

# OCCUPATIONAL SHORTAGES IN HEALTHCARE AND MANUFACTURING

## EXECUTIVE SUMMARY

2008

Despite a weak labor market, many Ohio employers contend that they have difficulty finding qualified workers in key occupations. This report evaluates the evidence for occupational shortages in health care and manufacturing in Ohio and analyzes their likely causes. The report also reviews existing studies of occupational shortages and concludes that resolving workforce development challenges is rarely just a straightforward matter of increasing training program capacity. While employer concerns about skill deficits (particularly among entry-level workers) must be taken seriously, occupational shortages are inseparable from employer practices that influence workforce recruitment, retention, and employees' attitudes toward skill development. The state must focus its efforts on employers that are actively addressing job quality issues and help them develop a long-term human resource strategy that provides meaningful career opportunities for workers.

The identification of occupational shortages can be difficult, particularly in manufacturing, where overall employment levels have been declining for nearly a decade. No single indicator is determinative, so the study looks for two primary guides over the 2004 to 2007 period: growth in the number of jobs in an occupation and strong wage gains. We supplement this information with training completion and licensing data for some occupations, analysis of employment trends in specific sectors, and the results of other workforce reports, including state studies from Illinois and Indiana, both of which have industry sector training strategies. The secondary literature makes it clear that (1) the causes of many of the problems we face in Ohio are well known and potential solutions are available, even if they are difficult; and (2) we have to approach the issue of occupational shortages with the broadest possible understanding of the labor market forces at work.

We found the strongest evidence for occupational shortages in the health care sector. Employment in health care has grown rapidly. The study identified ten health care occupations that experienced job growth of over 400 positions statewide with increases in the occupational real median wage between 2004 and 2007. These occupations were:

- Cardiovascular technologists and technicians
- Medical and clinical laboratory technologists
- Occupational health and safety specialists
- Pharmacists, and Pharmacy technicians
- Radiologic technologists and technicians.
- Dental hygienists
- Physical therapists
- Registered Nurses
- Surgical technologists.

In a worrisome trend, some of the health care occupations that experienced the strongest growth also had declining real median wages. These jobs tended to be healthcare support positions that required little or no classroom training. This trend was exemplified by the home health aide occupation, which grew by 56 percent in just three years by adding 17,100 jobs. The real median wage in this occupation fell by 5.6 percent. The immediate public policy challenge for these low-skilled, low-paid positions is to address job quality issues in order to improve recruitment, retention, and employees' motivation level to learn new skills. The long-term challenge is to develop a credentialing system to support upward mobility, as acknowledged by a 2004 report from the Ohio Health Care Advisory Council.

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Even higher-skilled positions in health care have problems with job quality as evidenced by many studies of the “nursing crisis.” The shortage of registered nurses has two sides: constraints on training program capacity, and retention of employed nurses. The constraints on training capacity are generally due to a combination of factors: faculty shortages, limited clinical sites, and high program costs. On the retention side, high turnover and vacancy rates at hospitals due to long hours and stressful working conditions can lead to burnout and premature exit from the profession.

In manufacturing, we analyzed shop floor production jobs, installation and repair positions, and engineering and technical occupations. We did not find clear evidence of shortages except in a few machinery repair and engineering occupations. Twenty production occupations grew by at least 500 positions statewide, but only two small occupations experienced real wage gains. Median wage data were less useful in analyzing production jobs, however, due to the effects of retirements and buyouts among experienced, well-paid employees and the closure of large, unionized facilities.

In the context of many national, state, and local reports that find employers have difficulty filling skilled production jobs, the best evidence for production occupation shortages in Ohio lies in a dramatic decline in participation in apprenticeships and public sector training programs. For example, the number of machinists grew by over 2,000 between 2004 and 2007. Nonetheless, the number of individuals enrolled in machinist apprenticeship programs fell by over half between 2002 and 2008, from 478 to 242. The number of students completing machining programs at career and technical centers and joint vocational schools fell from 136 to 47 between 2002 and 2006. Tool and die and welding and machine tool setter programs also experienced significant declines. One of the major challenges for the Ohio Skills Bank program will be to understand the alternative training methods that are being used by employers, such as on-line classes or on-the-job training, and whether these methods are effective substitutes for traditional approaches.

Three installation and repair occupations showed wage gains and employment growth associated with skills shortages. The occupation most closely related to manufacturing, industrial machinery mechanic, grew by over 2,500 positions. Despite strong growth, apprenticeship enrollment in this occupation declined by half between 2002 and 2008. Occupations that involve the repair of controls and valves, and the electrical repair of commercial and industrial equipment also grew.

Both national and state-level studies of workforce development in manufacturing make it clear that the sector has multiple problems with recruitment, training, and retention. It would be surprising if the Ohio Skills Bank consortia did not find some of these problems in Ohio. The sector has two “image” problems that it must overcome to improve recruitment. First, production jobs are viewed, often incorrectly, as dirty and dull. Second, years of employment declines and large layoffs have taken a toll on public confidence in the long-term viability of the sector, making individuals look elsewhere for careers.

Clearly, there is a tremendous amount of work to be done in realigning the educational and training system with the needs of manufacturing. In particular, we need more research on how to reemploy laid-off manufacturing workers so they can utilize their existing skills.

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