

How might we shape the workforce of the future? This is one of the biggest wicked problems of our time, and to start solving it we need to reframe it. To help us design our way forward, we brought together Stanford faculty, learning practitioners and industry experts in an intentionally new and bold context.

Because of this centering property, the mean is sometimes called the center of gravity of a frequency distribution. If the frequency distribution is plotted on a graph, and the graph is balanced on a fulcrum, the point at which the distribution would balance would be the mean. The arithmetic mean is the best descriptive measure for data that are normally distributed. On the other hand, the mean is not the measure of choice for data that are severely skewed or have extreme values in one direction or another. Because the arithmetic mean uses all of the observations in the distribution, it is affected by any extreme value. Suppose that the last value in the previous distribution was instead of 10. Finding the Median Question: The default data set should be Sample. Note that 9 persons have a weight of 150, and 10 persons have a weight of 160. The resulting output should indicate a mean weight of 155. What is the mean number of cigarettes smoked per day? The midrange is usually calculated as an intermediate step in determining other measures. Method for identifying the midrange Identify the smallest minimum observation and the largest maximum observation. Add the minimum plus the maximum, then divide by two. Age differs from most other variables because age does not follow the usual rules for rounding to the nearest integer. Someone who is 17 years and days old cannot claim to be 18 year old for at least 5 more days. Thus, to identify the midrange for age in years data, you must add the smallest minimum observation plus the largest maximum observation plus 1, then divide by two. In a particular pre-school, children are assigned to rooms on the basis of age on September 1. Room 2 holds all of the children who were at least 2 years old but not yet 3 years old as of September 1. In other words, every child in room 2 was 2 years old on September 1. What is the midrange of ages of the children in room 2 on September 1? For descriptive purposes, a reasonable answer is 2. However, recall that the midrange is usually calculated as an intermediate step in other calculations. Therefore, more precision is necessary. Consider that children born in August have just turned 2 years old. Others, born in September the previous year, are almost but not quite 3 years old. Ignoring seasonal trends in births and assuming a very large room of children, birthdays are expected to be uniformly distributed throughout the year. The youngest child, born on September 1, is exactly 2. The oldest child, whose birthday is September 2 of the previous year, is 3. For statistical purposes, the mean and midrange of this theoretical group of 2-year-olds are both 2.5. Properties and uses of the midrange The midrange is not commonly reported as a measure of central location. The midrange is more commonly used as an intermediate step in other calculations, or for plotting graphs of data collected in intervals. Identifying the Midrange Example A: Find the midrange of the following incubation periods for hepatitis A: Identify the minimum and maximum values. Find the midrange of the grouping 15–24 e. Since the midrange of 15–24 is 19.5, find the midrange of the age group 15–24 years. For most variables, the interval of 15–24 years really spans 15–25. The midrange of 15–25 is 20. Geometric mean To calculate the geometric mean, you need a scientific calculator with log and yx keys. Definition of geometric mean The geometric mean is the mean or average of a set of data measured on a logarithmic scale. The geometric mean is used when the logarithms of the observations are distributed normally symmetrically rather than the observations themselves. More About Logarithms A logarithm is the power to which a base is raised. To what power would you need to raise a base of 10 to get a value of 100? Because 10 times 10 or equals 100, the log of 100 at base 10 equals 2.

4 digital HR trends shaping the workforce Digital HR functions are increasingly crucial for companies looking to attract and retain employees as workers embrace the digital revolution and have a greater ability to job hop amid a tightened U.S. labor market.

For evaluation and management services, low-complexity services are defined as those requiring straightforward or low-complexity decision making; moderate-complexity services are those defined as requiring a moderate level of decision making; and high-complexity services are defined as those requiring a high level of decision making. Nurses and Quality of Care Beyond the issue of pure numbers of practitioners, a promising field of evidence links nursing care to a higher quality of care for patients, including protecting their safety. These safety processes include asking physicians to clarify or rewrite unclear orders, independently reconciling patient medications, and providing patient education. A positive work environment was also important. This included having more RNs per patient, a supportive management structure, and collaborative relationships between nurses and physicians Flynn et al. Page 91 Share Cite Suggested Citation: The Future of Nursing: Leading Change, Advancing Health. The National Academies Press. For example, over the past 20 years, the U. Department of Veterans Affairs VA has expanded and reconceived the roles played by its nurses as part of a major restructuring of its health care system. The results with respect to quality, access, and value have been impressive. In addition, President Obama has lauded the Geisinger Health System of Pennsylvania, which provides comprehensive care to 2. The following subsections summarize the experience of the VA and Geisinger, as well as Kaiser Permanente, in expanding and reconceptualizing the roles of nurses. Because these institutions also measured outcomes as part of their initiatives, they provide real-world evidence that such an approach is both possible and necessary. Of note in these examples is not only how nurses are collaborating with physicians, but also how nurses are collaborating with other nurses. Department of Veterans Affairs 5 In , Congress greatly expanded the number of veterans eligible to receive VA services, which created a need for the system to operate more efficiently and effectively VHA, Caring for the wounded from the wars in Afghanistan and Iraq has further increased demand on the VA system, particularly with respect to brain injuries and posttraumatic stress disorder. Moreover, the large cohort of World War II veterans means that almost 40 percent of veterans are aged 65 or older, compared with 13 percent of the general population U. Census Bureau, ; VA, This strategy required better coordination of care and chronic disease managementâ€”a role that was filled by experienced front-line RNs. More NPs were hired as primary care providers, and the VA actively promoted a more collaborative professional culture by organizing primary care providers into health teams. The VA uses NPs as primary care providers to care for patients across all settings, including inpatient and outpatient settings. In addition to their role as primary care providers, NPs serve as health care researchers who apply their findings to the variety of settings in which they practice. They also serve as educators, some as university faculty, providing clinical experiences for 25 percent of all nursing students in the country. In some cases, the study showed, between 93 and 98 percent of VA patients received appropriate care in ; the highest score for comparable Medicare patients was 84 percent Jha et al. Geisinger Health System 7 The Geisinger Health System employs physicians; 1, nurses; and more than 1, NPs, physician assistants, and pharmacists. Over the past 18 years, Geisinger has transformed itself from a high-cost medical facility to one that provides high valueâ€”all while improving quality. It has borrowed several restructuring concepts from the manufacturing world with an eye to redesigning care by focusing on what it sees as the most critical determinant of quality and costâ€”actual caregiving. Numerous improvements in the quality of care, as well as effective innovations proposed by employees, have resulted. For example, the nurses who 6 Quality-of-care indicators included those in preventive care mammography, influenza vaccination, pneumococcal vaccination, colorectal cancer screening, cervical cancer screening , outpatient care care for diabetes [e. Accordingly, some highly experienced general-practice nurses moved from the call centers to primary care sites to meet with patients and their families. The nurses used a predictive model to identify who might need to go to the hospital and worked with patients and their families on creating

a care plan. Later, when patients or families received a call from a nurse, they knew who that person was. As a result, an innovation that emerged when a few nurses at Geisinger took the initiative and changed an already well-established program to deliver more truly patient-centered care may now spread well beyond Pennsylvania. Kaiser Permanente 10, 11 As one of the largest not-for-profit health plans, Kaiser Permanente provides health care services for more than 8. Kaiser Permanente has facilities in nine states and the District of Columbia, and has 35 medical centers and medical offices. The system provides prepaid health plans that emphasize prevention and consolidated services designed to keep as many services as possible in one location KP, Nurses in San Diego have taken the lead in overseeing the process for patient discharge, making it more streamlined and efficient and much more effective. They have created efficiencies relative to previous 8 Personal communication, Bruce H. Home health care nurses and discharge planners stay in close contact with one another on a daily basis to make quick decisions about patient needs, including the need for home health care visitation. In just 3 months, the number of patients who saw a home health care provider within 24 hours increased from 44 to 77 percent Labor Management Partnership, The model strengthens the patient-centered medical home concept and identifies members of the health care team HCT "a multidisciplinary group whose staff is centrally directed and physically located in small units within the medical office building. The team serves panel management and comprehensive outreach and inreach functions to support primary care physicians and proactively manage the care of members with chronic conditions such as diabetes, hypertension, cardiovascular disease, asthma, osteoporosis, and depression. Primary care management nurse clinic RNs and licensed practical nurses LPNs provide health care coaching and education for patients to promote self-management of their chronic conditions through face-to-face education visits and telephone follow-up. Using evidence-based clinical guidelines, such as diabetes and hypertension treat-to-target algorithms, nurses play important roles in the promotion of changes in chronic conditions and lifestyles, coaching and counseling, self-monitoring and goal setting, depression screening, and the use of advanced technology such as interactive voice recognition for patient outreach. Through this model of care, nurses and pharmacists have become skilled users of health information technology to strengthen the primary care-based, patient-centered medical home. Nurses use disease management registries to work with assigned primary care physicians, and review clinical information that addresses care gaps and evaluate treatment plans. RiPHM has provided a strong foundation for the patient-centered medical home. By implementing this program and expanding the role of nurses, Riverside has sustained continuous improvement in key quality indicators for patient care. Guided care is a new model for chronic care that was recently introduced within the Kaiser system. Guided care is intended to provide, within a primary care setting, quality care to patients with complex needs and multiple chronic conditions. An RN, who assists three to four physicians, receives training in such areas as the use of an electronic health record EHR, interviewing, and the particulars of health insurance coverage. RNs are also provided skills in managing chronic conditions, providing transitional care, and working with families and community organizations Boulton et al. Page 95 Share Cite Suggested Citation: Results of a pilot study comparing surveys of patients who received guided care and those who received usual care revealed improved quality of care and lower health care costs according to insurance claims for guided care patients Boulton et al. Summary The VA, Geisinger, and Kaiser Permanente are large integrated care systems that may be better positioned than others to invest in the coordination, education, and assessment provided by their nurses, but their results speak for themselves. If the United States is to achieve the necessary transformation of its health care system, the evidence points to the importance of relying on nurses in enhanced and reconceptualized roles. This does not necessarily mean that large regional corporations or vertically integrated care systems are the answer. It does mean that innovative, high-value solutions must be developed that are sustainable, easily adopted in other locations, and rapidly adaptable to different circumstances. As discussed later in the chapter, the committee believes there will be numerous opportunities for nurses to help develop and implement care innovations and assume leadership roles in accountable care organizations and medical homes as a way of providing access to care for more Americans. As the next section describes, however, it will first be necessary to acknowledge the barriers that prevent nurses from practicing to the full extent of their education and training, as well as to generate the political will

on the part of policy makers to remove these barriers. This is true of all RNs, including those practicing in acute care and public and community health settings, but is most notable for APRNs in primary care. Many of these barriers have developed as a result of structural flaws in the U. Regulatory Barriers As the committee considered how the additional 32 million people covered by health insurance under the ACA would receive care in the coming years, it identified as a serious barrier overly restrictive scope-of-practice regulations for APRNs that vary by state. The committee understands that physicians are highly trained and skilled providers and believes strongly that there clearly are services that should be provided by these health professionals, who have received more extensive and specialized education and training than APRNs. However, regulations in many states result in APRNs not being able to give care they were trained to provide. The committee believes all health professionals should practice to the full extent of their education and training so that more patients may benefit. History of the Regulation of the Health Professions A paper commissioned by the committee 13 points out that the United States was one of the first countries to regulate health care providers and that this regulation occurred at the stateâ€™not the federalâ€™level. Legislatively, physician practice was recognized before that of any other health profession Rostant and Cady, Most APRNs are in the opposite situation. At any point in their career, APRNs can do much more than they may legally do. As APRNs acquire new skills, they must seek administrative or statutory revision of their defined scopes of practice a costly and often difficult enterprise. As the health care system has grown over the past 40 years, the education and roles of APRNs have continually evolved so that nurses now enter the workplace willing and qualified to provide more services than they previously did. As the services supported by evolving education programs expanded, so did the overlap of practice boundaries of APRNs and physicians. APRNs are more than physician extenders or substitutes. They cover the care continuum from health promotion and disease prevention to early diagnosis to prevent or limit disability. These services are grounded in and shaped by their nursing education, with its particular ideology and professional identity. NPs also learn how to work with teams of providers, which is perhaps one of the most important factors in the successful care of chronically ill patients. Although they use skills traditionally residing in the realm of medicine, APRNs integrate a range of skills from several disciplines, including social work, nutrition, and physical therapy. Almost 25 years ago, an analysis by the Office of Technology Assessment OTA indicated that NPs could safely and effectively provide more than 90 percent of pediatric primary care services and 75 percent of general primary care services, while CRNAs could provide 65 percent of anesthesia services. OTA concluded further that CNMs could be 98 percent as productive as obstetricians in providing maternity services Office of Technology Assessment, APRNs also have competencies that include the knowledge to refer patients with complex problems to physicians, just as physicians refer patients who need services they are not trained to provide, such as medication counseling, developmental screening, or case management, to APRNs. Page 98 Share Cite Suggested Citation: Most NPs train in primary care; however, increasing numbers are being trained in acute care medicine and other specialty disciplines Cooper, The growing use of APRNs and physician assistants has helped ease access bottlenecks, reduce waiting times, increase patient satisfaction, and free physicians to handle more complex cases Canadian Pediatric Society, ; Cunningham, This is true of APRNs in both primary and specialty care. In orthopedics, the use of APRNs and physician assistants is a long-standing practice. NPs and physician assistants in gastroenterology help meet the growing demand for colon cancer screenings in either outpatient suites or hospital endoscopy centers. Because APRNs and physician assistants in specialty practice typically collaborate closely with physicians, legal scope-of-practice issues pose limited obstacles in these settings. Variation in Nurse Practitioner Scope-of-Practice Regulations Regulations that define scope-of-practice limitations vary widely by state. In some states, they are very detailed, while in others, they contain vague provisions that are open to interpretation Cunningham, However, the majority of state laws lag behind in this regard. As a result, what NPs are able to do once they graduate varies widely across the country for reasons that are related not to their ability, their education or training, or safety concerns Lugo et al. For example, one group of researchers found that 16 states plus the District of Columbia have regulations that allow NPs to see primary care patients without supervision by or required collaboration with a physician see Figure As with any other primary care providers, these NPs refer patients to a specialty provider if the care required extends

beyond the scope of their education, training, and skills. Other legal practice barriers include on-site physician oversight requirements, chart review requirements, and maximum collaboration ratios for physicians who collaborate with more than a single NP. There are fundamental contradictions in this situation. Educational standardsâ€”which the states recognizeâ€”support broader practice by all types of APRNs.

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Introduces fundamental systems of automobile, the engine fuel, exhaust, electric, ignition, lubrication, cooling, transmission, steering, brake, and suspension systems. Teaches theory and function of each system. Total 4 hours per week. Presents analysis of power, cylinder condition, valves, and bearings in the automotive engine to establish the present condition, repairs, or adjustments. Total 6 hours per week. Studies automobile ignition and fuel systems and their functions in operation of the engine. Includes carburetors, fuel pumps, ignition systems, troubleshooting, engine testing and adjustment, and tune-up. Total 7 hours per week. Introduces advanced automotive electronic safety control systems, including driver alert, unintended lane departure, blind spot detection, active headlights, and electronic control of braking systems. Addresses diagnostic procedures and maintenance of electronic safety control systems, and the theory, function, and operation of each system. Lecture 3 hours per week. Presents information on methods for performing automotive vehicle safety inspection. Total 3 hours per week. Introduces basic engine performance concepts, including theory and practical application. Covers vehicle communications, scan-tool diagnostics, basic engine mechanical tests, and diagnosing and repairing vehicle drivability issues. Total 8 hours per week. Studies small gasoline engine operating principles, construction, design, variety, and their many purposes. Gives instruction on two-cycle and four-cycle small gas engines, their construction, design, fuel system, ignition system, and lubricating systems. Demonstrates disassembly, reconditioning, overhaul, and reassembly in the lab. Presents the techniques for diagnosis of malfunctions in systems of the automobile. Uses dynamometers, oscilloscopes, and other specialized diagnostic and testing equipment. Demonstrates tune-up of conventional and rotary engines. Applies to all occupational-technical curricula at the discretion of the college. Provides on-the-job training for automotive technology students. Laboratory 10 hours per week. Covers advanced automotive electronic systems, including GPS navigation, communication, and guidance control systems. Addresses the theory, function, operation, diagnostic procedures, and maintenance of each system. Total 5 hours per week. Introduces current trends in alternative fueled vehicles, including current alternative fueled vehicles and the implication and safety precautions necessary for working on hybrid vehicle systems. Studies separate and combined automotive heaters and air conditioning, including direct and vacuum-operated controls, basic principles of refrigeration, adjustment, general servicing, and charging of air-conditioning systems. Introduces principles of refrigeration, air-conditioning controls, and adjustment and general servicing of automotive air-conditioning systems. Introduces electricity, magnetism, symbols, and circuitry as applied to the alternators, regulators, starters, lighting systems, instruments and gauges, and accessories. Part I of II. Introduces electricity, magnetism, symbols, and circuitry as applied to alternators, regulators, starters, lighting systems, instruments and gauges, and accessories. Part II of II. Introduces advanced automotive technologies, and covers the electronic control systems found in hybrid electric vehicle systems, battery electric vehicle systems, and fuel cell electric vehicle systems. Teaches theory, function, and operation of each electronic control system and provides students an opportunity to perform diagnostic procedures and maintenance for these systems. AUT or program head approval. AUT Automotive Electronics 4 cr. Introduces the field of electronics as it applies to the modern automobile. Emphasizes basic circuit operation and diagnosis and repair of digital indicator and warning systems. AUT Automatic Transmissions 3 cr. Includes adjustment, maintenance, and rebuilding. AUT Automatic Transmissions 4 cr. AUT Electric Vehicles 4 cr. Covers electric vehicle systems and advanced automotive electronics. Provides students an opportunity to perform diagnostic procedures and maintenance for electric vehicle systems. Teaches theory, function, and operation of electric vehicle systems. Covers plug-in hybrid electric vehicle systems, extended-range electric vehicle systems, and advanced automotive electronics. Teaches theory, function, and operation of each plug-in hybrid vehicle system and provides students an opportunity to perform diagnostic procedures and maintenance for these vehicles. Introduces advanced automotive technologies, and covers hydrogen fuel cell electric vehicle systems

and advanced automotive electronics. Teaches theory, function, and operation of fuel cell electric vehicles and provides students an opportunity to perform diagnostic procedures and maintenance for fuel cell electric vehicle systems. Explains uses of tools and test equipment, evaluation of test results, and estimation of repair cost for power, standard, and disc brakes. Introduces use of alignment equipment in diagnosing, adjusting, and repairing front and rear suspensions. Deals with repair and servicing of power and standard steering systems. AUT Shop Management 2 cr. Studies shop layout, personnel management, cost analysis, record keeping and quality control. Discusses shop manager, service salesman, and service writer roles in customer relations. Lecture 2 hours per week.

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Chapter 5 : Key findings about America's workforce and changing job market

OPM is issuing this Workforce Reshaping Operations Handbook to provide assistance to agencies that are considering and/or undergoing some type of reshaping (e.g., reorganization, management directed reassignments, furlough, transfer of function).

Chapter 6 : Shaping the Agile Workforce | Accenture Strategy

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Chapter 7 : Hybrid and Electric Vehicle Technology CSC

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Bold leaders create a future workforce that constantly adapts and reforms to the world as it changes. The key to workforce agility lies in a strategy that puts people first, enabled by technology. With an eye on business outcomes, leaders will develop talent strategies that help liberate human potential to shape an agile workforce—one able to.