportion of 4-year colleges and universities that offer public health or related majors and/or minors (PHI-4). Currently, 7 percent of 4-year colleges and universities offered public health or related majors in 2008; the goal is to have 10 percent offering public health majors by 2020 (U.S. Department of Health and Human Services 2010).

To improve understanding of the available programs in public health in Florida to meet workforce needs, the Academic Committee of the Florida Public Health Association (FPHA) undertook a survey of the nine public and private universities offering the MPH degree in the state. The FPHA survey was based on one conducted by Valerie Hepburn and John Palmer, formerly in the College of Public Health at the University of Georgia, and modified by the FPHA Academic Committee.

The survey was completed by nine universities in Florida that offer a Masters in Public Health (MPH) and other public health degrees and certificates. The universities are: Barry University School of Natural & Health Sciences; Florida A&M College of Pharmacy and Pharmaceutical Sciences Institute of Public Health; Florida International University (FIU) Robert Stempel College of Public Health and Social Work; Nova Southeastern University, College of Osteopathic Medicine; University of Florida (UF), College of Public Health and Health Professions; University of Miami

Graduate Programs in Epidemiology and Public Health; University of North Florida, Brooks College of Health; University of South Florida (USF) College of Public Health; and University of West Florida. Three of the institutions are Colleges of Public Health: UF, USF, and FIU. Other colleges and universities in Florida that offer a degree in public health were either not surveyed or did not respond.

The survey data are presented in a number of tables and figures covering the areas of: degrees and curriculum; characteristics of the students, characteristics and activities of the faculty, and perspectives on public health practice.

### Degrees and Curriculum

All nine universities offer the MPH; three offer a doctoral degree (Table 1). Four programs offer certificates in a number of areas (Table 2). Of the six major program areas (Table 3), the most frequently offered at the masters level are general practice, social and behavioral sciences and health services administration. At the doctoral level, the most frequently offered fields of study are epidemiology, social and behavioral sciences, and biostatistics.

In 2007-2008, student enrollment in public health programs in Florida was 1,819. Seventy-five percent of the students were in MPH programs, Bachelor's programs comprised 14.5%, and 10.5% were in enrolled in doctoral programs.

Specific courses are listed on Table 4. Many of these courses are offered under a variety of departments and/or course prefixes that are not consistent among the universities.

Table 4 lists course topics that address the cross-cutting competencies, recommended by ASPH expert committees, for all public health students. Some of the areas are emerging as priorities in public health and may be included in other courses. The survey focused only on full courses in these areas. All of the programs offered a course in Policy and Law. Seven had a course in Global Health, and six offered courses in Cultural Competence, Community-based Participatory Research, and Public Health Ethics. In Genomics, an emerging field with major implications for public health, only four programs offered a full course.

Eight programs allow students to take courses in other departments and colleges in the university (Table 5). The most frequent are in Public Administration and Policy and Education. Seven programs offer all or some of their curricula via distance learning, and core courses are most frequently offered online. Four institutions offer entire degree programs via distance learning. Of these, two offer a general MPH and one each offer public health practice and public health administration. Five institutions offer 88%-100%

and another three offer 10% - 44% of their courses in the late afternoon and evening. Two programs also offer all of their courses on weekends. One program offers only daytime courses.

### Students

The percentage of students with previous experience in public health who enter degree programs in public health varies by institution from 15% to 100% at schools requiring previous experience. The average for all 9 institutions is 53% and half of the programs indicate a range of 40%-60%. Five of the 9 universities consider professional experience to be 'very important' or 'important' in considering admissions to their programs (Figure 1).

The percentage of the graduate students attending full time (i.e., taking 9 or more hours per semester) varies from 5%-50% with a mean of 28%. The majority of institutions report 20%-40% of their students are full time.

Respondents from the programs indicated that the majority of students plan to 'remain in-state for future studies or practice after graduation' (mean of 68%, range by institution of 35%-85%) or 'to pursue public health practice' without designating location (mean 62% and range 45%-84%). Other options included continuing work or seeking a new position at a state or local health department, pursuing further studies or an internship/practicum (Table 6). About a third of the students indicated an interest in a rural public health setting.

### Public Health Internships

Internships and practica are important components of public health education. All reporting universities require an internship for master's students (Table 7). The total number of internship hours for master's students varies by institution with a mean of 287 and a range of 180-435 hours with the majority of programs requiring 200+ to 300 hours. Students receive 1-12 credits for internships/practica with the majority of programs offering 6 credits. Table 8 presents the number of students participating in internships/practica in 2007-2009 in public health practice settings. The data indicated that 630 students participated in this educational experience over the past two years. .

### Alumni Tracking

Tracking alumni of these programs is an important part of building a strong alumni base, for increasing opportunities for internships and employment, and for assessing workforce development. The majority of universities place their students in local and state agencies working in the areas of program administration, disease control or clinical services (Table 9). Alumni involved in

**Table 1. Public Health Degrees in Florida Universities**

<b>Degree (N=9)</b>	<b>Number of Universities Offering Degree</b>
PhD	3
DrPH	1
Bachelors	1
other: non-specified	2
MHA	1
MSPH	1
MPH	9

**Table 2. Number of Universities Offering a Certificate in Public Health**

<b>Number of Universities Offering a Certificate (N=4)</b>		<b>Academic Levels</b>
		3 Graduate only 1 Undergraduate & Graduate
<b>Certificate Type Offered</b>	<b>Number of Universities</b>	<b>Academic Levels</b>
Public Health	2	1 Graduate & undergrad 1 Graduate only
No certificate offered	5	n/a
Biostatistics	1	Graduate
Epidemiology	1	Graduate
Disaster Management	1	Graduate
Health Management and Leadership	1	Graduate
Humanitarian Assistance	1	Graduate
Maternal and Child Health	1	Graduate
Infection Control	1	Graduate
Public Health Generalist	1	Graduate
Public Health Policy & Programs	1	Graduate
Safety Management	1	Graduate
Social Marketing & Public Health	1	Graduate
Violence & Injury: Prevention & Intervention	1	Graduate
Women's Health	1	Graduate

**Table 3. Fields of Study in Florida Universities with Programs in Public Health**

Field of Study	Number of Universities	Number of Universities Offering Field of Study by Academic Level				Total Number of Students Enrolled in Field of Study 2008			
		<i>Certificate</i>	<i>Bachelors</i>	<i>Masters</i>	<i>Doctoral</i>	<i>Certificate</i>	<i>Bachelors</i>	<i>Masters</i>	<i>Doctoral</i>
	<i>N=</i>								
Biostatistics	4	2	0	4	3	n/a	n/a	58	17
Environmental Health	4	2	0	4	2	n/a	n/a	178	36
Epidemiology	5	3	0	4	4	n/a	n/a	184	59
Health Services Administration	5	3	0	5	2	n/a	n/a	261	27
Social & Behavioral Sciences	5	2	1	5	3	n/a	265	364	52
General Practice	6	3	0	6	0	n/a	n/a	318	n/a

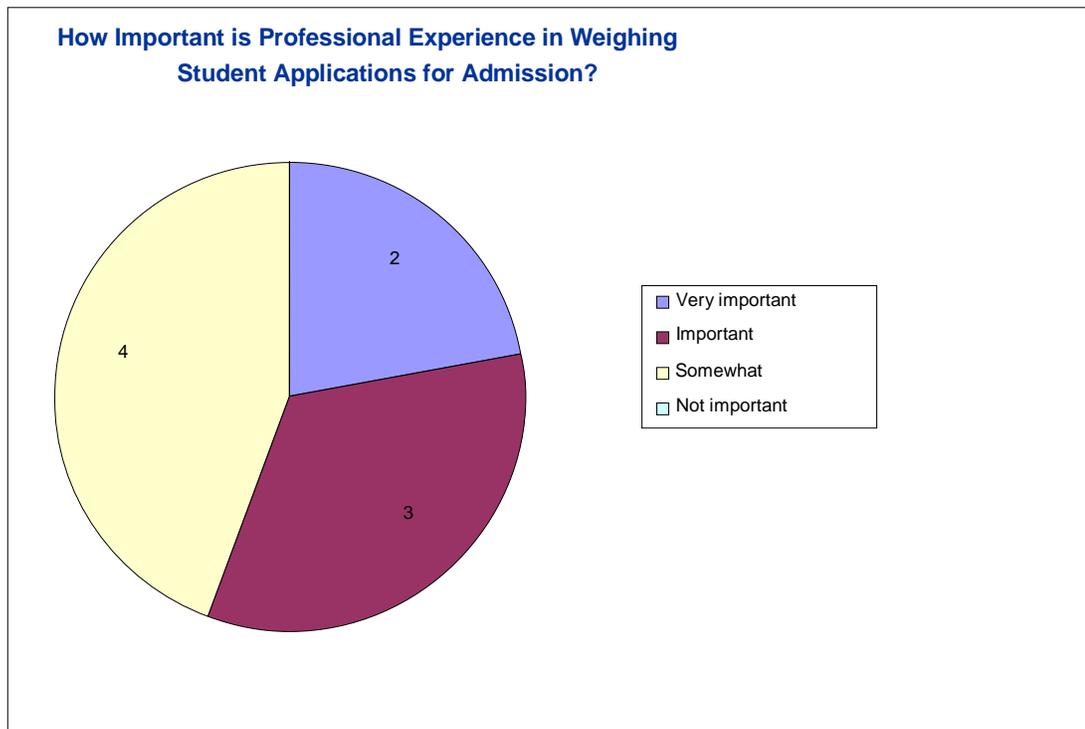
**Table 4. Number of Universities Offering Devoted to the Following Academic Areas (N=9)**

Informatics	5
Genomics	4
Communication	5
Cultural Competence	6
Community-Based Participatory Research	6
Global Health	7
Policy and Law	9
Public Health Ethics	6

**Table 5. Number of Schools (N=8) Allowing Students Coursework in Other Academic Units**

Departments	Number of Universities
Nursing	3
Medicine	3
Nutrition	3
Pharmacy	3
Education	5
Public Administration/Policy	5
Vet Med	1
Liberal Arts	1
Agriculture	1
Biology	1
Sociology	1
Psychology	1
Marine science	1
Math/statistics	1
Social work	1
Anthropology	1
Engineering	1

**Figure 1**



**Table 6. Probable Post-Graduate Plans of Florida Public Health Students**

	<b>Average Percentiles (Percentile Range)</b>
Worked at state or local health department prior to enrollment	11 (1-30)
Work at state or local health departments after graduation	24 (5-60)
Pursue doctoral studies or academic placement after graduation	30 (10-65)
Pursue public health practice after graduation	62 (45-84)
Remain in-state for future studies or practice after graduation	68 (35-85)
Engaged in internship/practicum in a rural public health setting	30 (2-80)
Engaged in internship/ practicum in a location 50 or more miles away from your school or program	23 (0-50)

**Table 7. Number of Universities with Specific Internship Requirements for Health Profession Students**

	<b>Yes</b>	<b>No</b>
Required for bachelors students	1	8
Required for masters students	9	0
Required for doctoral students	1	8
Required for certificate students	0	7

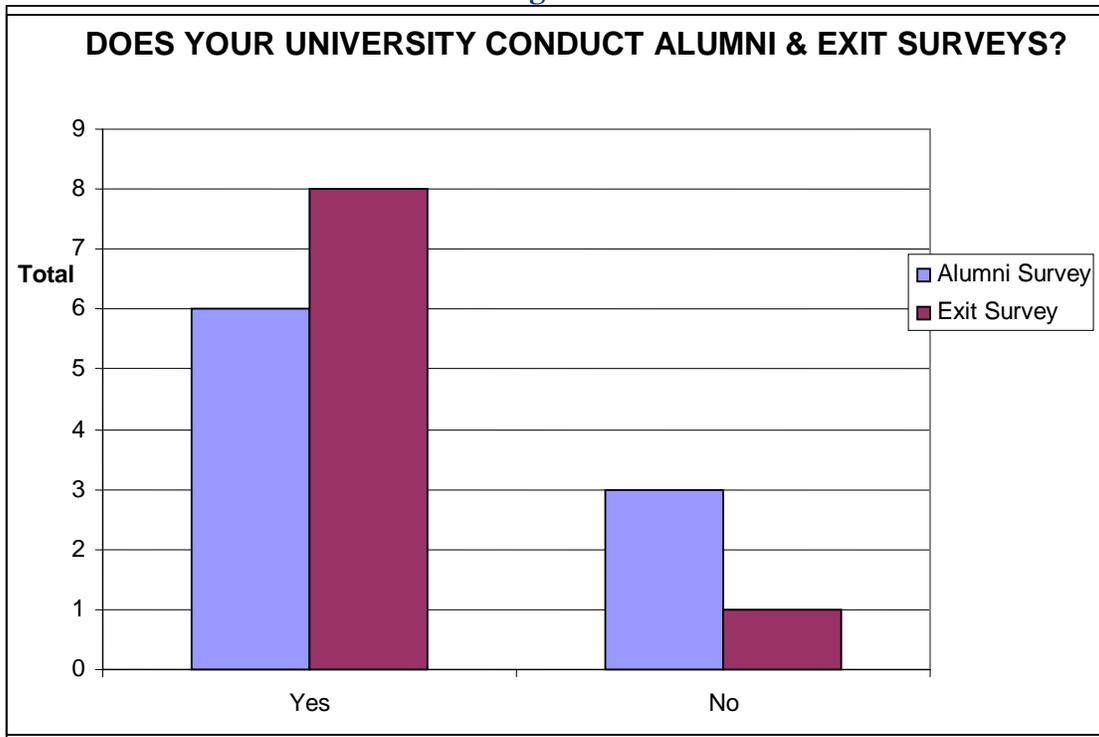
**Table 8. Number of Students in Internships in Public Health Practice Settings**

	<b>Local</b>	<b>State</b>	<b>Federal</b>	<b>Non-Profit</b>	<b>Other Public Health</b>	<b>Total Number of Students</b>
Bachelors	15	5	blank	25	10	55
Masters	124	78	53	160	160	575
Total number of students	139	83	53	185	170	630

**Table 9. Number of Universities with Graduates Who Move into Public Health Agencies**

Area	Local	State	Federal	Non-Profit	Other Public Health
Program Administration 7/9	6	5	1	5	1
Executive Management/Leadership 4/9	2	3	0	0	1
Program Planning 5/9	5	4	2	4	1
Disease Control 7/9	5	5	4	2	2
Surveillance 5/9	4	4	1	1	1
Epidemiology 5/9	5	5	2	0	3
Clinical Services 7/9	5	3	0	2	1

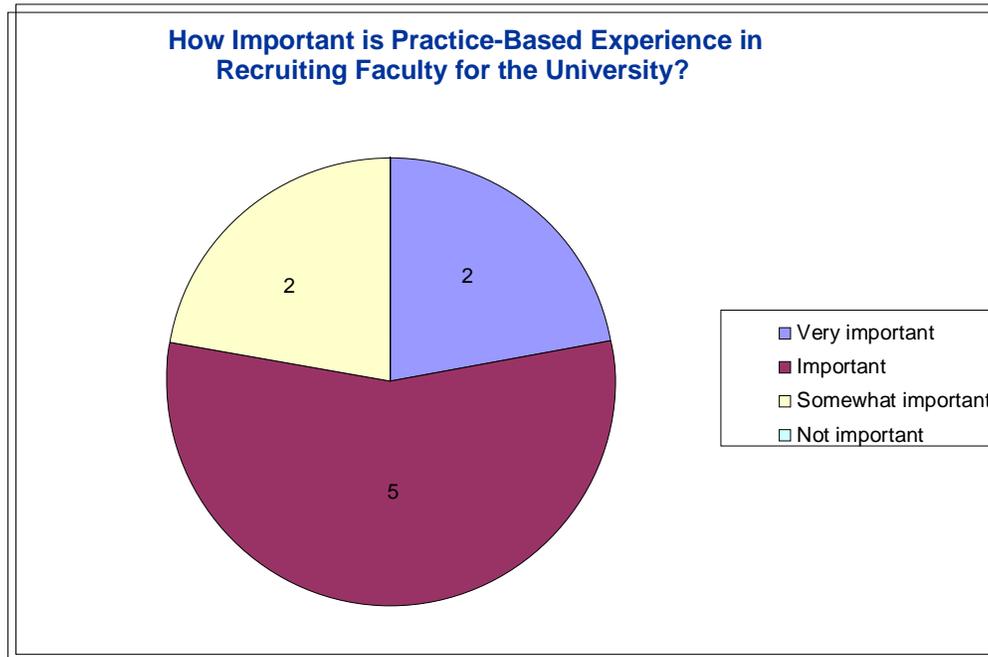
**Figure 2**



**Table 10. Appointment Status of Faculty in Various Academic Categories**

	Full time faculty with primary appointments in the program of public health ( <i>N</i> = 2-106)	Full time faculty at the institution but with primary appointment in another school ( <i>N</i> = 0-20)	Part-time or adjunct faculty who teach at least one course a year ( <i>N</i> = 4-49)	Total number of faculty
<b>Totals</b>	237	45	135	417

**Figure 3**



*N* = number of programs with indicated response

**Table 11. Number of Universities with Faculty who Undertake Professional Responsibilities in Various Public Health Practice Settings and Levels**

Area	N	Local	State	Federal	Non-Profit	Other Public Health
Requested Research Project	8	7	5	4	4	4
Technical Assistant	8	8	6	2	4	2
Professional Responsibilities	6	5	2	2	2	2
Staff Development or Training	5	5	3	2	2	2
Appointment to Professional Advisory Committee	7	6	7	4	4	1

**Table 12. Program Involvement of Professionals from the Practice Community**

Adjunct faculty	8
Part-time instructors	3
Guest-speakers	8
Preceptors or Internship Supervisors	8
Advisory committee, research requested at federal level, MHA, MSPH, PhD	1

program administration are also employed in the non-profit sector while those involved in disease control are in federal agencies (Table 9). Eight of 9 universities conduct exit surveys and 6 of 9 conduct alumni surveys (Figure 2).

### Faculty

The number of faculty teaching public health and related courses and their part or full time status are reported in Table 10. Of the 417 total faculty at the 9 universities, a slight majority ( $N = 237$ , 57%) are full time with primary appointments in programs of public health. About one-third ( $N = 135$ , 32%) are part-time or adjunct faculty. The total number of faculty members varies substantially among institutions from a total of 23 to 155.

Seven institutions indicated that it was 'very important' or 'important' that faculty members have practice-based experience (Figure 3). Faculty serve in a variety of other capacities in local, state, federal, non-profit and other agencies in descending order of reported involvement by universities (Table 11). They engage in research projects (8/9) provide technical assistance (8/9) and staff development (5/9), serve as health officers (6/9) and on advisory committees (7/9) (Table 11). The percentages of faculty involved in public health practice varies among the institutions. Conversely, 8 of 9 universities report that practicing professionals are involved in their academic programs in a number of capacities (Table 12).

### Research and Service

Four broad categories of research are reported with all universities reporting engagement in basic or fundamental research and applied research (Table 13). One private university reports the highest frequency of basic research while a public university reports the highest frequency of applied research. Overall about one-third of research is conducted in these 2 areas. Institutions report a lower frequency of engagement in translational and evaluative research. Universities reported the frequency of specific activities carried out over the two-year period (2007-2009) (Table 14). They had regular involvement in public health workforce development (6/9) and limited activities with public health advocacy with local governments and research requested by local policy makers. Overall about one-third of the universities had regular or limited engagement in the activities described on Table 14.

### Perspectives on Public Health Practice

Seven of 9 universities completing the survey

indicated that they had the development of public health workforce as a primary mission. One institution stated that it was the mission of the MPH program but not the university. Many stated how this mission was accomplished:

- *“through excellence and innovation in graduate teaching and public health research, and a commitment to community and professional service that promotes healthy populations”;*
- *“ through our courses and field placements we prepare students to provide public health service, including primary medical and preventive care”;*
- *“work with local health departments and other public health agencies to determine workforce needs”;*
- *“ engage public health administrators and qualified staff in teaching.... and advisory committee activities”;*
- *“we engage local stakeholders to identify areas of high need pertaining to workforce development”;*
- *“work within the CDC and the USPHS. We also have students from various Armed Services divisions, the Coast Guard, EPA and other government entities including state and local departments of health”.*

Eight of 9 universities agreed that training or a degree in public health should be required for professionals employed in the field of public health. A number of reasons were stated that supported this view including: *“a basic skill and knowledge set that is necessary to successfully work in the field; and therefore, also aligns with the idea of certification within the profession and the certification exam.”* Eight universities considered the masters level degree to be the appropriate entry level while one each indicated the bachelors and the doctorate.

Impediments to entering public health practice after graduation were varied although there was no clear consensus of importance of these factors. The most frequently cited reason was 'the perceived work environment or salary in public health agencies.' Other reasons included 'not wanting to work for a government agency' and 'a greater interest in clinical than public health practice.' Furthermore, the recent economic crises have cut positions in public health so it is much more competitive to find an entry level position.

**Table 13. Percentage of Research Conducted in the College or University**

	<b>Average Percentile (Percentile Range)</b>
Basic or fundamental research: research conducted for the purpose of advancing knowledge	35.5 (10-70)
Applied research: research designed to use the result of other research (to solve real world problems)	33.3 (20-60)
Translational research: research on approaches for translating result of other types of research to community use.	12.7 (0-30)
Evaluative research: the use of scientific methods to assess the effectiveness of a program or initiative.	15.0 (0-30)

**Table 14. Number of Universities Engaged in Listed Activities During the Past Two Years**

<b>Area</b>	<b>No activity</b>	<b>Limited activity</b>	<b>Regular activity</b>
Policy Development	3	4	2
Public health advocacy with state government	3	3	3
Public health advocacy with local government	1	6	2
Research requested by state policy makers	3	3	3
Research requested by local policy makers	2	5	2
Public health workforce development	0	3	6
Other	n/a	n/a	research requested at federal level, CBO and other public agencies

**Conclusion**

This study serves as a starting point for assessing public health education capacity relative to the need in Florida. As the population continues to grow and the need for public health workforce expands, public health education programs in Florida will play an important role. The diversity of programs in the state presents a strong foundation for future adaptations.

Recognizing the need for public health workforce expansion, the Patient Protection and Affordable Care Act (PPACA) of 2010 establishes, in Sec. 510, a National Health Care Workforce Commission. This

15-member panel of leading health industry experts will be charged with monitoring the public health workforce, assessing health care workforce education and training capacity and making recommendations as well as reviewing, aligning, and developing policies about the health care workforce (Association of State and Territorial Health Officers, 2010).

Florida's public health education programs are likely to grow in multiple directions in response to the need and increased interest. Across the country, undergraduate programs in public health have grown dramatically in the past ten years (Riegelman & Albertine, 2011). Liberal arts schools and public health educators have encouraged introductory

course work in public health, as a foundation for teaching the Association of American Colleges and Universities' essential learning outcomes that encourage experiential learning, evidence-based thinking, a global and community focus, plus integration and synthesis. Additionally, public health has become one of the fastest growing undergraduate majors (Fischer & Glenn, 2009).

Kirkwood and Riegelman (2010) have proposed public health education at the community college level, with articulation programs for four year and advanced degrees. Recent changes in higher education in Florida, namely the creation of the state college system from the former community college system increases the number of institutions offering a bachelor level degree and opportunities to add public health curriculum and undergraduate degrees. This is a cost-effective approach to address Florida's public health workforce needs in a population that is ranked 3<sup>rd</sup> (after CA and TX) in projected net increase through 2030. (U.S. Census, 2007) Therefore, Florida could be a vanguard state in the training of public health professionals.

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### References

Association of Schools of Public Health (2010), Policy Brief: Confronting the Public Health Workforce Crisis. Retrieved September 10, 2011 from: [www.asph.org/UserFiles/WorkforceShortage2010Final.pdf](http://www.asph.org/UserFiles/WorkforceShortage2010Final.pdf).

Association of State and Territorial Health Officers (2010), *Summary of Public Health Workforce Provisions in the Patient Protection and Affordable Care Act, 2010*. Retrieved September 10, 2011 from: <http://www.astho.org/Display/AssetDisplay.aspx?id=5499>.

Boulton, M.L., Hadler, J., Beck, A.J., Ferland, L., & Lichtveld, M. (2011). Assessment of epidemiology capacity in state health departments, 2004-2009. *Public Health Reports*, 126(1), 84-93.

Fischer, K., & Glenn, D. (2009). Five college majors on the rise, *Chronicle of Higher Education*, August 31. Retrieved September 10, 2011 from: <http://chronicle.com/article/5-College-Majors-On-the-Rise/48207>.

Gebbie, K., Rosenstock, L., & Hernandez, L. (2003). *Who will keep the public healthy? Educating public health professionals for the 21<sup>st</sup> century*. Washington DC: National Academy Press.

Kirkwood, B.A., & Riegelman, R.K. (2011). Community colleges and public health: making the connections. *American Journal of Preventive Medicine*, 40(2), 220-225.

Riegelman, R.K., & Albertine, S. (2011). Undergraduate public health at 4-year institutions: it's here to stay. *American Journal of Preventive Medicine*, 40(2), 226-231.

U.S. Census Bureau (2005) United States Population Projections: Interim Projections: Total Population for Regions, Divisions, and States: 2000 to 2030. Retrieved September 10, 2011 from: <http://www.census.gov/population/www/projections/projectionsagesex.html>.

U.S. Department of Health and Human Services (2010). *Healthy people 2020*. Retrieved September 10, 2011 from: [www.healthypeople.gov](http://www.healthypeople.gov).

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