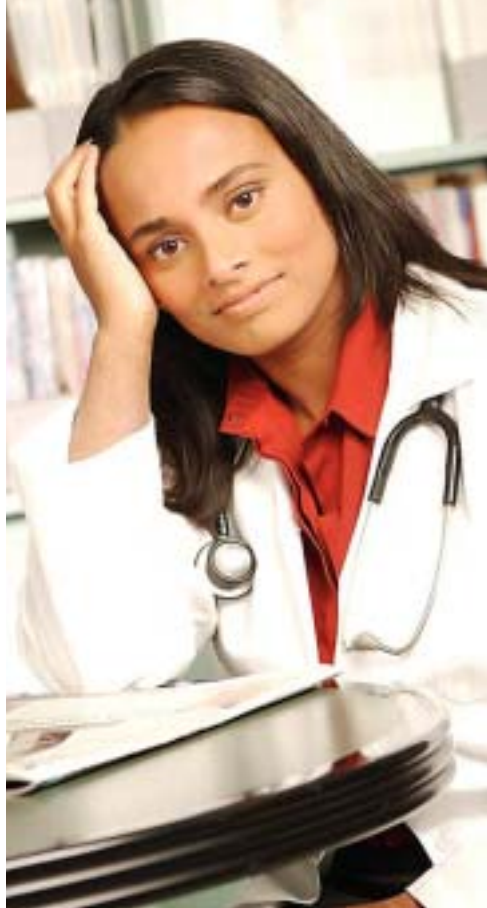


Student Handout Inside



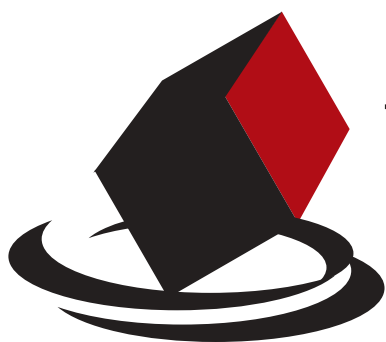
Health care occupations in southwestern Pennsylvania

- TEACHER'S GUIDE 2
- STUDENT HANDOUT ON HEALTH CARE JOBS 3
- CAREER GUIDANCE CORNER 8

from the editors

This issue of WorQ for Educators is dedicated to the local health care job market. The enclosed Possibilities student handout includes a table of labor market information on health care occupations for the nine county area, including job opening and salary figures. The issue also includes an informal teacher's guide to provide teachers and guidance counselors some teaching tips and activity ideas to use with the Possibilities handout.

This issue is our attempt to improve. The first issue of WorQ-E was well received, but reviewers felt that the average teacher simply would not have the time to translate its advice into course content. We kept what everyone liked about the first issue — *local* labor market information rather than just state or national figures. But this time we put the information into a student handout that busy teachers can pass directly to students. What do you think? Let us know how we can do even better the next time by dropping us a note at ccwd@duq.edu.



WorQ

teacher's guide

for the student handout

Uses

The enclosed Possibilities handout can be passed out to students directly without comment, or simply made available in the school library or career center. But the best use of the handout is for a creative teacher or guidance counselor to design a lesson or activity around it. Some ideas on this are listed below.


Objectives


The handout serves several objectives associated with career guidance activities — career literacy (learning terms and concepts from the world of work), career exploration (learning about unfamiliar occupations), and career decision making (thinking about labor market information). Labor market information should play a role (not necessarily a primary one) in how students settle on an initial career interest. The role of labor market information in this process is especially important for those students who will likely (or are determined to) stay in the area.


Cautions, Teaching Tips and Activity Ideas

Here are some important precautions associated with each column of the table, as well as tips and activities for helping students grasp the meaning of each column.


Educational Requirements


 **Requirements change.** Any student interested in a particular occupation should be sure to check on the latest educational requirements. Some employers will require different levels of education than shown. Also, requirements are often changing, so doing some research on the latest requirements is always a good idea.


 **How postsecondary degrees work.** Many students may not understand how postsecondary degrees really work, and this may be a good time to explain it. After high school one can enroll in either an associate's degree (two year) program or a bachelor degree's (four year) program. Upon completing an associate's degree program, one can usually enroll in a bachelor's and finish it in under four years (usually two). To get into either a master's degree program or a professional degree program (which is required for physicians, pharmacists, or veterinarians) one will need to first complete a bachelor's degree.


 **Degree research activity.** Have each student select one occupation from each group and research the education required (including the names of applicable degrees) for that occupation online. As an extension, have the students determine whether the degree is available at a secondary/postsecondary school in the area (and possibly, how much it costs).

Salary Data

 **“Average” salary warning.** Reinforce the fact that the salary figures are averages estimates for all individuals in the occupation. Salaries for new entrants will be lower.

 **Mean vs. median activity.** The average (mean) can be a deceiving when used to estimate salaries. Create an example to demonstrate the difference between a mean and a median.

 **Percentile activity.** Look up state salary estimates for several occupations on America's Career Network (<http://www.acinet.org>). Salary figures for many occupations on this website are presented in percentiles (including the median). Use the data to explain how percentiles work.

 **Calculate hourly pay activity.** Here's an exercise that can help kids compare the salary figures in the table to their own part-time job wages. Select an occupation in the table. Assume an eight hour work day, and a five day work week. How many work hours per week? ($8 \times 5 = 40$). Assume a 52 week work year. How many work hours per year? ($40 \times 52 = 2,080$). Now divide this number into the annual average salary of the occupation from the table to get a rough estimate of the hourly wage. You may want to note that the higher paying jobs really require 10-12 hour work days.

Continued on page 7

icon key



Caution



Tip



Activity



POSSIBILITIES



Not sure what you want to do after high school? Are you hoping to stay and work in the area? If so then it is a good idea to start thinking about the different types of job options available sooner than later.

The health care industry is one of the most important industries in the region. Do you think everyone working in health care is a doctor or a nurse working in a hospital? Think again! Keeping people healthy not only requires doctors and nurses, but also many other kinds of health care workers.

The table inside lists education, salary, and market information for four different types of health care jobs in southwestern Pennsylvania (as shown in the map). The highest paying jobs are listed at the top of each group.



Possibilities is a special student supplement of Workforce Quarterly for Educators



table key

Occupation

An occupation is a kind of job. For example, a high school teacher is one type of occupation, while a guidance counselor is another. Each row in the table describes the occupation in the first column. Some similar occupations have been combined into a single row.

Education

You may not be done with school yet (sorry)! Many occupations in the table require education beyond 12th grade. The second column describes the level of education needed to enter each occupation. These are:

SOJT Short term on-the-job training (0-1 months)	Associate's Degree 2 years
MOJT Moderate term on-the-job training (1-12 months)	Bachelor's Degree 4 years
LOJT Long term on-the-job training (12+ months)	Master's Degree 2 years
CERT Certificate program	Professional Degree 3-6 years

Average Annual Salary

One of the best things about having a job is that you get paid. Cha-ching! The third column shows the average yearly salary for the occupation within southwestern Pennsylvania. Be aware that each salary figure is an average for everyone in the occupation, including the entry level workers (who get paid less) and the experienced workers (who get paid more). Your starting wage will be less than these figures (darn).

Openings a Year

You usually can't get a job in an occupation unless someone has an opening for it. This column shows the yearly job openings for each row in the region as estimated by the state. A job opening is a vacant position for a particular occupation that an employer hopes to fill. For example, if you see a want ad for a dental assistant in the paper, that's a sign that the employer has a job opening for a dental assistant. Job openings are a measure of the demand for an occupation.



Market Outlook

If you are leaning towards staying in the area, it's also a good idea to consider the local "market outlook" for occupations that interest you. The market outlook for an occupation is the difference between demand and supply. Demand refers to vacant job openings, so what's supply? Supply refers to the number of people qualified for and likely to seek work in a particular occupation. "ED" means there is "extra demand" locally, while "ES" means "extra supply."

Why is supply important? Well, for any given area and occupation, when demand is a lot greater than supply, a shortage of workers results. This "extra demand" often makes it easier to get a job in the area, and can result in increased wages. This is because there are not enough people to fill job openings. On the other hand, if supply is a lot greater than demand, a surplus of workers results. This "extra supply" can make it more difficult to get a job in the area, and can result in decreased wages (at least compared to other parts of the country). This happens because there are too many people for a limited number of jobs, and the competition to get those jobs is tougher.

The table only indicates extra demand or supply where it was possible to do so. A "blank" means that either the two were roughly equal, or that there was not enough information to tell one way or another.

Employment (2000)

Just so you know, this column shows the number of people employed in each occupation in the region as of the year 2000. Although interesting, the job opening and market outlook columns are more useful than the employment column for figuring out which jobs are "hot" or "in demand."

Code(s)

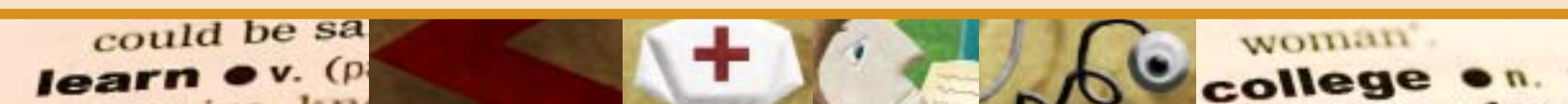
These are the government's Standard Occupational Codes (SOC) for the occupations listed in each row. If you are interested in an occupation, you can use these codes to find out more about the occupation in tools like O*NET. Your guidance counselor can show you how. Learning about the occupations that interest you is important. You should certainly not make any kind of career decision based only on salary or market outlook. What if it turns out that you don't like the job?



health care jobs in SWPA

	OCCUPATION	EDUCATION	AVG. ANNUAL SALARY	OPENINGS A YEAR	MARKET OUTLOOK	EMPLOYMENT (2000)	CODE(S)
"Starter" Jobs	Dental Assistants	MOJT	21,200	105	ED	2,260	31-9091
	Physical Therapist Aides	SOJT	19,900	52		660	31-2022
	Nursing Aides, Orderlies, and Attendants	SOJT	19,800	553		14,800	31-1012
	Veterinary Assistants & Laboratory Animal Caretakers	SOJT	19,000	34		220	31-9096
	Home Health Aides	SOJT	18,600	253		5,800	31-1011
	Pharmacy Aides	SOJT	14,700	30		930	31-9095
	Personal Care Jobs	Physical Therapists	Master's Degree	56,500	55	ES	1,470
Physician Assistants		Bachelor's Degree	50,400	25	ES	380	29-1071
Occupational Therapists		Bachelor's Degree	49,600	27	ES	700	29-1122
Registered Nurses		Associate's Degree	43,300	847		20,320	29-1111
Dental Hygienists		Associate's Degree	40,100	89		1,530	29-2021
Respiratory Therapists		Associate's Degree	36,800	57		710	29-1126
Medical & Public Health Social Workers		Bachelor's Degree	35,400	134		930	21-1022
Recreational Therapists		Bachelor's Degree	35,100	8		270	29-1125
Social Workers and Counselors**		Master's Degree	31,100	134		2,570	21-1023, 21-1014, 21-1015, 21-1011
Occupational Therapist Assistants		Associate's Degree	32,000	24		150	31-2011
Physical Therapist Assistants		Associate's Degree	30,700	52		400	31-2021
Licensed Practical or Licensed Vocational Nurses		CERT.	30,400	237		5,570	29-2061
Surgical Technologists		CERT.	29,300	31		410	29-2055
Occupational Therapist Aides		On-the-job training	28,500	24		70	31-2012
Psychiatric Aides		SOJT	27,300*	19		1,240	31-1013
Psychiatric Technicians		MOJT	25,800*	26		Not Available	29-2053
Emergency Medical Technicians and Paramedics	CERT.	22,900	126		2,330	29-2041	
Technical Jobs	Industrial Safety and Health Engineers	Bachelor's Degree	51,100	1		190	17-2111.01
	Radiation Therapists	Associate Degree	50,800	4		70	29-1124
	Audiologists and Speech Language Pathologists**	Professional Degree	47,200*	41	ES	550	29-1121, 29-1127
	Occupational Health and Safety Technicians and Specialists, Orthotists, and Prosthetists	Bachelor's Degree	46,800*	251		520	29-9012, 29-9011, 29-9010, 29-2091
	Medical Scientists	Ph.D.	46,700	2	ES	1,630	19-1042, 19-1041
	Radiologic Technicians and Diagnostic Medical Sonographers	Associate Degree	46,600	68		700	29-2032
	Nuclear Medicine Technologists	Associate Degree	42,700	5		120	29-2033
	Medical and Clinical Laboratory Technologists	Bachelor's Degree	39,400	28		930	29-2011
	Dietitians, and Nutritionists, and Dietetic Technicians	Bachelor's Degree	38,500	18		430	29-1031
	Athletic Trainers	Bachelor's Degree	37,100	88		50	29-9091
	Radiologic Technologists	Associate's Degree	34,400	68		1,160	29-2034.01, 29-2034.02
	Cardiovascular Technologists and Technicians	Associate's Degree	31,800	36		240	29-2031
	Medical & Clinical Laboratory Technicians	Associate's Degree	31,500	34		1,800	29-2012
	Medical Assistants/Medical Equipment Preparers**	SOJT	22,200	228	ES	2580	31-9093, 31-9092
	Opticians, Dispensing	LOJT	24,700	13		410	29-2081
	Medical Appliance Technicians	LOJT	24,400	2		150	51-9082
	Dietetic Technicians	MOJT	23,800	11		220	29-2051
	Dental Laboratory Technicians	LOJT	23,500	18		530	51-9081
	Pharmacy Technicians	MOJT	20,800	48		1,570	29-2052
	Veterinary Technologists & Technicians	Associate's Degree	19,700	9		490	29-2056
Professional Degree Required	Physicians & Surgeons	Professional Degree	141,500-155,000	212	ED	2,770	29-1067, 29-1064, 29-1063, 29-1065, 29-1066, 29-1062, 29-1061
	Veterinarians	Professional Degree	74,900	6		280	29-1131
	Dentists	Professional Degree	73,200	34	ES	1,280	29-1021, 29-1022, 29-1023, 29-1024
	Chiropractors	Professional Degree	69,600	34		570	29-1011
	Pharmacists	Professional Degree	65,000	67	ES	1,780	29-1051
	Optometrists	Professional Degree	58,000	7		170	29-1041

* Local salary estimate not available. Salary estimated at state level.
 ** The salary for this row is based on a weighted average of all occupations in the row.



types of health care jobs

"STARTER" JOBS: Looking for a job right out of high school? These jobs only require on-the-job training. This refers to training that the employer (your boss) will provide while you are working. You do not need to go to school for jobs that provide on-the-job training. Of course, the jobs that require more school often pay better, and provide more opportunities for promotion.

PERSONAL CARE JOBS: These jobs are at the "heart" of health care. They require a good amount of physical or face to face contact with clients and patients.

TECHNICAL JOBS: "Personal Care" jobs not for you? Consider a job that involves health science or technology. In these jobs you will spend less "face-to-face" time with patients, and more time using special kinds of equipment. Many of these jobs also involve some math or science.

PROFESSIONAL DEGREE REQUIRED: Want to be a doctor? Are you really good at school and willing to work really hard? Higher education jobs are very good jobs, but the competition for them is really tough. Be warned, although these jobs pay well, in many cases you won't actually start working until you are in your late 20s!

JUDY'S STORY

Judy graduated from high school in Scottsdale, PA, a small town in Westmoreland County about a 40 minute drive from Pittsburgh. Judy's mother was a nurse, and her mother's stories about the hospital where she worked sparked Judy's interest in nursing. Her mother also told her that with nursing, "You will always have a job." So after high school graduation, she attended the Shadyside Hospital School of Nursing in Pittsburgh. Within three years, she had graduated and obtained her Registered Nurse (RN) license.

She immediately got a job at Shadyside Hospital in the Medical Surgery unit. She worked rotating shifts, working 7A.M. to 3P.M. one week and 3P.M. to 11P.M. the next. While she worked there, her unit moved to specializing in a new type of procedure for open heart surgery. Since the procedure was new, everyone in her unit had to learn how to prepare patients for this type of surgery. After three years she was promoted to the Head Nurse of her unit. At about the same time, she got married. Three years later Judy had a baby boy, Brian, and decided to stop working for a while to raise her new son.

But after a year, she decided she missed the camaraderie and challenges of nursing, and she decided to go back to work part time. Her old unit did not have any job openings, but she found a part time position at the same hospital in the Endocrine unit. This unit cared for patients with conditions like diabetes. She worked the night shift (11P.M. to 7A.M.) only two nights a week. Judy was a little nervous when she took this new position, as she had no work experience in caring for such patients. But the director of nursing told her, "That's

"I soon realized that no matter where you work, or what state you are in, sick people are the same. They all need knowledgeable, caring, and empathetic people caring for them." — JUDY, R.N.

okay, we'll train you!" The staff assured her that there was always someone there to help, and to never be afraid to ask a question if she was unsure.

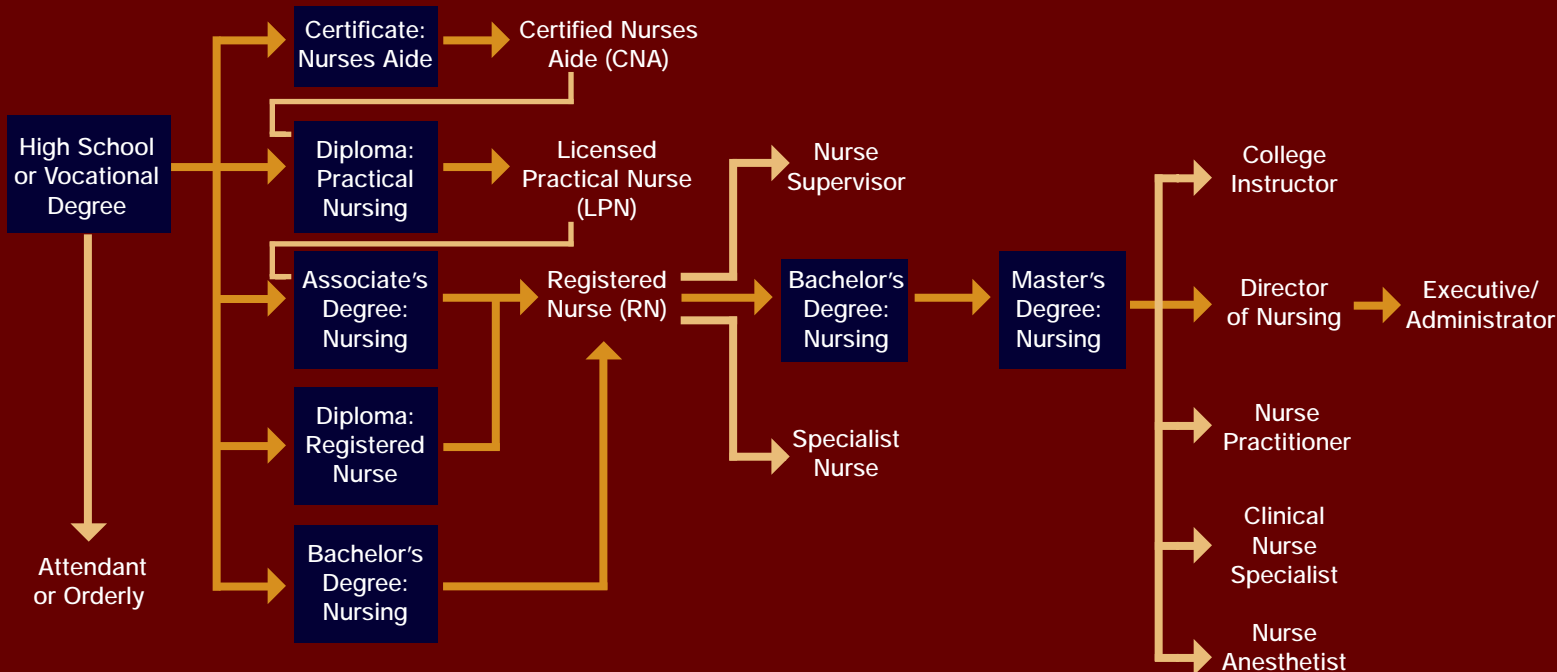
Judy's next career move was to specialize in Endoscopy, working for a hospital in Kentucky. Endoscopy is a specialty that involves looking into patient's colons, stomachs, and anything involving the gastro-intestinal (GI) tract. In this role she prepared patients for GI procedures, assisted with the procedures, and helped patients recover from the procedures.

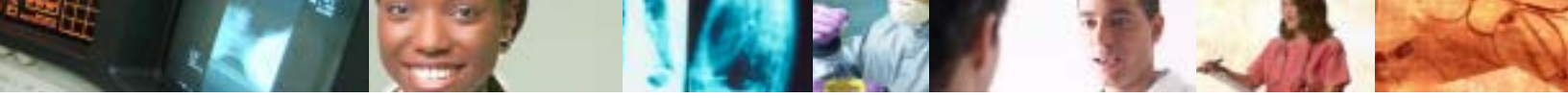
Judy enjoys her chosen field of work. She notes, "I soon realized that no matter where you work, or what State you are in, sick people are the same. They all need knowledgeable, caring, and empathetic people caring for them." Judy feels that the main challenges of nursing are that the hours are often difficult, and that the job requires quick thinking and physical stamina. She feels that the most satisfying aspects of the job are: the enjoyment of learning new things, being valued as a person by staff and patients, the knowledge that you are contributing to patient care, and contributing to the family's income. Throughout her career, Judy always remembered the truth of her mother's words: "You will always have a job!"

What's a Career? What's a Career Path?

A career is a set of related occupations (and jobs within those occupations) that a person holds over a life time. An occupational career path is a set of jobs and occupations related to a particular industry or profession, like nursing. Usually the farther along a career path you go, the more money you'll make. Keep in mind however, that each step will require more education, and more responsibility.

The diagram below describes the many different paths one can take to be a nurse, and just some of the paths nurses can take. Of course, you do not have to take every path to enjoy variety. The story of Judy's career demonstrates that one can experience a lot of variety within the nursing occupation itself.





Job Openings

! Warn students about job opening data. The state’s projections for local job openings are only rough indicators, not precise forecasts. They will not be precisely correct. For example, two occupations forecasted to have 50 and 60 openings per year (respectively) might easily have 60 and 50 openings instead. Changing business conditions and technological innovations can result in a radically different number of openings than originally expected (consider the effect of the local airport’s troubles on air travel related occupations). But more often than not, on an occupation per occupation basis, the indicators are reasonably accurate.

Job openings activity. Have students find Optometrists and Registered Nurses in the table. Ask which occupation has a higher average salary and which is expected to have higher annual demand. Have students explain why the latter is important.



Market Outlook

✓ Explaining demand and supply. Confused about demand and supply? Here’s another way to think about it. Imagine an empty carton designed to hold twelve eggs. Pretend each empty compartment in the carton represents one job opening for a particular occupation in a particular area (ex: southwestern Pennsylvania). So here we have twelve job openings. Now suppose we also have seven eggs, each which represents a job seeker qualified for the occupation. Here we have “excess demand” (in the hand out we call it “extra demand”) as five of the compartments cannot be filled. If instead we had fifteen eggs, this would result in “excess supply” (“extra supply”). To get work those eggs may have to find a different carton!

Ratio activity. Comparing supply and demand can be a good way to introduce or illustrate the usefulness of number ratios. One could ask the students to consider two occupations, one in which the ratio of job openings to qualified workers was 4:1 and the other 1:4, and ask them to explain which is more favorable.

! Excess supply warning. Several of the occupations in the tables appear to have excess supply. A major reason for this is that the area has a lot of schools with health care programs. This is not necessarily a bad thing however! For example, even though there is some excess supply for speech-language pathologists in the area, this is not true at the national level. In fact, for the past three years 100% of Duquesne University’s speech-language pathology students got jobs right after graduation, with many of them getting jobs in other areas of the state (like Philadelphia) or the country.

Career Path and Judy’s Story

By 8th or 9th grade, most students understand the concept of a job, but may be fuzzy on the meaning of a career. The career path and “story” section introduces the students to the term career as a series of related jobs in which each new job builds upon the experiences of the previous one. One appealing aspect of the concept of careers for students is that it exposes them to the possibility of advancement and improvement in the world of work, and encourages them to set their personal aspirations higher.

Career path activity. Have the students look up the local salary for each job on the nursing career path. As an extension, have them look up the state or national salary estimates using America’s Career Network, <http://www.acinet.org>. Have students start at the top of the path. Estimates for the highest positions will not be available from standard sources.

Reading comprehension activity. Ask students to read Judy’s story and identify what it suggests about the nursing profession. Some answers might be:

- ▶ Nurses often need to learn to do new things.
- ▶ Many interesting experiences are available in nursing, it’s not all the same thing.
- ▶ Nursing hours are often difficult.
- ▶ Part time work is available, which can make it easier to raise a family.
- ▶ Nursing can lead to respect.
- ▶ Nursing has job security (In fact, most experts believe that the country will be experiencing a nationwide shortage of nurses for the foreseeable future — Ed.)

✓ WorkKeys activity. If a student takes an interest in a particular occupation, and the WorkKeys test is administered at your school, you may want to draw the student’s attention to the WorkKeys skill levels associated with the career. If a disparity between the student’s scores and the skill profile of the occupation exists, a program of study might be designed for the student to improve in the appropriate areas. The Keys2Work (www.keys2work.org) website can also help students with career exploration and decision making. For more on this see the last issue of WorQ-E.

! The importance of soft skills. Note that in health care in particular, skills such as good listening, time management, courtesy, and teamwork are just as important as math and reading aptitudes. A good way for students to be made aware of these “other skills” is by looking up the occupation’s skills, abilities and values on O*NET online at online.onetcenter.org.



Are there “high school electives” for health care? The answer varies by school.

Let’s suppose you have a student tentatively interested in health care. What do secondary schools offer to help the student prepare for such a career interest? Are there high school classes that are “good to take?” In the Pittsburgh Public Schools District, for example, Carrick, Langley, and Peabody high schools all offer programs and courses related to health careers. Some schools have partnerships with local community colleges like CCAC. But aside from such programs, are there “recommended courses” in high schools that will help other students prepare for a career in health care?

The West Virginia Department of Education has identified several such courses as part of a “cluster/major” model that attempts to integrate career pathways into high school course selection and career guidance. All students are required to select a career pathway, typically associated with a large industrial cluster (such as Health Services), as well as a “career major” within that pathway (an example of a career major under the Health Services cluster is Diagnostic — a pathway associated with occupations like radiologist). Additionally, students must select a pathway level — Entry Level (preparation for a vocational certificate), Skilled (preparation for a related associate degree program), and Professional (preparation for a bachelor’s degree). Concentrations, (programs of study) are identified for each pathway with required and elective courses drawn from both academic and occupation oriented classes (see box below).

West Virginia’s “Seamless Curriculum” initiative actually extends the career pathway curriculum into community college by encouraging coordination of course offerings between high schools and local community colleges such that coursework along the path skilled pathway is not redundant, and the need for remedial education is reduced. Additional programs of study for can be found at <http://wvde.state.wv.us/programs-study/>. More information can be found at www.wvtechprep.wvnet.edu/curricula.htm.

Of course, no such statewide program currently exists in Pennsylvania, and the courses offered at Pennsylvania’s schools are not are not currently

organized around such pathways. But one can still use these programs of study to guide course selection for students with industry centered interests. Such guidance could make a difference in a student’s postsecondary success.

Why does a “program of study” matter? What difference could it make?

In his book “Getting Real: Helping Teens Find Their Future,” Penn State researcher Ken Gray stresses the need for students to obtain a tentative career focus early so that they will commit more strongly to the preparation and work necessary to succeed. Gray identifies “lack of commitment associated with a clear goal” as one of the four main reasons students drop out of college.

Programs of study designed around career pathway can provide a student a sense of direction and empowerment, in that the student takes a concrete, deliberate step (by selecting certain courses), in order to achieve a goal. Further, if designed well, these courses can maintain the academic rigor necessary to prepare for academic work in college, providing them the option to go, and the skills necessary to prepare for those careers that require a college (or better) education.

Of course, we should not forget that college is a place where students frequently change their minds about what they want to do in life. But here is where such programs of study can make a difference. First, a student that selects a program of study in high school as part of a deliberate decision will be more likely to be committed to the work that results from their decision. This level of commitment has side benefits. By working hard to make their original career interest a reality, the student will likely have improved their academic skills significantly by this time. These improved skills will serve them well when their goal changes. Second, because they have progressed as far as they have up until that point, many such students will have a real sense of what is possible with a clear goal and hard work. This can be motivating. It should not be too hard for them to “repeat” what they did to prepare for their last career interest with the new interest.

Not convinced? Consider how difficult it will be for a student who is not in the “upper 10%” of academically, who lacks a strong career interest, and who decides to switch to a new interest midway through college. Such a student is likely to be committed to academic work, and therefore less likely to have obtained such skills up to this point. Finally, such a student has far less familiarity as to “what to do” to use school to prepare for a career. How likely will he or she be to succeed in their new career interest?

Relevant courses for a student on the professional diagnostic pathway of the health services cluster:

Required Academic Courses

- ▶ A fourth math course which must be above Algebra I.
- ▶ A fourth science course.
- ▶ A foreign language I course.
- ▶ A foreign language II course.

Elective Academic Courses

- ▶ Advanced Biology
- ▶ Advanced Human Anatomy and Physiology
- ▶ Advanced Chemistry
- ▶ Advanced Physics
- ▶ Pre-Calculus
- ▶ Business Computer Applications I

Elective Occupation Oriented Courses

- ▶ Health Care Fundamentals
- ▶ Medical Terminology
- ▶ EKG/Phlebotomy