Economic Impact of Herpes Zoster and Postherpetic Neuralgia on Healthcare Resource Use in Sweden

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The current study demonstrates a substantial **burden of herpes zoster (HZ) in Sweden,** especially for **long-term healthcare consumption** due to HZ **complications**. This burden may be eased by introducing **adult HZ vaccination**.

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Aims

We assess the burden of herpes zoster (HZ) and postherpetic neuralgia (PHN) on healthcare resources in the **Västra Götaland region (VGR)**, in Sweden.

Demographics

Study population:
All VGR adults with a HZ diagnosis between 2005–2021.

VGR population is representative of the Swedish population[1]

	VGR	Sweden
Average age	41.4 YO	41.2 YO
% women	49.6%	49.7%
% non-native Swedes	19.8%	19.8%

Study design

A **retrospective cohort study** of all adults ≥18 YO, diagnosed with primary or secondary HZ from 2012 to 2020, was conducted using the VGR healthcare registers VEGA and Digitalis.

Healthcare resources use included primary care, inpatient care, specialist outpatient care, and the use of antiviral drugs.

The **associated costs** were computed based on registered cost per patient, and on the region's standardized cost, converted from SEK to Euro using the conversion rate of 10.6075 SEK per Euro on May 11, 2022. This calculation was done after adjusting for 2022 price levels using Sweden's consumer price index.

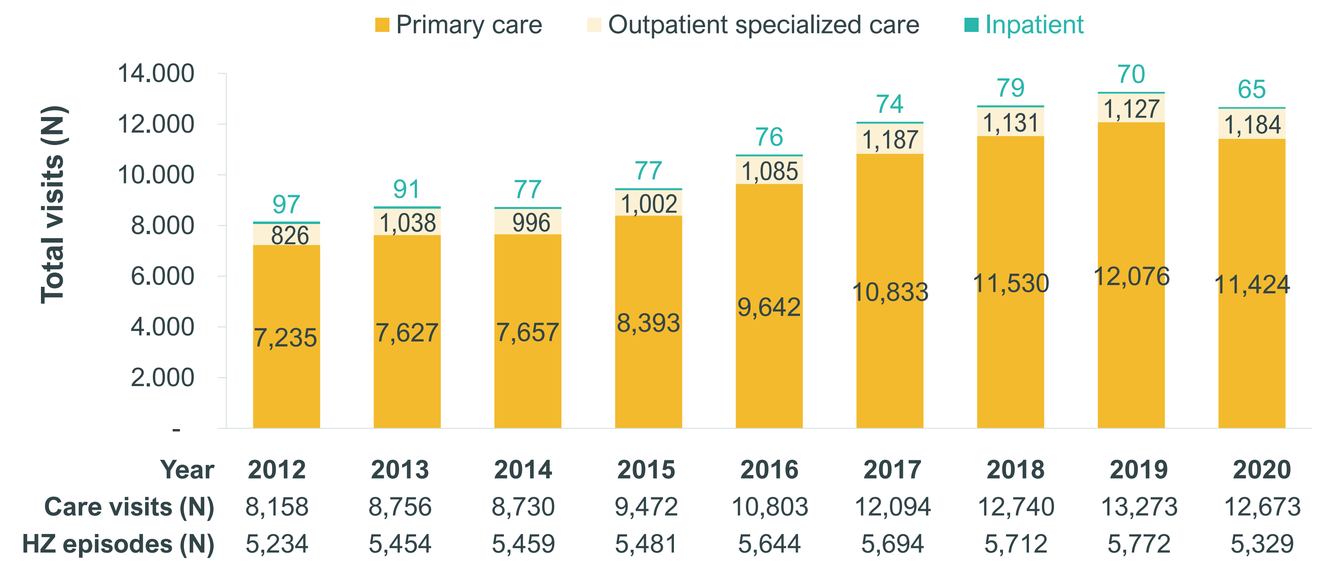
Definitions

Inpatient care: hospitalization.

Specialized outpatient care: all outpatient visits in hospitals or specialized care facilities, excluding visits to GP or hospitalizations.

Results

The total number of HZ-related visits increased by 63% from 2012 to 2019

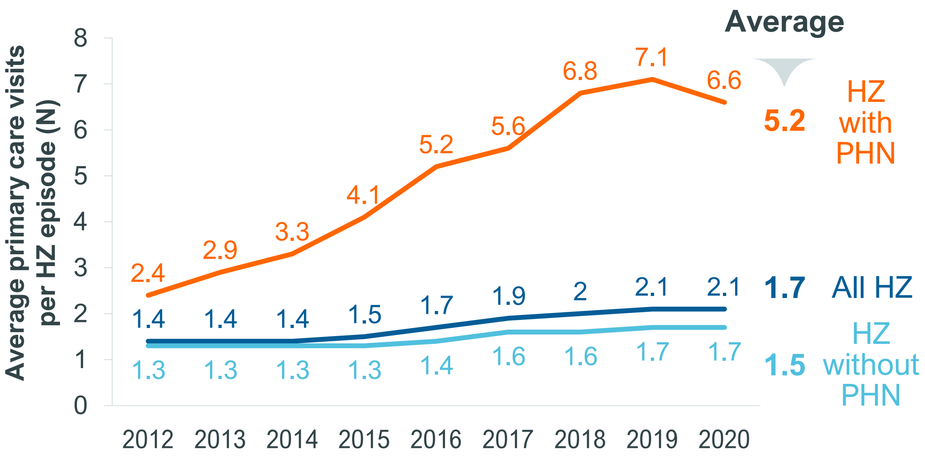


Year	2012	2013	2014	2015	2016	2017	2018	2019	2020
Care visits (N)	8,158	8,756	8,730	9,472	10,803	12,094	12,740	13,273	12,673
HZ episodes (N)	5,234	5,454	5,459	5,481	5,644	5,694	5,712	5,772	5,329

In 2019, 13,273 HZ-related visits were recorded

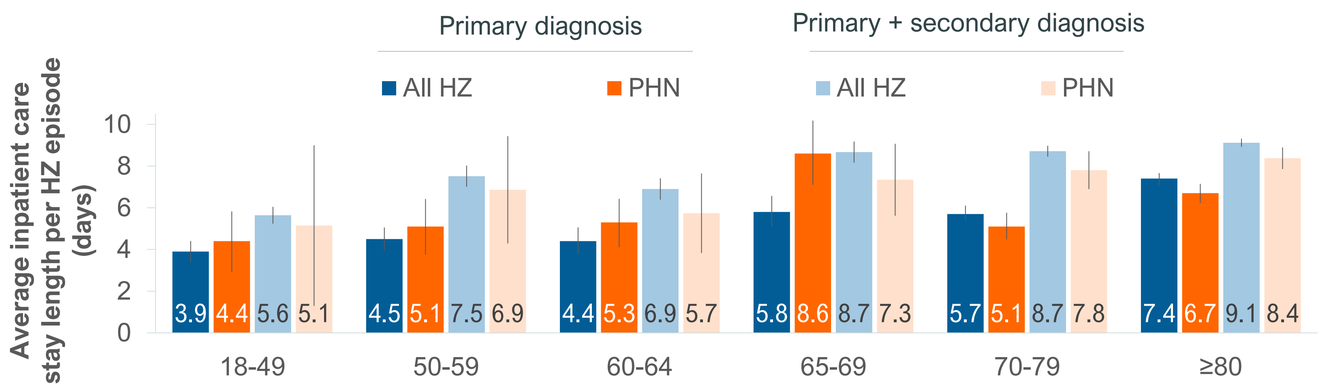
	≥18 YO	≥50 YO
Visits and hospitalizations (N)		
Specialist outpatient care	1,127	913
Primary care	12,076	10,243
Inpatient care	70	65
Incl. secondary diagnosis	209	195
Inpatient days	~400	~390
Incl. secondary diagnosis	~1,800	~1,700
Direct costs (€)		
Antivirals	0.08 M	0.07 M
Specialist outpatient care	0.4 M	0.3 M
Primary care	1.7 M	1.5 M
Inpatient care	0.4 M	0.4 M
Incl. secondary diagnosis	1.9 M	1.8 M
Total direct healthcare costs	2.6 M	2.2 M
Total per episode	443	484

The primary care visits per HZ episode with PHN nearly tripled between 2012 and 2020



706 inpatient stays due to a primary diagnosis of HZ and **1,194** due to a secondary diagnosis of HZ were recorded between 2012 and 2020

Inpatient care stay length increased with age



Background

HZ is due to the reactivation of the varicella zoster virus (VZV) and may lead to PHN, a painful complication involving a rash with long-lasting pain.[2]

The lifetime risk of HZ –around 36% (range: 34.4-43.6%)– increases with age and immunocompromised conditions.[3-5]

In Sweden, there is currently no national vaccination program to prevent either primary VZV nor VZV reactivation.

Conclusions

The current study demonstrates a substantial burden of HZ, a burden that may be largely preventable.

The healthcare consumption increased by 63% between 2012 and 2019, and the increase is mainly driven by increased primary care visits for PHN.

The majority of the healthcare costs are for the population over 50 years old.

Abbreviations

HZ herpes zoster, **GP** general practitioner, **M** million, **N** number, **PHN** postherpetic neuralgia, **VGR** Västra Götaland region, **VZV** varicella zoster virus, **YO** years old

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