

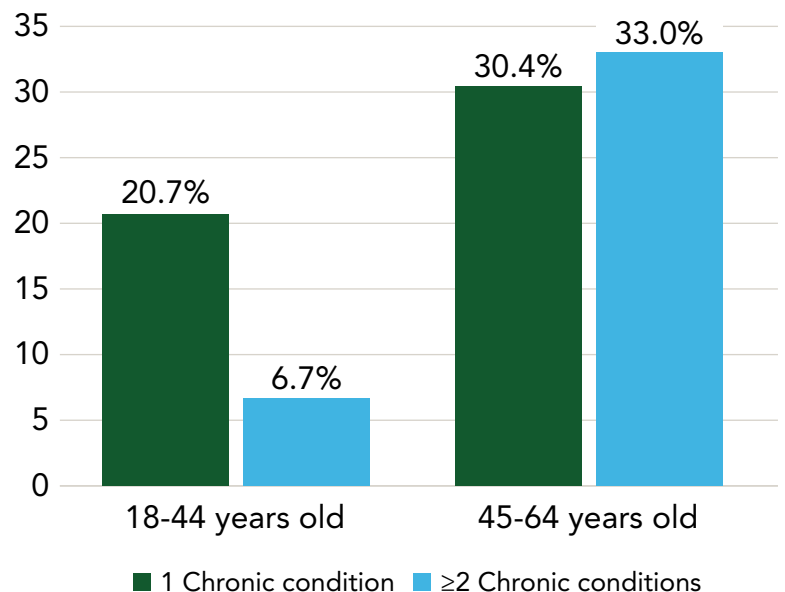
Chronic conditions impact approximately one-third of working-age adults (aged 18-64)¹

Adults aged 19-64 accounted for 62% of employer-based health insurance in March 2021²

- Among adults 18-64 years old, 25.7% of those with private insurance had 1 chronic condition, while 15.7% had multiple chronic conditions^{1*}

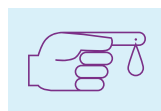
*Chronic conditions measured were arthritis, cancer, chronic obstructive pulmonary disease, coronary heart disease, current asthma, diabetes, hepatitis, hypertension, stroke, and weak/failing kidneys¹

Percentage of US Adults Aged 18 to 64 With Chronic Conditions (2018)^{1*}



Several chronic conditions and factors increase the risk for pneumococcal disease among adults of all ages³

- Diabetes
- Chronic heart, kidney, or liver disease
- Chronic obstructive lung disease, emphysema, and asthma
- Nephrotic syndrome
- Alcoholism
- Diseases that weaken the immune system, such as sickle cell, no spleen, solid organ transplant, HIV infection, or cancer
- Cigarette smoking
- Cochlear implants
- Cerebrospinal fluid leaks



Each year in the US, pneumococcal disease results in more than

180,000
adult hospitalizations

150,000
adult outpatient visits⁴

Employees with chronic conditions are at increased risk for pneumococcal disease

Elevated risk, by age group and preexisting condition, vs healthy* adults aged 18-49 (2013-2015)⁴

Chronic condition	Age group	Invasive pneumococcal disease [†]	Pneumococcal pneumonia [†]
Heart disease	18-49	8x	7x
	50-64	13x	16x
Diabetes	18-49	4x	5x
	50-64	11x	12x
Asthma	18-49	4x	5x
	50-64	12x	17x
Pulmonary disease	18-49	9x	19x
	50-64	29x	47x

*“Healthy” is defined as adults with none of the underlying chronic conditions in this study.⁵

[†]Retrospective, claims-based cohort study analyzed data from 2 large US databases for 56.6 million adults with commercial or Medicare coverage between 2007 and 2015. Researchers examined patients with claims indicative of a hospitalization for IPD, all-cause pneumonia, or pneumococcal pneumonia and used operational algorithms and codes to identify patients with conditions that place them at risk or high risk for pneumococcal disease. Rate ratios were calculated using rates of IPD and pneumococcal pneumonia per 100,000 person-years in healthy adults in the older age groups compared with healthy adults aged 18-49 years. Limitations include possible misclassification of patients with underlying conditions and lack of knowledge about pneumococcal vaccine uptake during the study period.⁵

Pneumococcal disease can lead to increased utilization and hospital costs

Inpatient utilization and costs in adults (18-64 years old) with pneumococcal disease, 2017^{6†}

Age group	Mean LOS (days)		Mean cost (\$)	
	IPD	Pneumococcal pneumonia	IPD	Pneumococcal pneumonia
18-44	6.4	4.3	\$15,985	\$9,946
45-64	8.0	5.3	\$21,284	\$12,703

[†]AHRQ HCUP net data for discharges with ICD-10 codes for pneumococcal pneumonia (J13) and IPD (A40.3, sepsis due to *S. Pneumoniae*; B95.3, *S. Pneumoniae* as cause of other diseases; G00.1, pneumococcal meningitis; M00.1 pneumococcal arthritis and polyarthritis; M00.2 other streptococcal arthritis; R78.81, bacteremia, combined).⁶

AHRQ = Agency for Healthcare Research and Quality; HCUP = Healthcare Cost and Utilization Project; ICD = International Classification of Diseases; IPD = invasive pneumococcal disease; LOS = length of stay.

References: **1.** Boersma P, Black LI, Ward BW. Prevalence of multiple chronic conditions among US adults, 2018. *Prev Chronic Dis.* 2020;17:E106. doi:10.5888/pcd17.200130 **2.** Keisler-Starkey K, Mykyta L. Employment-based health insurance declines for working-age adults during pandemic. United States Census Bureau. Published September 14, 2021. Accessed January 17, 2022. <https://www.census.gov/library/stories/2021/09/private-health-coverage-of-working-age-adults-drops-from-early-2019-to-early-2021.html> **3.** The Centers for Disease Control and Prevention. Risk Factors and How it Spreads. Reviewed September 1, 2020. Accessed January 18, 2022. <https://www.cdc.gov/pneumococcal/about/risk-transmission.html> **4.** Data on file. Pfizer Inc. **5.** Pelton SI, Bornheimer R, Doroff R, et al. Decline in pneumococcal disease attenuated in older adults and those with comorbidities following universal childhood PCV13 immunization. *Clin Infect Dis.* 2019;68(11):1831-1838. **6.** Agency for Healthcare Research and Quality. Healthcare Cost and Utilization Project database. Data inquiries accessed December 2, 2020.