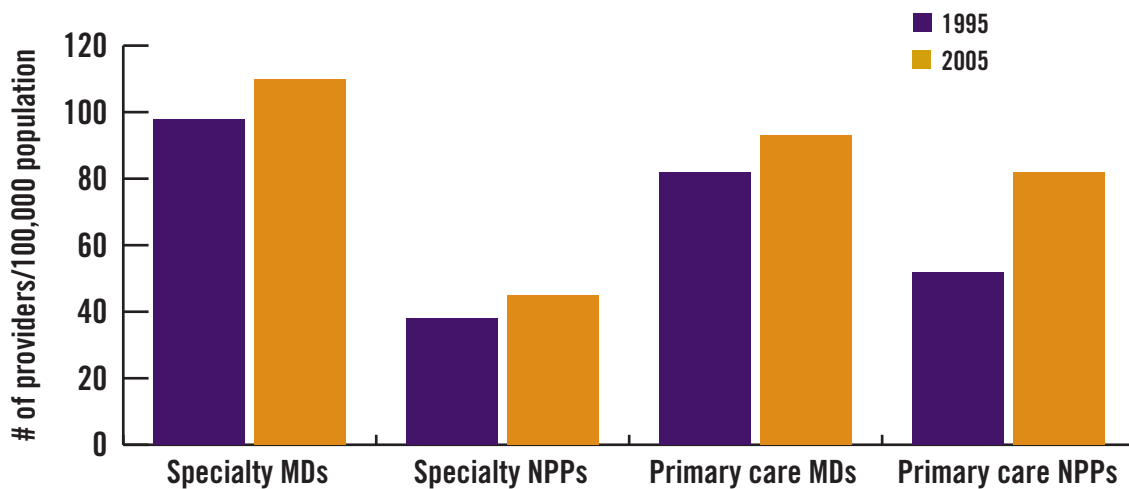


## Health care resources

**Figure 3:** Projected growth of physicians and non-physician providers (NPPs)



Optimal patient care is delivered by the health care team, which includes physicians, nurses, and other health care professionals. Concern about the lack of a systematic health care workforce planning mechanism is intensifying. The risk of an imbalance in the physician workforce total supply and specialty distribution is growing and cannot be rectified quickly due to the length of training for graduate medical education.<sup>34</sup> Growing shortages of nurses and other non-physician providers further exacerbate the problem, jeopardizing the ability to provide safe, high quality care. Shortages of some physician specialties and some allied health professionals are severe in some areas.

### Trends: Physicians

- In 2004, there were a total of 884,974 physicians. Primary care physicians comprise one third (33.5 percent) of the total number of physicians; this percentage has been slowly declining and was 40.2 percent in 1970 and 36.5 percent in 1980.<sup>35</sup>
- Approximately 73 percent of physicians are male. About 25.3 percent (up slightly from 24.9 percent in 2003) of physicians are International Medical Graduates.<sup>36</sup> In 2004, 26.4 percent of resident physicians on duty in ACGME-Accredited and in Combined Specialty Graduate Medical Education programs were international medical school graduates.<sup>37</sup>

- In 2004, nearly two-fifths of physicians were younger than 45 years of age, down from a little more than half in 1975. The total number of physicians age 65 and older more than tripled from 50,993 in 1975 to 162,364 in 2004.<sup>38</sup>
- A recent survey by Merritt Hawkins & Associates found that approximately 80 percent of physicians 50 or over are considering retiring from full-time clinical practice during the next five years.<sup>39</sup>
- Over the last 15 years, significant changes have occurred in career choices of medical students.
  - The percentage of medical students selecting a career in primary care has fluctuated dramatically over the last decade and a half, decreasing steeply from 1987 (49.2 percent) to 1991 (43.1 percent), followed by record increases until 1998 (53.2 percent), and then declining again until 2002 when it leveled off at 44.2 percent where it has essentially remained until 2005.<sup>40</sup> Despite these trends, the actual number of residents training in pediatrics, internal medicine, their combined programs, and family practice has increased over this time period.
  - Popularity of primary care specialties can be gauged by noting the number of residents in these areas who are USMDs. More competitive specialties and subspecialties tend to attract more USMDs. Since 1998, the percentage of USMDs in primary care training has declined. In 1999, USMDs constituted 77.6 percent of family medicine residents and, in 2004, USMDs constituted only 51.7 percent. The trends for percentage of USMDs in pediatrics, internal medicine, and combined programs were similar although not as steep a decline.<sup>41</sup>
  - Interest in general surgery may be rebounding. The 2005 National Residency Matching Program data showed that 99 percent of the general surgery residency positions were filled with 80.4 percent of positions being filled by U.S. medical school seniors, compared to a fill rate of 94 percent with 75 percent of positions taken by U.S. medical school seniors in 2002.<sup>42</sup>
  - Based on the 2005 National Resident Match Program results, interest in psychiatry residencies is increasing. 2005 was the fourth year in which there was an increase in the number of psychiatry positions offered and filled by U.S. medical students.<sup>43</sup>
  - Over the last 16 years, the percent of students selecting emergency medicine has steadily increased from less than 2 percent in 1987 to 6.4 percent in 2002.
  - Medical students selecting anesthesiology has undergone a dramatic cycle rising sharply followed by a sharp decline. Numbers interested in radiology have also gone through peaks and valleys, with the percentage recently rebounding in 2002.<sup>44</sup>
  - Hospitalist is a new and rapidly growing career choice. It appears to be attractive because of job availability, life style issues, and a competitive salary.
  - The number of physicians interested in research careers has decreased sharply. In 2002, only 0.9 percent of medical school graduates received combined MD/PhD degrees, down from 2.3 percent only 5 years earlier.<sup>45</sup>
- Due to the aging population, the supply of intensivists and pulmonologists will be inadequate to meet demand for services after 2007.<sup>46</sup> Moreover, according to a report by the Senate's Special Committee on Aging, the United States should have 20,000 geriatric-trained physicians to adequately care for the 35 million older people in the country. However, the United States currently has fewer than 9,000 physicians who have met the qualifying criteria in geriatrics.

- According to a 2005 Merritt-Hawkins survey of hospital physician recruitment trends, 88 percent of hospitals surveyed are actively recruiting physicians. Currently, the most sought after specialty is family practice. Forty-three percent of hospital recruiters indicated they were actively recruiting family practitioners. While family practitioners and general internists are being recruited more frequently than other types of doctors, they are not the most difficult types of physicians to recruit. Specialties rated by the physician recruiters as very difficult to recruit included: neurosurgeons (83 percent), vascular surgeons (79 percent), orthopedic surgeons (78 percent), cardiologists (77 percent), gastroenterologist (75 percent), urologists (74 percent), pulmonologists (74 percent), radiologists (73 percent), maternal/fetal medicine (67 percent), neurologists (63 percent), endocrinologists (62 percent), pediatric sub-specialists (61 percent), hematologists/oncologists (58 percent), and rheumatologists (57 percent).<sup>47</sup>
- Rural and inner-city areas continue to face problems in securing access to physician care.
- A growing number of physicians are working part-time. A recent joint study conducted by the AMA and American Academy of Pediatrics found that in 2004, 21 percent of practicing pediatricians defined their positions as part-time compared to 11 percent in 1993.<sup>48</sup>

## **Trends: Supply of nonphysician providers**

- In 2004, the total number of licensed registered nurses (RNs) living and working in the United States was approximately 2.9 million, representing an increase of 7.9 percent since 2000. Of the total licensed RN population, 83.2 percent were employed in nursing, of which 58.3 percent were working full time. The trend away from diploma programs and toward associated degree or baccalaureate programs has continued.<sup>49</sup>
- In 2000, 30 states were estimated to have nurse shortages. By 2020, 44 states and the District of Columbia are projected to have shortages.
- In 2004, the average age of the RN population was approximately 46.8 years of age, up from 45.2 years in 2000 and 4 years greater than in 1996. The average age of RNs has risen steadily.<sup>50</sup>
- The American Association of Colleges of Nurses reported that the total enrollment in all nursing programs leading to the baccalaureate degree was 147,120 in 2004, up from 126,954 in 2003. Due to shortage of faculty and resource constraints, more than 32,000 qualified candidates were not accepted at schools of nursing.<sup>51</sup>
- According to the Health Resources and Services Administration, there is an acute shortage of pharmacists. While the overall supply of pharmacists increased slightly between 1991 and 2000, the overall demand for services increased more rapidly. The rapid growth in prescription volume was a major factor in the increased demand.<sup>52</sup>
- The American Hospital Association reports that hospitals are facing shortages of nurses, skilled radiology technicians, lab technicians, and pharmacists. In January 2005, hospitals had approximately 109,000 vacant positions for registered nurses, meaning that about 8.1 percent of the RN positions were vacant.<sup>53</sup>

## Trends: Nonphysician providers scope of practice

- The scope of practice of non-physician providers continues to expand.<sup>54</sup> States have granted a wide range of prerogatives to non-physician providers. In the aggregate, the practice prerogatives of NPPs overlap a subset of the services that physicians generally have provided, encompassing levels of care that can be categorized as routine general care.<sup>55</sup>
- Use of collaborative practice agreements between physicians and non-physician providers is growing beyond traditional arrangements.
- Pharmacists are pushing to be designated as “disease-state managers” for certain chronic illnesses and are playing a larger role in formulary oversight.
- To the extent that Medicare recipients convert to managed care plans, more health care services will likely be provided by non-physicians.
- Many states have enacted legislation mandating that private health care plans include reimbursement for particular groups of non-physician providers.

## Trends: Hospitals and other health facilities

- The number of hospital beds continues to decline. The number of beds has declined steadily from an all time high of 1,018,452 in 1983 to 813,307 in 2003. Beds per 1,000 persons also is on the decline and was 2.80 in 2003. Occupancy rates remained relatively the same at 66.2 percent in 2003 and 66.1 percent in 2000.<sup>56</sup>
- The level of horizontal integration and number of hospitals in health systems, has remained fairly constant since 1997. Hospital consolidation continues, but the pace of hospital mergers and acquisitions has slowed.<sup>57</sup> With the exception of assisted living and hospice, hospitals are curtailing their involvement in non-hospital services, including home health, skilled nursing, and long term care.<sup>58</sup>
- Although specialty hospitals comprise less than 2 percent of the nation’s 4,900 hospitals, they were the fastest growing hospital segment until Congress, in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, imposed an 18-month moratorium that effectively stalled the development of any new physician-owned specialty hospitals. After the moratorium expired in June 2005, the Centers for Medicare and Medicaid Services effectively extended the freeze by indicating it would not approve any new specialty hospitals for at least another six months while it reviewed its enrollment procedures for specialty hospitals.<sup>59</sup>
- The number of freestanding ambulatory care facilities has increased by 46 percent since 1996. The percent of all outpatient surgeries being performed in freestanding facilities increased from 15 percent to 31 percent between 1989 and 2003.<sup>60</sup>
- Recognizing that physicians are key to ensuring an adequate patient flow, hospitals are struggling with how best to affiliate with physicians. Strategies to gain market share by purchasing primary care physician practices have been unsuccessful, resulting in a national median annual operating loss for hospital-owned practices of \$83,000 per primary care physician.<sup>61</sup>
- According to a recent study by Merritt, Hawkins & Associates, a physician, on average, generates \$1.54 million per year in inpatient and outpatient revenues for his or her affiliated hospital.
- Hospitals continue to rely on revenue from outpatient care, which accounted for 29 percent of hospital revenue in 2003, down from 35 percent in 2001.<sup>62</sup>

- The shortage of nurses is forcing hospitals to increase payroll expenses and may potentially require an increase in the use of alternative health care personnel.<sup>63</sup>
- In some regions, hospitals are plagued by a shortage of on-call specialists.<sup>64</sup> The shortage of on-call specialists is likely to get worse due to EMTALA coupled with reduced reimbursement and increased litigation.
- From 1993 to 2004 demand for emergency department (ED) care rose by 20 percent, while the number of EDs declined by 9 percent. This trend led to a 31 percent increase in visits per ED. In 2005, nearly half of hospitals reported that they were “at” or “over” capacity. Seventy percent of urban hospitals reported periods of ED diversion in the last 12 months while 20 percent of rural hospitals reported period of ED diversion. Diversion is not an option for many rural hospitals because they are the only access point for care in their communities.<sup>65</sup>
- According to the AHA Annual Survey, approximately one-third of hospitals had negative total margins in 2003. Overall, total hospital margins have held relatively steady the last four fiscal years, starting at 4.6 percent in FY 2000, declining slightly to 4.5 percent in FY 2001, rising modestly to 4.7 percent in FY 2002, and rising slightly to 4.8 percent in FY 2003.<sup>66</sup>
- In 2004, Standard & Poor’s downgraded more non-profit hospitals (45) bond ratings than it upgraded (35).<sup>67</sup>
- As states continue to struggle with budgets and more hospitals turn for-profit, the tax status of not-for-profit hospitals is being challenged.<sup>68</sup>
- In 2003, hospitals provided approximately \$25 billion in uncompensated care.<sup>69</sup>
- The use of hospitalists or admitting officers continues to grow.<sup>70</sup>
- 1,300 out of 8,000 home health agencies have closed as a result of Medicare’s recent conversion to a prospective payment system for post-hospital facilities.<sup>71</sup>

## Predicted impacts for patients

- Patients will experience reduced access to primary care physicians.
- Patients are increasingly confused about how to access care. They will need assistance differentiating between physicians and independent non-physician providers and choosing between them as well as selecting the appropriate site of care.
- Medicare payment changes to post-hospital facilities will force many such facilities to close and limit patient access.
- Reduced funding for teaching hospitals will negatively impact access to care for the poor and uninsured.
- Due to the increased prevalence of overcrowding in emergency departments (ED), patients may be subjected to ambulance diversions in some cities, longer waiting times once they are admitted to the ED, and prolonged pain and suffering. With the aging of America, this problem is likely to get worse. According to the Centers for Disease Control, older Americans (i.e., 75 years and older) have the highest rate of emergency department visits with 65 visits per 100 persons per year.

## Predicted impacts for physicians

- Demand for physicians to manage non-physician providers (e.g., delegating routine work and wellness care) will continue to grow. Under the best circumstances, collaborative practice arrangements can increase physician productivity.
- Health plans will encourage physicians to develop collaborative practice arrangements with a wide range of independent practitioners.
- The growing numbers and increased scope of practice of non-physician providers will decrease the demand for physicians who provide routine general care.
- Payers will increasingly want proof that services provided by physicians are more cost effective and of higher quality than services provided by non-physician providers.
- In some areas, physicians may have difficulty finding hospital facilities to treat their seriously ill patients.
- Instead of purchasing physician practices, hospitals will begin treating physicians more like clients in order to secure more referrals.
- Physicians will become increasingly frustrated by the multiple effects of hospital emergency department overcrowding, particularly as it affects physicians' abilities to delivery quality care in a timely fashion.

## Predicted impacts for hospitals/health care facilities

- In-patient days will continue to drop as new interventions and pharmaceuticals help to reduce length of stay and admissions. However, those patients being treated in hospitals will be sicker and need more specialized care.
- Hospitals will need to continue to look for solutions to the problem of emergency department overcrowding. Part of the solution may involve a re-examination of EMTALA requirements, given the lack of reimbursement to emergency physicians and hospitals for uncompensated care.
- Hospitals will be forced to realign their employee mix in order to address staff shortages and rising wages.
- The reduction in number of hospital beds and pressures on other health care resources will challenge the capacity of the U.S. health system to respond effectively to epidemics and other health catastrophes.