

## Healthcare professionals talk about the importance of their education, and the teachers and family members who influenced their decision to choose healthcare careers.

A goal of the Science Careers Series is to improve transmission quality and expand the number of participating schools. This may include conducting multi-point conferences with two or three schools, which would bring the same quality of scientific resources to even more students. Another goal is to improve communication and awareness among all stakeholders, in order to capture impressions and feedback from students, teachers, and tech coordinators after each session. Project partners and educators can then evaluate these data and share the results with teachers, project coordinators and administrators, so that the best elements of the program can be preserved and improved.

### The Other Side of the Stethoscope

The Workforce Boards of Metropolitan Chicago, a consortium of nine area boards, has done extensive research on current and projected skill shortages for a variety of healthcare occupations across the state of Illinois. Like the rest of the country, Illinois currently has a shortage in many healthcare positions, which is projected only to grow as nurses and other healthcare workers retire and the population ages and demands more healthcare services.

The research showed that one of the solutions to supplying skilled healthcare workers for the future is to introduce healthcare career awareness to students, their parents and teachers during the middle school years. With a coalition of partners (including the Chicago Tribune - News in Education, The Metropolitan Chicago Healthcare Council, the Illinois Hospital Association, The American Society for Healthcare Human Resources Administration and the Chicago Public Schools - Chicago Math and Science Initiative), CWB developed an innovative set of healthcare career awareness materials for Chicago Public School seventh grade students called "The Other Side of the Stethoscope."

The Chicago Public Schools require that in eighth grade, students and their families select which high school they will attend. Several of the high schools have Education-to-Careers programs for the healthcare field, which involve coursework in math and science to prepare for post-secondary training. So it is particularly important that students and their families understand at the middle school age the wide variety of promising healthcare careers that are available. This program enables families and educators to help students explore the healthcare field, plan their high school curriculum and research the educational and training requirements for different occupations.

"The Other Side of the Stethoscope" provides several resources, including a teacher's curriculum guide and a student supplement to help develop reading and writing skills while learning about career opportunities in healthcare. In addition, each student receives a family activity sheet, along with eight deliveries of The Chicago Tribune to use as a resource to do research about the healthcare field.

In the materials, individual and group activities tailored to meet Illinois State Learning Standards link lessons in science, math and language arts to many facets of healthcare. Students practice using the same research, problem-solving and decision-making skills that Chicagoland healthcare professionals use daily to care for their patients.

"The Other Side of the Stethoscope" was used successfully by over 73,000 seventh grade students in the classroom during the spring of 2004. Classroom materials were accompanied by a campaign of radio, television and Internet advertising in which a diverse group of Chicago healthcare professionals talked about why they chose their careers, their educational background and why they love their jobs. These professionals, many of whom attended Chicago Public Schools, talk about the importance of their education, and the teachers and family members who influenced their decision to choose healthcare careers. Their positive message to students is clear - healthcare careers are rewarding, well paying and stimulating, and if we can accomplish this goal, so can you!

For more detailed information on the Science Careers Series, visit the project Web site at <http://www.dep.anl.gov/sciencerecareers/>. ★★

<sup>1</sup> Funding was provided by the Illinois Department of Commerce and Economic Opportunity.

<sup>2</sup> Both the research and the materials were funded by the Illinois Department of Commerce and Economic Opportunity.

## Help Wanted: Smyth County, Virginia

By Sally H. Morgan

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This is the story of a rural county that used a workforce development strategy to bring its dying manufacturing economy robustly back to life.

Smyth County, Virginia, population 33,000, is located in southwestern part of the state along the Interstate 81 corridor. Almost 45 percent of Smyth County's workforce was employed in manufacturing as of the late 1980s. A large component of the manufacturing base was apparel and furniture production until the period of 1998 to 2003, when a rush of plants closed due to overseas competition, resulting in the loss of four large apparel operations and two major furniture producers.

During that same period, five other industries closed and two manufacturing plants suffered major market-related downturns. The total number of jobs lost was over 2,500 out of a workforce of 15,500, with the resulting unemployment rate peaking at 12.4 percent in January 2003.

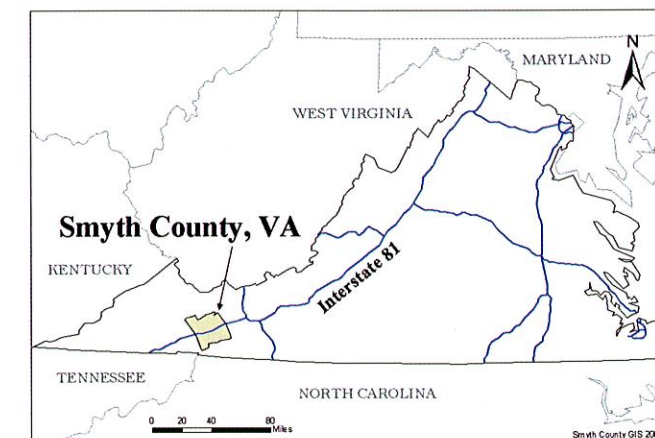
Despite these dramatic job losses, the remaining industries in the county (who called themselves the "survivors") began to experience growth by 2003, and they quickly learned that even in light of high unemployment, they were not able to find the workforce that they needed. Many positions went unfilled.

### Creating a plan

In 2003, the Smyth County Industrial Council, an active group of CEOs and plant managers, decided to undertake a study of the Smyth County workforce to examine this problem. The project resulted in the Smyth County Workforce Profile, a 42-page report that concludes with a set of 10 recommendations.

The study methodology was driven by business leaders, who determined the questions to be asked and agreed to validate the report and its findings. An outside consultant conducted extensive interviews with local manufacturers and other major employers (30 in total) regarding their current and future employment needs. About 350 jobs were identified as being open at the time of the study, despite relatively high unemployment. The study identified the lack of employee skill sets as the "disconnect" between the demand for employees and the available supply.

What were the missing skill sets? Many employers complained that the young people completing high school lacked job readiness skills - the so-called "soft skills," but better named as "employability skills." Employability skills actually were viewed as more important by the employers than traditional "hard skills" such as lathe machine operation or weld-



ing. The list of soft skills and traits that employers cited needing include: reliability, flexibility, writing skills, positive work ethic, critical thinking, courtesy, basic math knowledge, communications skills, ability to listen, team skills, reading comprehension and motivation to do a good job.

The workforce study also asked about specific hard skills. It found that business leaders could name specific positions that they currently had open, but when asked to describe the skills and traits necessary for those positions, what employers described was not too dissimilar from the soft skills listed above. They included strong mechanical skills, problem solving skills, team skills, knowledge of a variety of manufacturing machines, robotics design skills, ability to handle materials, ability to read blueprints, electronics skills, computer programming skills, good record keeping skills, ability to interpret data, and program management skills.

Some of the specific hard skills identified were certified CNC (computer numerically controlled) machinists, certified welders, forklift operators and heavy equipment operators. At the time of the interviews, more than two thirds of the employers surveyed were having difficulty in finding qualified workers.

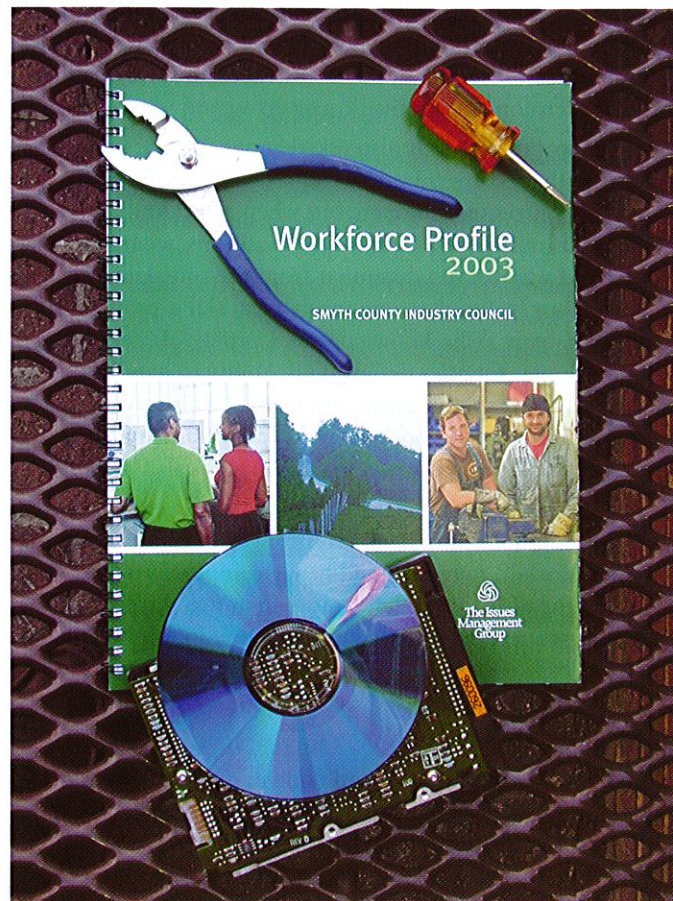
### A common problem

Smyth County certainly is not alone in experiencing this workforce skills gap. For many decades, manufacturing has been the backbone of the American economy. However, global pressures from lower labor costs overseas have forced U.S. operations to make major strides in efficiency in order

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Smyth County has undertaken several initiatives to address the workforce skills gap, including a new "Career Pathways" program that will incorporate technical training and workplace readiness skills along with academic preparation in the K-12 curriculum.



to cut costs. The resulting advances in technology require that employees at all levels have a wide range of skills. A recent study of workforce issues in manufacturing, conducted by the National Association of Manufacturers and entitled "The Skills Gap: Manufacturers Confront Persistent Skills Shortages in an Uncertain Economy," identifies the sector's shortfall of qualified employees with specific educational backgrounds.

It has been difficult in Smyth County to document what happened to the workers who lost their jobs when the plants closed. Many retired or simply dropped out of the labor force, while others entered retraining programs or were re-employed in manufacturing or non-manufacturing jobs. Some local industries have reported being pleased with the work ethic and the basic manufacturing skills of former sewing machine operators or furniture production workers, although they may have needed subsequent retraining in newer, more automated manufacturing production systems.

The Smyth County Workforce Profile has led to several initiatives that are complete, ongoing or being designed to address the problems identified. The two community colleges serving Smyth County took the initiative and partnered to provide free employability skills training for Smyth County workers and unemployed individuals. The program's first run provided 69 workshops over a four-month period that included sessions on leadership skills, communication skills, basic computer skills, business ethics, critical thinking, and job search skills. The program proved much more successful in serving incumbent workers than unemployed individuals, so the colleges are studying innovative ways to attract more displaced workers into the program.

The workforce report also recommended a new partnership between K-12 education and the private sector to prepare a well-trained workforce. The Smyth County School Board soon will be implementing a "Career Pathways" program that will incorporate technical training and workplace readiness skills along with academic preparation in the K-12 curriculum, modeled after the State of Michigan's Career Preparation System. A key objective of the Career Pathways program is to partner with area employers to make workforce training a vital part of the education experience.

In response to the increasing need for technical skills and knowledge, the Smyth County School System has revamped its career education program and now offers a very popular pre-engineering curriculum at the high school level. This program has attracted some of the best and brightest high school students who in the past would not have considered attending the former vocational school (now the Career and Technology Center), due to a stigma that those programs were for the least able students or those with discipline prob-

lems. The school system is making headway in changing that stereotype with the leadership and involvement of administrators and counselors with employers.

### Regional action

Smyth County also is taking action regionally to address workforce issues. Neighboring Washington County is experiencing similar workforce shortages, and industry managers from both counties have pulled together to develop answers to the problem.

The counties together are looking at joint efforts to recruit more students from high school into advanced manufacturing technology training programs and to promote manufacturing as a career with high-paying jobs and advancement opportunities. A highly selective "manufacturing academy" is one idea being considered by the joint group.

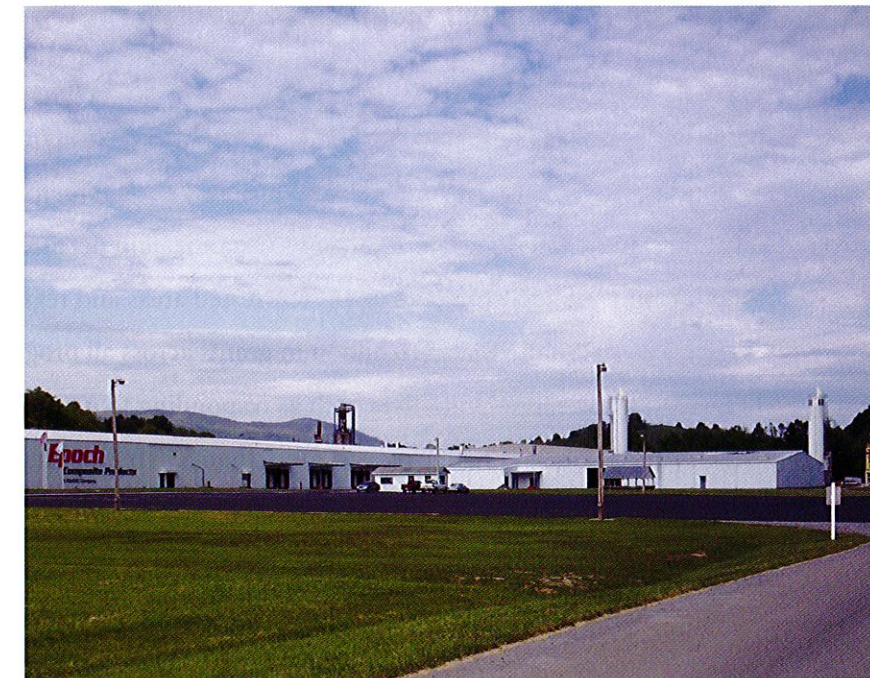
Many local companies also are experiencing difficulty in filling middle- and upper-level management, engineering, and other professional positions, so a "return to roots" marketing program – targeting area natives who have moved away – is planned to attract them back to the region. Many young adults in the 25- to 40-year age range who left Smyth County after high school or did not return after college would take the chance to return home if they knew that good employment opportunities existed.

Other initiatives include the upgrading of equipment (the Smyth Career and Technology Center will soon purchase state-of-the-art robotic welding equipment), training scholarships, and a possible regional training center for advanced manufacturing technology.

### Looking long-term

In response to the needs of existing industry, Smyth County has proposed a multi-targeted approach to prepare its students and adults for the workforce needs of the 21st century. The long-range objectives are to increase the total employed workforce in the county from the current 14,400 persons to 16,500 persons by 2012, and to increase the per capita personal income of Smyth County residents from 63.5 percent of the state average to 80 percent of the state average by 2012.

Smyth County has been fortunate to have strong, viable employers that were able to fill the void left by the loss of 11 manufacturers. Since 2003, the remaining 26 manufacturing operations in Smyth County (including two new ones) have increased their employment by 18 percent and are continuing to grow. The current manufacturers are concentrated in the transportation, defense and building components industries, rather than furniture and apparel. The average weekly wage is higher in manufacturing than in any other sector of the economy in Smyth County. The local unemployment rate is now regularly below five percent, and the proportion of jobs in manufacturing is rising, not falling.



Since 2003, manufacturing operations in Smyth County such as Epoch Composites, pictured above, have increased their employment by an average of 18 percent. The local unemployment rate is now regularly below 5 percent.

However, Smyth County's existing industries continue to face severe economic challenges in the competitive global economy. Local economic development efforts must be focused on existing industry needs, especially in preparing the labor force with the skill sets necessary for employers to increase productivity and remain competitive. For example, companies spend a great deal of time and money on training, so finding ways to reduce training costs can be more important to a company than a one-time incentive grant or an equipment loan.

If existing employers are not satisfied with the local workforce, then business expansions will be hindered, and a locality will have a difficult time convincing new companies to locate in the community. Economic development truly must go hand-in-hand with workforce development, and workforce development must be driven by employer needs.

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