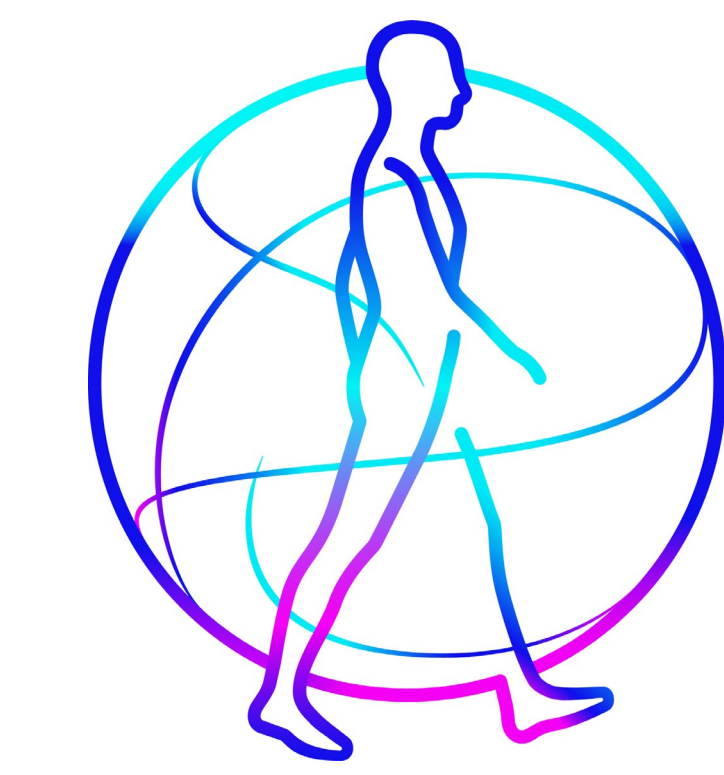


Hospital Admissions and Comorbidity Profiles of a Hypertensive Cohort of Patients in Chilean Public Hospitals

Paredes D¹, Sanchez A², de Souza ALAR³, **Valencia J⁴**, Maloney J⁴

¹Medtronic, Chile, ²Medtronic, Colombia, ³Medtronic, Brazil, ⁴Medtronic, LatAm



2017

BACKGROUND & OBJECTIVE:

Hypertension is a highly prevalent chronic condition and a major upstream risk factor for cardiovascular, cerebrovascular, renal, and metabolic diseases. While its population-level prevalence is well documented, less is known about its **contribution to tertiary-care utilization** and in-hospital outcomes within public healthcare systems in Latin America. Understanding the clinical and utilization profile of hospitalized patients with hypertension is critical to inform **prevention strategies, care integration, and resource allocation** in settings with constrained healthcare capacity.

METHODS:

This was a retrospective observational study using national **Diagnosis-Related Group (DRG)**¹ administrative data from the **Chilean public healthcare system** (FONASA²), covering hospital discharges between **January 2019 and December 2024**. Adults **aged ≥18 years** with hypertension identified as a primary or secondary diagnosis using **ICD-10 codes (I10-I15)** were included. Patient demographics, primary discharge diagnoses, comorbidity burden, length of stay, readmissions, and in-hospital mortality were described using descriptive statistics.

RESULTS:

Among 3,359,824 hospitalized adults, **33.0% (n=1,110,203) had hypertension** recorded as a primary or secondary diagnosis (i). Hypertension was the primary cause of admission in 0.9% of cases. Females were predominantly (53%); mean age of total population was **69 years**, with **54% ≥70 y/o** (ii). Over six years, patients averaged **1.3 readmissions** and exhibited substantial multimorbidity (mean of eight comorbidities). Mean **length of stay was 9.1 days**, increasing for patients **over 60 years** (iii). The most common comorbidities were cerebrovascular disease, ischemic heart disease, and other cardiac conditions, with **stroke (4.6%), acute myocardial infarction (4.4%), heart failure (3.3%), and type 2 diabetes (3.2%)** as frequent secondary diagnoses (iv). In-hospital **mortality averaged 8.9%**, increasing for patients over 75 years, with higher mortality rate for **Male (10%)** (v). Highest for **stroke (0.4%), heart failure (0.3%), and Acute myocardial infarction (0.3%)** (vi). Overall, hypertension imposes a substantial tertiary-care burden through multimorbidity, repeated hospitalizations, and elevated mortality, highlighting its relevance as a population-level target for health system sustainability.

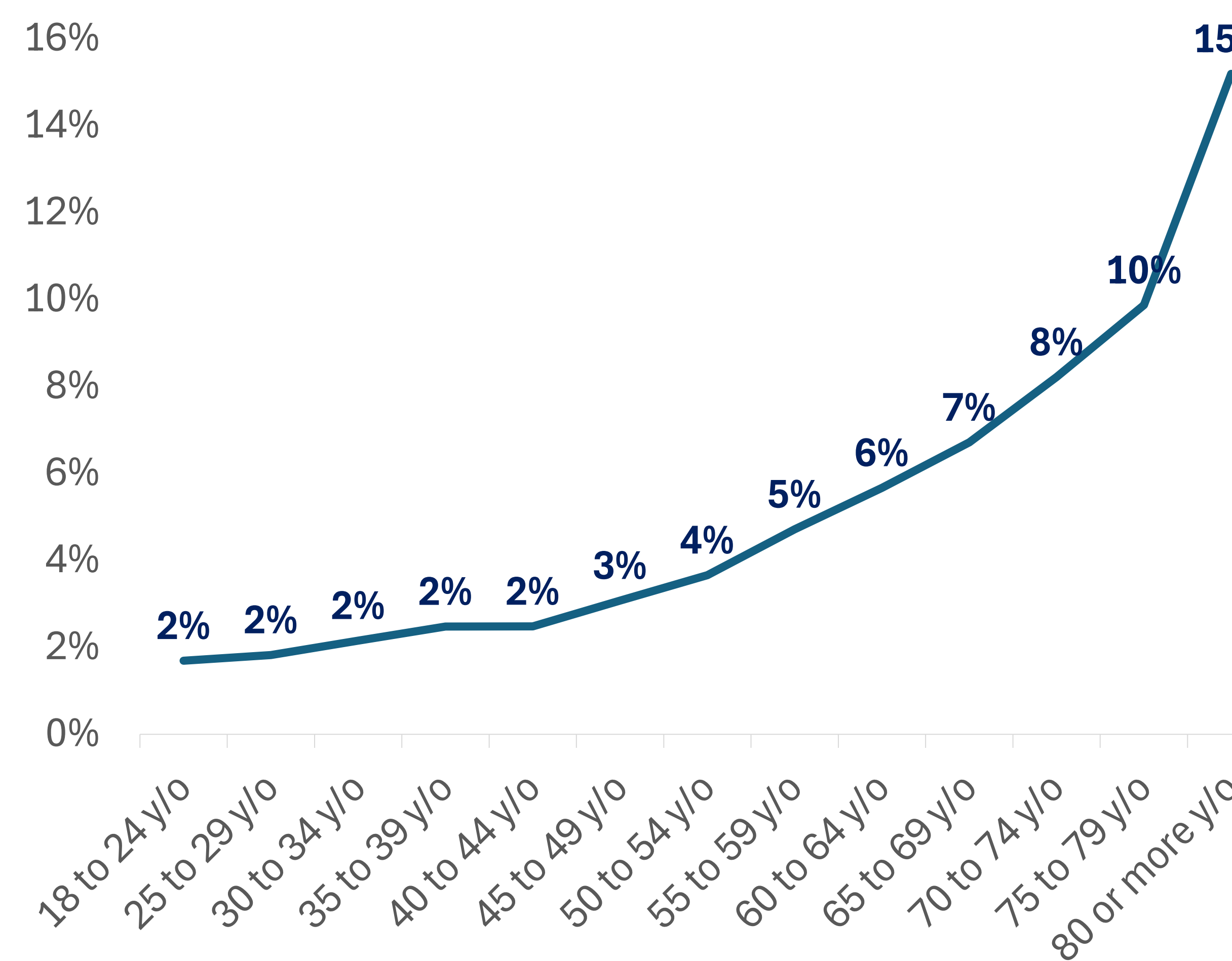
(iii) Average length of stay by hypertension diagnosis (Primary vs. Secondary) across age groups



(iv) Associated comorbidities in patients by hypertension diagnosis

Diagnosis (ICD-10)	N	%
Stroke (I63)	51,395	4.6%
Acute myocardial infarction (I21)	49,101	4.4%
Heart failure (I50)	36,346	3.3%
Non-insulin-dependent diabetes mellitus (E11)	35,361	3.2%
Chronic ischemic heart disease (I25)	18,793	1.7%
Hypertensive heart disease (I11)	4,013	0.4%
Hypertensive cardiorenal disease (I13)	1,873	0.2%
Hypertensive renal disease (I12)	579	0.1%
Top diagnosis	197,461	17.8%
All diagnosis	1,110,203	100%

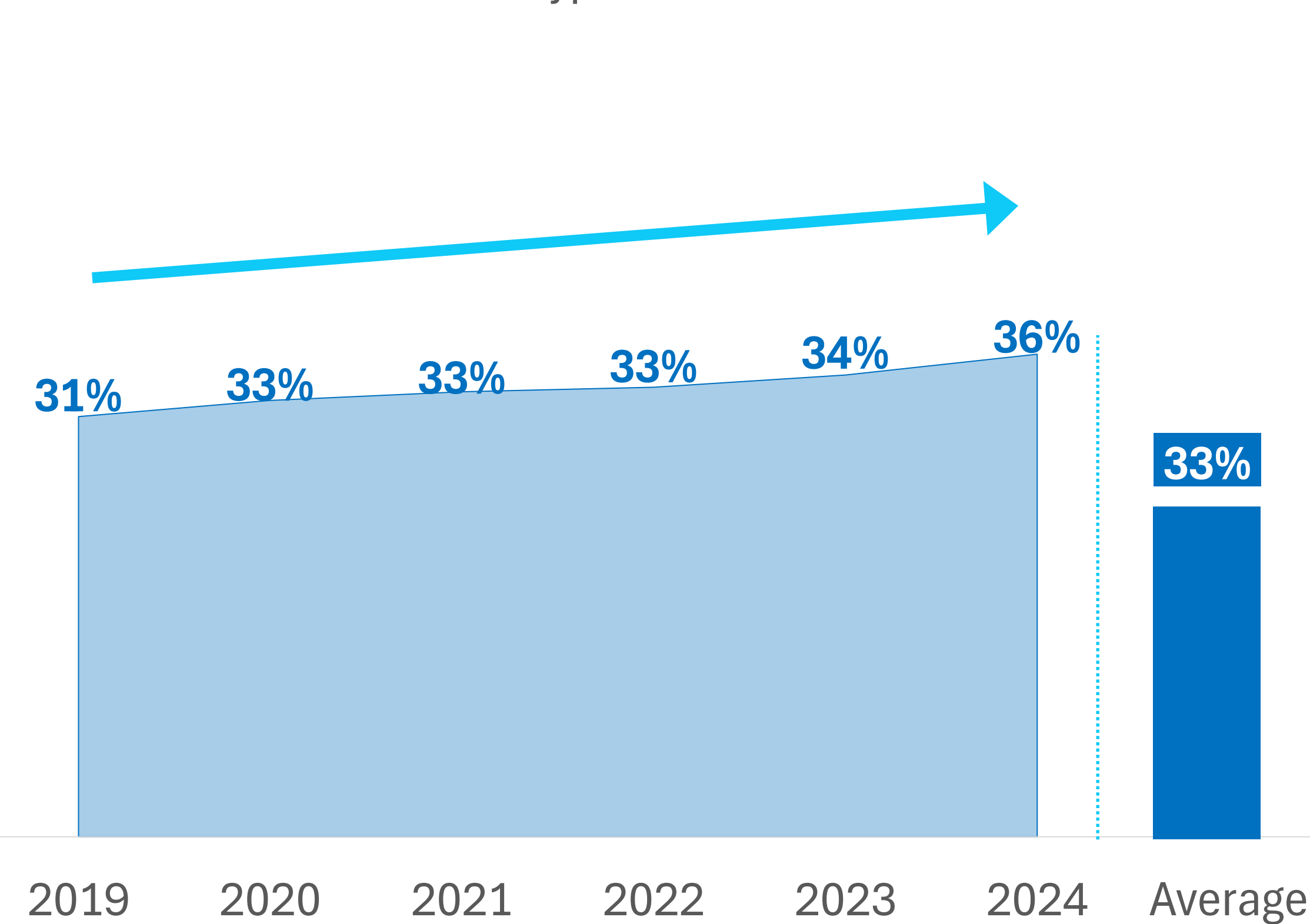
(v) In-hospital mortality in patients with hypertension diagnosis across age groups



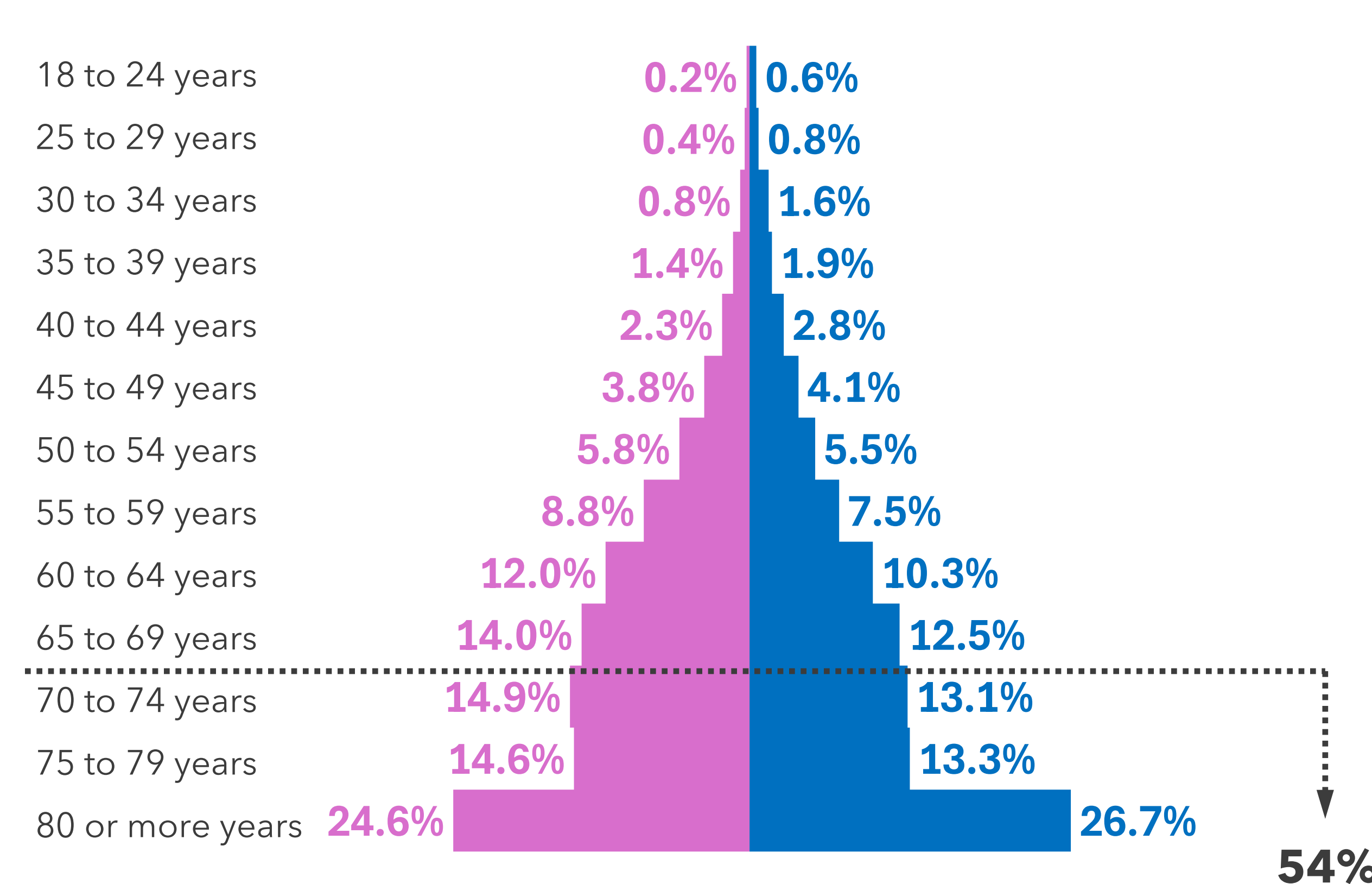
(vi) In-hospital mortality by comorbidities in patients with hypertension diagnosis

Diagnosis (ICD-10)	N	%
Stroke (I63)	4,546	0.4%
Heart failure (I50)	3,452	0.3%
Acute myocardial infarction (I21)	3,446	0.3%
Non-insulin-dependent diabetes mellitus (E11)	1,133	0.1%
Chronic ischemic heart disease (I25)	417	0.04%
Hypertensive cardiorenal disease (I13)	352	0.03%
Hypertensive heart disease (I11)	270	0.02%
Hypertensive renal disease (I12)	28	0.003%
Top diagnosis	13,644	1.2%
All diagnosis	98,662	8.9%

(i) Percentage of hospitalizations with reported hypertension



(ii) Hypertension diagnosis distribution by age range



DISCUSSION & CONCLUSIONS:

In Chile's public healthcare system, hypertension is present in one-third of hospitalized adults and is strongly associated with severe, high-risk inpatient episodes driven by cardiovascular and cerebrovascular disease. These findings highlight the need for improved hypertension prevention, earlier risk stratification, and integrated chronic disease management to reduce avoidable tertiary-care utilization and adverse outcomes.

Although hypertension was infrequently coded as the primary reason for hospitalization, it was highly prevalent among patients admitted for cardiovascular, cerebrovascular, and metabolic complications. The observed patterns suggest that hypertension functions primarily as a driver of downstream morbidity rather than an isolated admitting condition. The combination of advanced age, high comorbidity burden, prolonged length of stay, and recurrent hospitalizations indicates a substantial clinical and economic burden on the public healthcare system.

Sources:
1/Catalogo de datos Fonasa - https://public.tableau.com/views/Beneficiarios_16704273822880/Reporte??:showVizHome=no. Accessed on 04/28/2026.
2/ Datos Abiertos Fonasa (Beneficiarios) - <https://datosabiertos.fonasa.cl/dimensiones-beneficiarios/>. Accessed on 04/28/2026.