

Vulnerable Populations: Who Are They?

Despite efforts and goals in the United States to reduce or eliminate disparities in healthcare by 2010, significant disparities, including risk factors, access to healthcare, morbidity, and mortality, continue in vulnerable populations. For example, studies find that Americans living in poverty are much more likely to be in fair or poor health and have disabling conditions, and are less likely to have used many types of healthcare.¹

Vulnerable populations include the economically disadvantaged, racial and ethnic minorities, the uninsured, low-income children, the elderly, the homeless, those with human immunodeficiency virus (HIV), and those with other chronic health conditions, including severe mental illness.² It may also include rural residents, who often encounter barriers to accessing healthcare services.³ The vulnerability of these individuals is enhanced by race, ethnicity, age, sex, and factors such as income, insurance coverage (or lack thereof), and absence of a usual source of care.^{4,4-8} Their health and healthcare problems intersect with social factors, including housing, poverty, and inadequate education.²

Health Domains of Vulnerable Populations

The health domains of vulnerable populations can be divided into 3 categories: physical, psychological, and social.⁴ Those with physical needs include high-risk mothers and infants, the chronically ill and disabled, and persons living with HIV/acquired immunodeficiency syndrome.⁴ Chronic medical conditions include respiratory diseases, diabetes, hypertension, dyslipidemia, and heart disease. Eighty-seven percent of those 65 years and older have 1 or more chronic conditions, and 67% of this population have 2 or more chronic illnesses.⁹

In the psychological domain, vulnerable populations include those with chronic mental conditions, such as schizophrenia, bipolar disorder, major depression, and attention-deficit/hyperactivity disorder, as well as those with a history of alcohol and/or substance abuse and those who are suicidal or prone to homelessness.⁴

In the social realm, vulnerable populations include those living in abusive families, the homeless, immigrants, and refugees.⁴

The needs of these populations are serious, debilitating, and vital, with poor health in 1 dimension likely compounded by poor health in others. Those with multiple problems also face more significant comorbidities and cumulative risks of their illness than those experiencing a single illness.⁴

Overall, nonwhite women 45 to 64 years of age who are unemployed and uninsured with lower incomes and education levels tend to report the poorest health status.²

The Need to Focus on Vulnerable Populations

Although the needs of medically vulnerable populations are serious, are often debilitating or life-threatening, and require extensive and intensive medical and non-medical services, these needs tend to be underestimated.⁴

Current financing and service delivery arrangements are not meeting the needs of these vulnerable populations. For example, the number of uninsured patients younger than 65 years of age grew by nearly 6 million between 2000 and 2004, with the greatest growth in those who are poor (46%) or near-poor (22%).¹⁰ In this population, approximately 35% to 45% have at least 1 chronic medical condition. More than half (58%) of those with a chronic illness without insurance report that they did not buy a prescription drug in 2003

because of cost compared with 39% of those with publicly funded insurance and 34% of those with private insurance.¹¹

The numbers of these vulnerable populations are increasing, not only as the ranks of the uninsured grow, but as the population ages. For instance, the number of individuals with chronic medical conditions has risen from 125 million in 2000 to 133 million in 2005. This number continues to increase as the baby boom generation ages. By 2010, 141 million Americans are expected to have 1 or more chronic conditions, with an overall increase to 171 million people (37%) by 2030 (Figure 1).¹²

Chronic illnesses are significantly more prevalent among low-income and other disadvantaged populations. Additionally, the impact of these illnesses is more severe among the unemployed, uninsured, and less educated. For example, patients with a chronic illness who have less than a high school education are 3 times more likely to report being in poor health than those with the same illness who hold a college degree.²

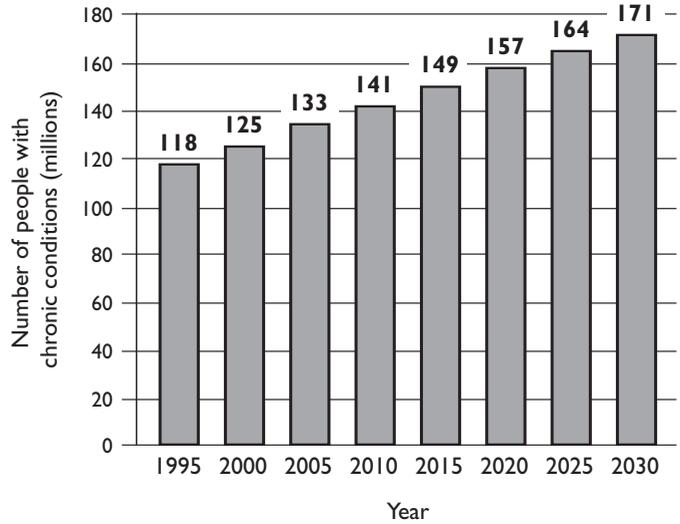
Given the increasing number of vulnerable populations with 1 or more chronic health conditions, policymakers are becoming increasingly concerned about how to deal with the demands this population places on systems of care.^{4,9}

Enabling Factors of Vulnerability

Shi and Stevens evaluated data on 32 374 adults from the 2000 National Health Interview Survey and identified 3 risk factors for poor access to healthcare: low income, lack of health insurance, and lack of regular care. They found that those without insurance were 7 times (odds ratio [OR], 7.33; confidence interval [CI], 6.24-8.62) less likely to get the healthcare they need and 4.5 times (OR, 4.55; CI, 3.81-5.45) more likely to not fill a prescription. Meanwhile, adults with low incomes were more likely to delay or not receive necessary medical, dental, and mental healthcare and to not fill prescriptions.¹³

Overall, researchers found that about 1 of 5 US adults has multiple risk factors for unmet health needs, creating up to a 5-fold difference in the rates of these unmet needs, such as delayed medical care between those

Figure 1. The Rapid Increase in the Number of People with Chronic Conditions



Source: Reference 12.

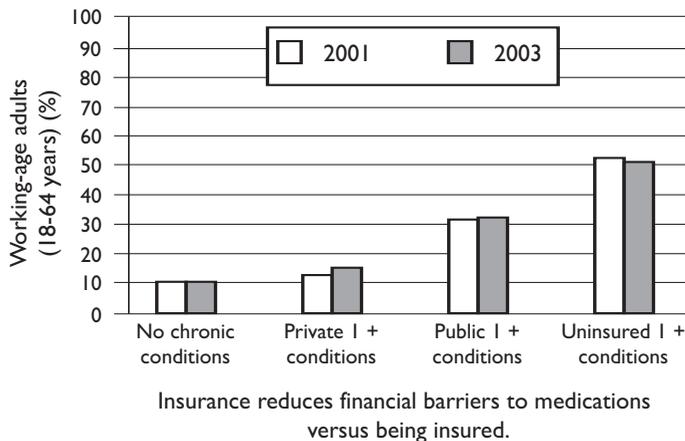
with the greatest number of risk factors and those with the least. As Shi and Stevens noted, “Low income, no health insurance coverage, and lacking a regular source of care are closely related risk factors that build upon each other to influence the likelihood of having an unmet health need due to cost.”¹³

Vulnerable Populations and Chronic Conditions

As already noted, a key identifying characteristic of vulnerable populations is the presence of 1 or more chronic illnesses. Although certain chronic conditions, such as dyslipidemia, may not presently be disabling to the patient, they have potentially disabling effects in the future. In addition, although some individuals with chronic conditions live full, productive, and rewarding lives, others live with isolation, depression, and physical pain resulting from their illness.¹⁴

Outpatient Care. The most common chronic conditions among those 65 years and older are hypertension, arthritis, heart disease, and eye disorders. Among those 18 to 64 years, the most common chronic conditions are hypertension, respiratory dis-

Figure 2. Working-age Adults (18-64 years) Who Did Not Purchase at Least 1 Prescription Drug Due to Cost



Source: Reference 11.

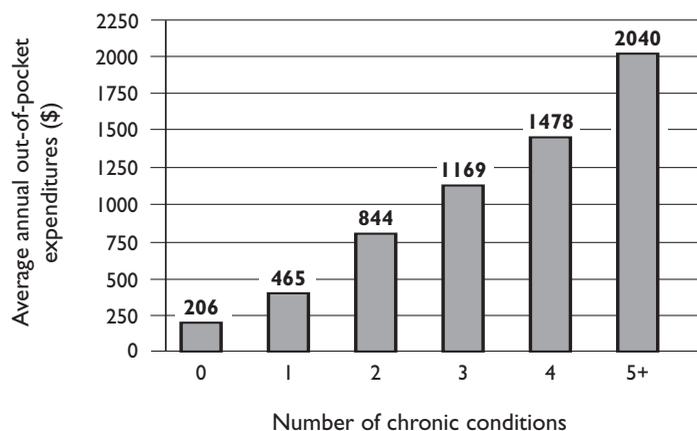
ease, arthritis, and mental health diseases.⁹ The United States spends disproportionately more on healthcare for those with chronic illnesses than for those without. Not surprising, individuals with a chronic condition are twice as likely to report they have “bad health” days as those without a chronic illness.² Overall, 83% of US healthcare spending is for 48% of the noninstitutionalized population with 1 or more chronic conditions.⁹ Any incremental advancement

achieved from outpatient intervention that improves outcomes may significantly impact healthcare costs.

Impact of Coverage. When comparing the insured versus those without healthcare coverage, the cost of healthcare delivery is disproportionately greater for the uninsured. Whereas 74% of private health insurance spending is attributed to 45% of those with chronic health conditions, 72% of all healthcare spending for the uninsured is attributed to 31% of patients with chronic conditions, and 83% of Medicaid spending is for 40% of noninstitutionalized beneficiaries with chronic conditions.⁹ In addition, although the majority of those with chronic conditions have health insurance (primarily due to public coverage), their increased out-of-pocket expenses put significant strain on the ability to pay for healthcare. Although 45% of patients make gradual payments over time, 16% borrow from their retirement fund, 11% take funds from their child’s educational fund, and 8% declare bankruptcy.⁹

Comorbid Disease. Patients with multiple chronic illnesses are at an increased risk for hospitalization and require more prescriptions. As seen in **Figure 2**, those with 3 chronic conditions fill an average of 25.4 prescriptions per year,⁹ which translates to more out-of-pocket expenses. Overall, average annual out-of-pocket spending on healthcare for those with 1 or more chronic conditions is \$827, compared with \$505 per year of out-of-pocket spending for all Americans. The majority of out-of-pocket expenses for patients with chronic conditions is for prescription drugs, whereas patients without chronic conditions spend the most on dental care.⁹ Patients 65 years and older with 3 or more chronic conditions spend about \$650 per year on medications, compared with \$110 for those without any chronic conditions and \$225 for those with only 1. Meanwhile, patients younger than 65 years with 3 chronic conditions spend nearly \$450 per year on medications, compared with less than \$50 for those with none and \$110 for those with 1.¹⁵ **Figure 3** shows total out-of-pocket

Figure 3. Out-of-pocket Healthcare Spending Increases with the Number of Chronic Conditions



Source: Reference 9.

healthcare spending based on the number of chronic conditions.

Employers and Chronic Healthcare Coverage

Employees with chronic health conditions, or those with a close family member with 1 or more chronic conditions, put tremendous strain on employers, with the impact extending beyond direct medical costs. In comparison to the general population, decreased productivity resulting from required absenteeism to care for those with chronic conditions is a direct cost to employers. As seen in the **Table**, the chronically ill are twice as likely as those in the general population to report poor health days. Nearly 1 of 4 patients with coronary artery disease report 20 or more of these poor health days, as do 22% of patients with diabetes and 21% of patients with depression.² This affects employer costs related to absenteeism.

It also affects employer costs related to presenteeism, which is defined as the impact of a health condition on work performance.¹⁶ For example, someone with depression may go to work, but accomplishes little because of their illness. There is some evidence that presenteeism may be underreported and may represent a larger percentage of overall indirect workplace costs for medical conditions than previously thought.¹⁷

Collins et al, who conducted an online health survey of 7797 Dow Chemical workers between July and September 2002, found that although absenteeism during the 4-week recall period varied by chronic condition from 0.9 to 5.9 hours, work impairment varied from a 17.8% to a 36.4% reduction in ability to function. The greatest number of absences and work impairments came from those reporting depression, anxiety, or emotional disorders (36.4%) or breathing disorders (23.8%). Additionally, the more chronic conditions, the greater the number of absences and level of work impairment.¹⁶

The costs for presenteeism are now considered the largest component of employer costs for chronic conditions, even larger than for direct medical costs. For example, on average (2002 dollars), researchers esti-

Table. Proportion of Bad Health Days

Days	General population (%)	Diabetes (%)	Depression (%)	CAD (%)	Hypertension (%)
0	44	32	24	32	46
1-4	28	24	27	18	24
5-9	9	10	17	12	10
10-19	7	12	11	12	8
20+	12	22	21	26	12

Chronically ill patients are 2 times as likely as the general population to report bad health days.

CAD indicates coronary artery disease.

Source: Reference 2.

ated that presenteeism cost Dow Chemical \$6721 per employee, or 6.8% of its total labor costs across its entire US workforce.¹⁶

Conclusion

Vulnerable populations, defined as those at greater risk for poor health status and healthcare access, experience significant disparities in life expectancy, access to and use of healthcare services, morbidity, and mortality. Their health needs are complex, intersecting with social and economic conditions they experience. This population is also likely to have 1 or more physical and/or mental health conditions.

As many patients grapple with chronic illnesses, they not only cost private and public health insurers a disproportionate amount of healthcare dollars, but they also impact employers through increased absenteeism and presenteeism rates. The number of patients with chronic conditions is expected to rise by 37% within the next 24 years,¹² placing significant strain on existing healthcare systems, particularly as the condition of this population is exacerbated by existing social and economic risk factors.

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