a loss of status and income as well as disdain from peers. Although leadership is making its way into clinical training, the workforce of the near future is already practicing. How can senior leaders enable and encourage front-line leadership among today’s clinicians?

Surveys suggest that clinicians want a greater leadership role but feel unprepared or disempowered. Institutional leaders can encourage and support unit-level and front-line clinical leadership by framing the organizational purpose as value creation, giving local leaders the authority to make microsystem changes, tolerating the failure of some new delivery ideas, and creating professional pathways for clinicians who want to make leadership a career option. But data remain the single most important motivator and tool for a clinical leader. High-quality, comparative, unit-level and individual-level clinical and financial data can both create the need for clinician leadership and be the starting point for the four tasks. Other critical resources include protected time, training and mentorship (provided by many academic centers either in house or through collaboration with professional societies and business schools), and clear organizational expectations of clinician performance.

CEOs may resist investing in developing clinical leadership and decentralizing control or may believe the process will be too slow to address current pressures. But the need is evident, the tasks are clear, and the skills are at hand — data orientation, the relentless pursuit of excellence, and a habit of inquiry are all second nature to clinicians. Ultimately, investment in such leaders will be essential to achieving the goals of health care reform.

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The Nursing Workforce in an Era of Health Care Reform
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The foundation of the health care delivery system is its workforce, including the 2.8 million registered nurses (RNs) who provide health care services in countless settings. The importance of RNs is expected to increase in the coming decades, as new models of care delivery, global payment, and a greater emphasis on prevention are embraced. These and other changes associated with health care reform will require the provision of holistic care, greater care coordination, greater adherence to protocols, and improved management of chronic disease — roles that are inherently aligned with the nursing model of care.

Will the nursing workforce be ready to respond to these challenges? Just 10 years ago, the answer would have been far from clear. The number of new entrants into nursing had fallen sharply in the 1990s because the generation of women born after the baby boom was not only smaller in size but had greatly expanded career opportunities in other professions. With fewer people becoming nurses, projections from a decade ago indicated that the size of the workforce would begin declining by the middle of the current decade, resulting in shortages of 500,000 to 1 million RNs by 2020. At the time, few observers thought that interest in nursing would ever increase to the level required to avert the looming shortage.

Yet in a surprising turnaround, merely a decade later, the shortages that were projected to be under way by now have not materialized. In fact, reports indicate that in some areas of the country nursing graduates are experiencing growing delays in obtaining employment. Long-term forecasts now predict growth in the absolute number of RNs and strong per capita growth under certain scenarios. This turnaround is the direct result of unprecedented levels of entry into nursing over the past decade (see graph). After fluctuating at about 80,000 for
two decades, the number of new
RN graduates more than doubled
from 74,000 in 2002 to 157,000
in 2010. If this surge in new RN
graduates continues, it will go a
long way toward reducing short-
age that were projected for 2020
and beyond.

Two broad factors seem to
have contributed to this surge in
new RN graduates. First, there
has been an increase in interest
in nursing as a career. Despite
expanding enrollments, nursing
programs are turning away large
numbers of qualified applicants.1
Evidence of this growing interest
first appeared midway through
the 2000s, with a sharp increase
in the number of people in their
30s taking advantage of 2-year
associate’s degrees to enter nurs-
ing.2 More recently, the number
of people in their 20s entering
nursing has increased sharply,
particularly in baccalaureate de-
gree programs.2 Nearly 5% of
first-year college students in 2010
reported that nursing was their
probable career choice — the
highest level of interest since
data were first collected in the
1960s.3

This remarkable growth in
interest appears to have arisen
from a confluence of factors.
There was an increase in media
attention to the nursing short-
age, including a national cam-
paign launched in 2002 by John-
son & Johnson, which continues
to inform the country about the
importance of the nursing profes-
sion, promote a positive image of
that profession, and entice a new
generation of men and women
into nursing careers. This effort
has been complemented by the
development of health workforce
centers in nearly three dozen
states that have similarly promot-
ed the nursing profession. Final-
ly, the sluggish jobs recovery fol-
lowing the recession, coupled
with continued growth in health
care spending and jobs, has in-
creased the relative attractiveness
of nursing.

A second contributor to the
surge of new RN graduates was
the unanticipated dynamism of
nursing education programs. Ac-
cording to our research funded
by the Gordon and Betty Moore
Foundation, using data from the
Integrated Postsecondary Educa-
tion Data System (http://nces.ed
.gov/ipeds), the growth in new
RN degrees since 2002 resulted
from both the expansion of ex-
isting nursing programs and the
opening of new programs; the
total number of programs grew
from about 1800 in 2002 to more
than 2600 in 2010. Growth has
occurred in private and public in-
stitutions, 2-year and 4-year uni-
versities, associate’s and bachelor’s
degree programs, and especially in
private for-profit schools (which
grew from fewer than 20 pro-
grams granting fewer than 1000
degrees in 2002 to more than
200 programs granting more than
12,000 degrees in 2010). In addi-
tion, nursing education became
increasingly innovative in meet-
ing the growth in demand by de-
veloping new programs designed
to appeal to both younger and
older students.

Although the combination of
growing interest in nursing ca-
reers and the dynamic response
of the educational sector has im-
proved long-term workforce pro-
jections, the future is by no means
secure. Four uncertainties threaten
the nursing workforce.

First, if demand for nurses
continues to expand at historical
rates through 2030, entry into
nursing must continue to grow
over the next two decades at a
rate of 20% per decade in order
to meet that demand. This pro-
jection highlights the need for
ongoing reinforcement of the
message being sent by the media
and others that nursing continues
to be an excellent career choice.
The Affordable Care Act
(ACA) will provide some support,
with expanded grant programs
for training and education of RNs
and advanced-practice nurses.

A second uncertainty involves
the uneven distribution of the

![Total Number of Associate and Baccalaureate Degree RN Graduates, 1985–2010.](http://nces.ed.gov/ipeds)
workforce. The per capita RN supply in the Western and Northeast regions of the United States has fallen behind that in the rest of the country because these regions are home to a greater number of older RNs who are retiring. Per capita RN supply is expected to decrease further in these regions over the next decade, whereas the per capita supply is projected to grow at double-digit rates in the Midwest and the South.

A third uncertainty is the lingering effect of the recession. The slow jobs recovery swelled the ranks of the nursing workforce, as many RNs chose to work additional hours or delay retirement to bolster their household’s economic security. This temporary swelling of the workforce is expected to subside as the jobs recovery accelerates. The danger is that in the meantime, employers, educators, and policymakers will reduce their investments in nursing when they observe that there’s a healthy workforce, and people who might otherwise be interested in nursing may choose other career paths because there are fewer available jobs or temporarily depressed wages.

A final uncertainty concerns the demand for RNs. The ACA may stimulate additional demand for RNs, with its increase in insurance coverage, expansion of nurse-managed health centers, and reform of the care delivery system, in which payment is to be linked to quality. However, it is unclear to what extent RNs, nurse practitioners, or other advanced-practice nurses will take the lead in these new models of care delivery and preventive care approaches championed by the ACA. It is also unclear whether RNs will be prepared with the skills needed for emerging roles in leading and managing teams, implementing patient-centered care, and adapting to other inevitable changes in RN responsibilities.

Despite the projections of severe shortages made just 10 years ago, a combination of policy efforts, a responsive education system, private-sector initiatives, and the effects of the recession has led to unexpected growth in the nursing workforce. If this growth continues, the nursing workforce will be better able to respond to the health care needs of Americans, including retiring baby boomers, and to the many challenges and consequences of the implementation of health care reform. This outcome is not certain, however, and is less likely if the surge in younger people entering nursing stalls, the workforce continues to grow unevenly across the country, or the nursing workforce is ill prepared to meet the challenges of the fast-changing health care delivery system.

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Complications of Mechanical Ventilation — The CDC’s New Surveillance Paradigm

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Earlier this year, the Centers for Disease Control and Prevention (CDC) rolled out new surveillance definitions for patients receiving mechanical ventilation that promise to dramatically improve hospitals’ capacity to track clinically significant complications in this population. The new definitions replace the CDC’s previous definition of ventilator-associated pneumonia (VAP) and are designed to achieve two primary goals: to broaden the focus of surveillance beyond pneumonia to encompass other common complications of ventilator care, and to make surveillance as objective as possible in order to facilitate automation, improve comparability, and minimize gaming.

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