

Economic Burden of Invasive Meningococcal Disease in Individuals with Commercial and Medicare Insurance in the United States

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 Digital poster
Supplemental data
Narrated summary


SCAN ME


Audio File

Background

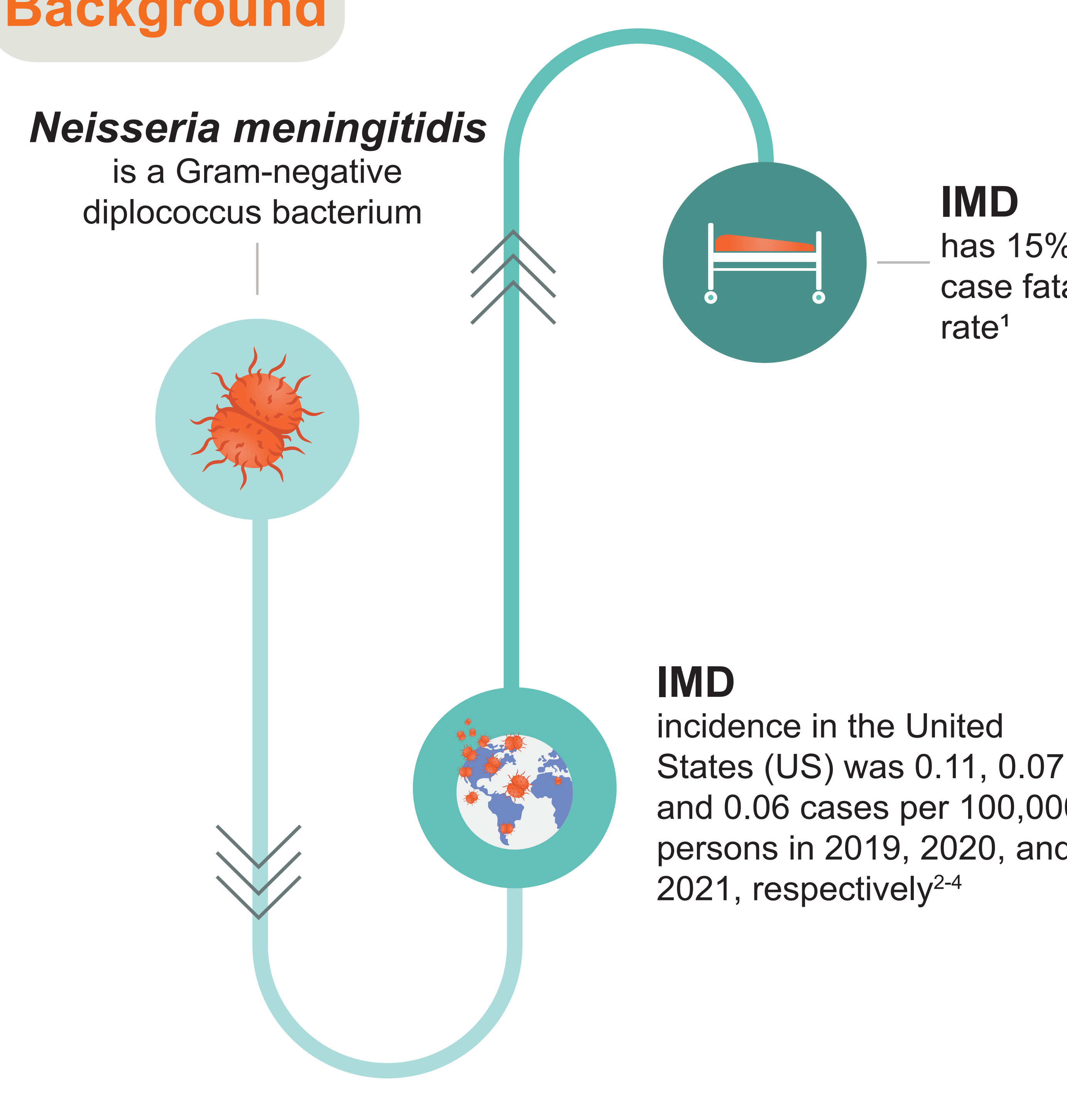
Neisseria meningitidis is a Gram-negative diplococcus bacterium

IMD has 15%-20% case fatality rate¹

IMD incidence in the United States (US) was 0.11, 0.07, and 0.06 cases per 100,000 persons in 2019, 2020, and 2021, respectively²⁻⁴

IMD is unpredictable and often associated with severe long-term sequelae (e.g., loss of limbs, hearing loss, and cognitive deficits)^{5,6,7}

Prior research on the economic burden of IMD complication specifically in the US is limited^{8,9}



Objective


To describe the economic burden associated with IMD in the US



Demographics

Among 618 IMD cases identified, median age of patients was 66 years old (interquartile range: 48.0-76.0)

See supplemental materials for more details of the baseline demographic and contextual characteristics of IMD cases



Methods

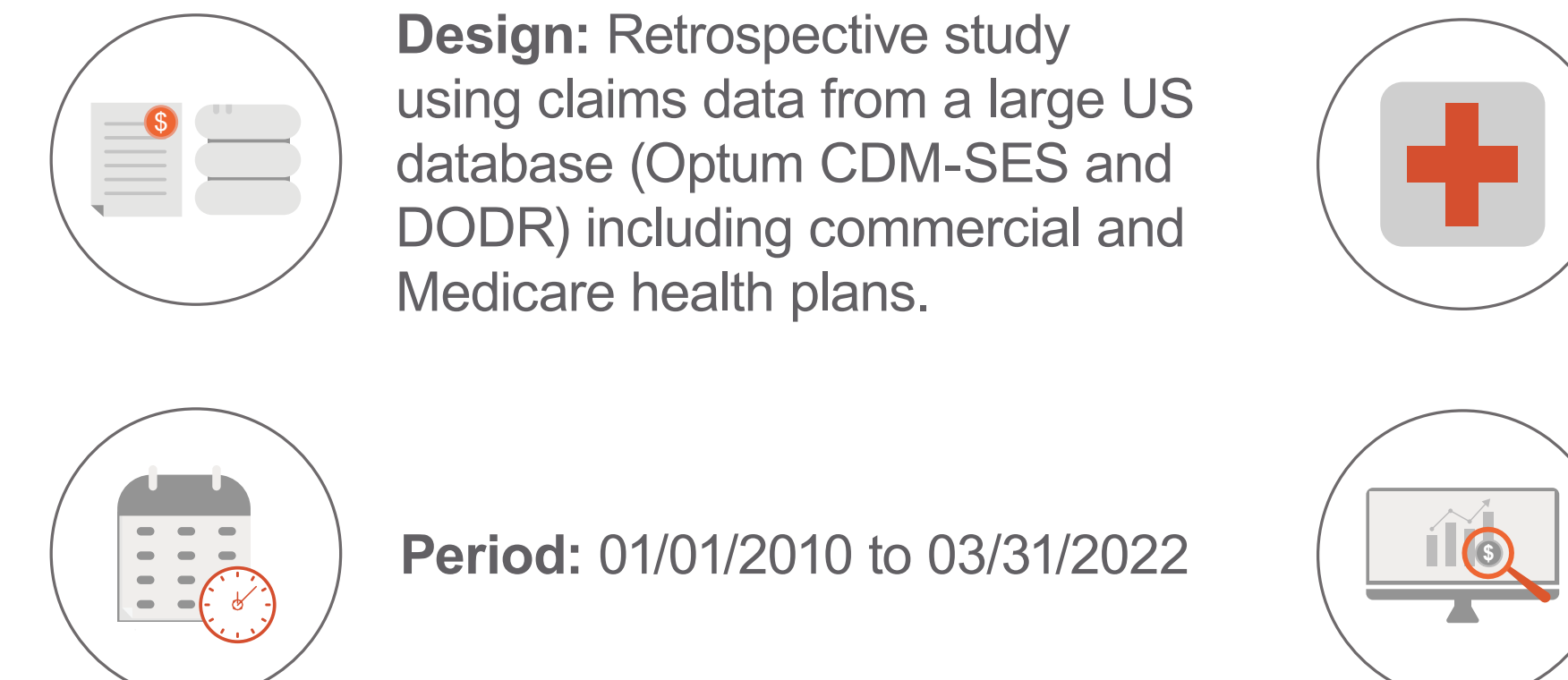
Design: Retrospective study using claims data from a large US database (Optum CDM-SES and DODR) including commercial and Medicare health plans.

Index date: Earliest occurrence of an emergency department visit or hospitalization with an IMD diagnosis code (preceded by ≥12 months of continuous enrollment without IMD nor invasive pneumococcal disease claims).

Period: 01/01/2010 to 03/31/2022

Outcomes: Costs per patient of IMD-related complications/consequences were identified during the IMD acute and post-acute phases, respectively*.

*Acute phase lasted from index date until 30 days after hospital discharge. Post-acute phase started the day after AC termination until death, insurance disenrollment, or data availability. Complications are defined as health conditions identified during the acute phase of IMD, while consequences are health conditions identified during the post-acute phase of IMD. Costs (2023 USD) were estimated based on ICD-9/10 diagnosis/procedure categories.

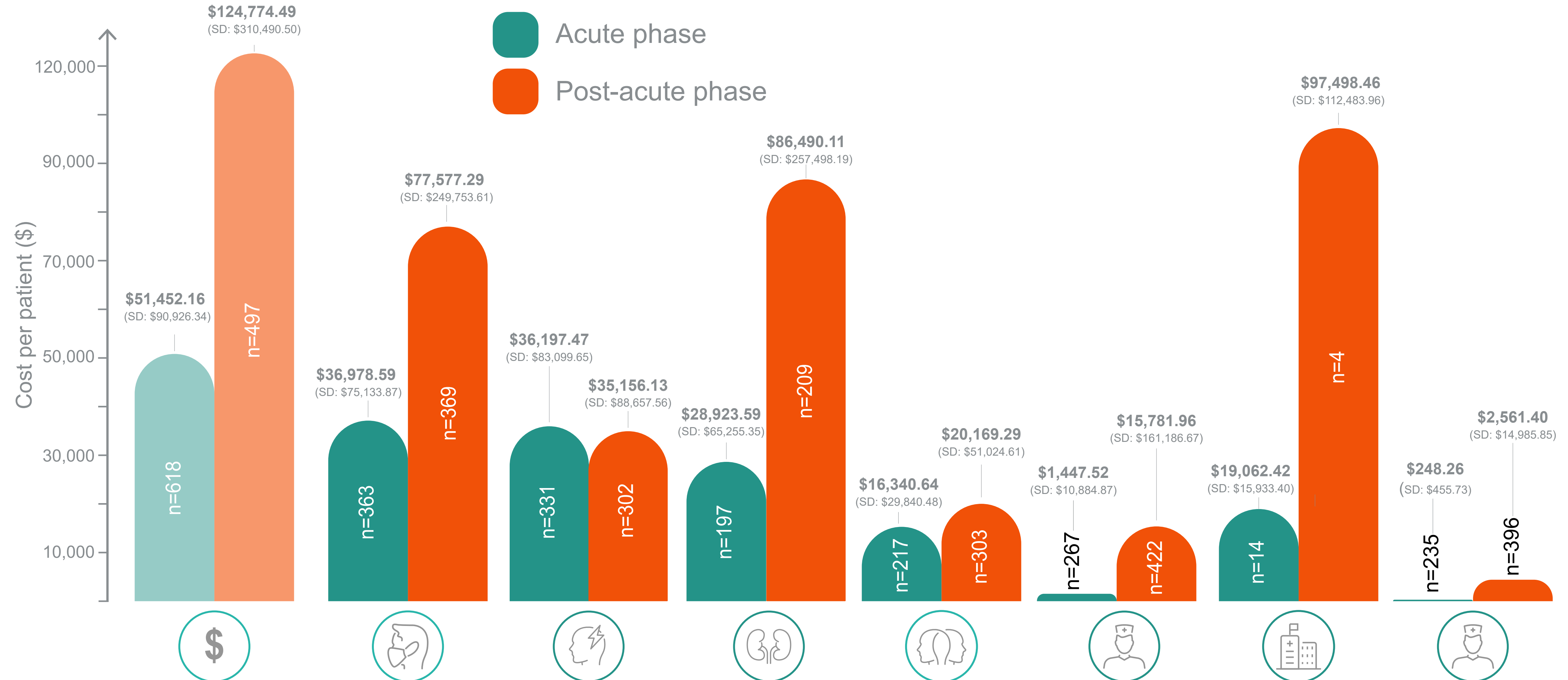


Conclusion

The economic burden of IMD is substantial and extends well beyond the acute phase of the disease. Improvements in prevention such as vaccination against IMD could help reduce the economic burden on patients and healthcare systems.

Results

Comparative analysis of cost per patient across selected clinical conditions and healthcare resources associated with IMD



Category	Phase	n	Cost per patient (\$)	SD
Total costs	Acute phase	618	\$51,452.16	\$90,926.34
	Post-acute phase	497	\$124,774.49	\$310,490.50
Other physical conditions	Acute phase	363	\$36,978.59	\$75,133.87
	Post-acute phase	369	\$77,577.29	\$249,753.61
Abnormal brain activity	Acute phase	331	\$36,197.47	\$83,099.65
	Post-acute phase	302	\$35,156.13	\$88,657.56
Renal conditions	Acute phase	197	\$28,923.59	\$65,255.35
	Post-acute phase	209	\$86,490.11	\$257,498.19
Psychological disorders	Acute phase	217	\$16,340.64	\$29,840.48
	Post-acute phase	303	\$20,169.29	\$51,024.61
Speciality visit	Acute phase	267	\$1,447.52	\$10,884.87
	Post-acute phase	422	\$15,781.96	\$161,186.67
Hospitalization	Acute phase	14	\$19,062.42	\$15,933.40
	Post-acute phase	4	\$97,498.46	\$112,483.96
Primary care physician visits	Acute phase	235	\$248.26	\$455.73
	Post-acute phase	396	\$2,561.40	\$14,985.85

Acute phase healthcare services costs among patients who experienced IMD (observed costs); and post-acute phase healthcare services costs among patients who experienced IMD (observed costs).

n: patients with non-missing values; SD: standar deviation. Costs per patient expressed as Mean (SD). See supplemental materials for more details.