

1

Supplementary Material

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3 Appendix A

PUBMED QUERY	((2017/01/01:2022/02/28 [dp]) AND ((zoster [title]) OR (herpes zoster [title]) OR (herpes-zoster [title]) OR (varicella zoster [title]) OR (varicella-zoster [title]) OR (shingles [title])) AND ((cost [title]) OR (economic [title]) OR (value [title]) OR (cost effective [title]) OR (cost-effective [title]) OR (cost-benefit [title]) OR (cost/effective [title]) OR (cost-utility [title]) OR (cost/utility [title])))
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EMBASE QUERY	(zoster:ti OR herpes?zoster:ti OR varicella?zoster:ti OR shingles:ti) AND (cost?:ti OR economic:ti OR value:ti OR cost?effective*:ti OR cost?benefit:ti OR cost?utility:ti) Interactive filters: Publication Year (2017-2022), Date Added to Embase (01-01-2017 to 28-02-2022)
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COCHRANE QUERY	Interactive query on title and abstract of reviews: zoster
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8 Appendix B (Detailed Model Input Tables)

9 Table B1: Epidemiological model parameters

Author/year	Epi sources	HZ incidence (per 1000 PY) by age group	PHN relative incidence (%) by age group	Complications (per HZ case unless otherwise specified)	Hospitalizations (per HZ case unless otherwise specified)	HZ mortality (per 100,000 HZ cases unless otherwise specified)
Le and Rothberg (2018)¹	Multiple, local	M: 8.9 (60-69), 11.3 (70-79), 12.2 (≥80); F: 12.5 (60-69), 15.1 (70-79), 16.5 (≥80)	6.90% (60-69), 18.5% (≥70)	Ophthalmic: 2.2%, 3.9% thereof leading to monocular blindness; Aural: 0.2%, 6.9% thereof leading to monaural deafness	1.3% (60-69), 1.8% (70-79), 5.5% (≥80)	2.22 (60-69), 6.18 (70-79), 23.96 (80-89), 152.13 (≥90)
You et al (2018)²	Multiple, international, excluding case reports	M: 7.2 (50-59), 10.7 (60-69), 12.5 (70-79), 10.0 (≥80); F: 9.3 (50-59), 11.3 (60-69), 12.0 (70-79), 10.5 (≥80)	M: 7.07% (50-59), 15.42 (60-79), 31.53 (≥80); F: 6.94% (50-59), 13.53 (60-79), 21.9 (≥80)	Per hospitalized case: Ophthalmic 6.7%; Secondary skin and soft tissue infection 3.8%; Ramsay Hunt syndrome 1.9%; Disseminated HZ 1%, Central nervous system infection 1%	2.67% (50-59), 4.14% (60-69), 7.17% (70-79), 10.29% (80≥)	Relative to hospitalized HZ cases: 0.056% (50-59), 0.111% (60-69), 0.293% (70-79), 1.151% (≥80)
Curran et al (2018)³	Local	6.74 (50-59), 9.32 (60-69), 12.02 (70-79), 12.78 (≥80)	6.20% (50-69), 12.70% (≥70);	Ocular: 2.87% (50-59), 4.23% (60-69), 4.53% (70-79); 6.91% (≥80); Neurological: 2.23% (50-59), 3.17% (60-69), 5.92% (70-79); 4.88% (≥80); Cutaneous: 1.59% (50-59), 1.06% (60-69), 2.09% (70-79); 2.85% (≥80); Other non-pain: 1.59% (50-59), 1.41% (60-69), 2.09% (70-79); 2.85% (≥80);		1.3 (50-59), 2.2 (60-69), 6.2 (70-79), 24.0 (80-84), 73.4 (≥85)
Le and Rothberg (2018b)⁴	Single, local	M: 8.9 (60-69), 11.3 (70-79), 12.2 (≥80); F: 12.5 (60-69), 15.1 (70-79), 16.5 (≥80)	6.90% (60-69), 18.5% (≥70)	Ophthalmic: 2.2%, 3.9% thereof leading to monocular blindness; Aural: 0.2%, 6.9% thereof leading to monaural deafness		
de Boer et al (2018)⁵	Local	5.91 (50-59), 8.57 (60-69), 11.9 (70-79), 14.81 (≥80)	2.2% (50-59), 7.3% (≥60)		Overall: 2.5/591 (50-59), 4.9/857 (60-69), 9.5/1190 (70-79), 18.4/1481 (≥80); One-day: 3.6/591 (50-59), 9.6/857	0.01 (50-59), 0.04 (60-69), 0.18 (70-79), 1.65 (80-89), 10.89 (≥90)

Author/year	Epi sources	HZ incidence (per 1000 PY) by age group	PHN relative incidence (%) by age group	Complications (per HZ case unless otherwise specified)	Hospitalizations (per HZ case unless otherwise specified)	HZ mortality (per 100,000 HZ cases unless otherwise specified)
					(60-69), 21.8/1190 (70-79), 28.2/1481 (≥80)	
Van Oorschot et al (2019)⁶	Local	10.0 (60-64), 11.4 (65-69), 13.4 (70-79), 13.9 (≥80);	15.4% (60-64), 17.5% (65-69), 20% (70-79), 20.4% (≥80);	Ocular: 2.87% (50-59), 4.23% (60-69), 4.53% (70-79); 6.91% (≥80); Neurological: 2.23% (50-59), 3.17% (60-69), 5.92% (70-79); 4.88% (≥80); Cutaneous: 1.59% (50-59), 1.06% (60-69), 2.09% (70-79); 2.85% (≥80); Other non-pain: 1.59% (50-59), 1.41% (60-69), 2.09% (70-79); 2.85% (≥80);		3 (60-64), 5 (65-69), 10 (70-74), 25 (75-79), 43 (80-84), 165 (≥85);
Curran et al (2019)⁷	Local	6.74 (50-59), 9.32 (60-69), 12.02 (70-79), 12.78 (≥80)	6.20% (50-69), 12.70% (≥70);	Ocular: 2.87% (50-59), 4.23% (60-69), 4.53% (70-79); 6.91% (≥80); Neurological: 2.23% (50-59), 3.17% (60-69), 5.92% (70-79); 4.88% (≥80); Cutaneous: 1.59% (50-59), 1.06% (60-69), 2.09% (70-79); 2.85% (≥80); Other non-pain: 1.59% (50-59), 1.41% (60-69), 2.09% (70-79); 2.85% (≥80);		
You et al (2019)⁸	Multiple, international, excluding case reports	M: 7.2 (50-59), 10.7 (60-69), 12.5 (70-79), 10.0 (≥80); F: 9.3 (50-59), 11.3 (60-69), 12.0 (70-79), 10.5 (≥80)	M: 7.07% (50-59), 15.42 (60-79), 31.53 (≥80); F: 6.94% (50-59), 13.53 (60-79), 21.9 (≥80)	Per hospitalized case (all ages): Ophthalmic 6.7%; Skin & soft tissue infection 3.8%; Oticus 1.9%; Disseminated HZ 1%, Central nervous system infection 1%	2.67% (50-59), 4.14% (60-69), 7.17% (70-79), 10.29% (≥80)	Per hospitalized case: 0.056% (50-59), 0.111% (60-69), 0.293% (70-79), 1.151% (≥80)
Prosser et al (2019)⁹	Multiple, local	5.0 (50-59), 8.0 (60-69), 10.0 (70-79), 13.0 (80-89), 15.0 (≥80)	8.3% (50-59), 11.5% (60-69), 15.4% (70-79), 19.7% (80-89), 24.1% (≥80)	Ocular: 9% (all ages); Neurological: 0% to 5% (all ages); Cosmetic: 0% to 5% (all ages)		1.0 (50-69), 2.7 (70-99)
Shiragami et al (2019)¹⁰	Single, local	9.2 (50-59), 9.6 (60-69), 12.9 (70-79), 12.6 (≥80)	14.6% (50-59), 14.6% (60-69), 20.2% (70-79), 32.9% (≥80)	Non-PHN: 5.1% (50-69), 10.6% (≥70)		2 (70-74), 9.2 (75-79), 21 (80-84), 46.7 (85-89), 120.4 (90-94), 196 (95-99), 947 (≥100)

Author/year	Epi sources	HZ incidence (per 1000 PY) by age group	PHN relative incidence (%) by age group	Complications (per HZ case unless otherwise specified)	Hospitalizations (per HZ case unless otherwise specified)	HZ mortality (per 100,000 HZ cases unless otherwise specified)
Hoshi et al (2019)¹¹	Two, local	M: 6.25 (60-69), 8.44 (70-79), 8.45 (80-89), 6.78 (≥90); F: 8.08 (60-69), 8.89 (70-79), 8.30 (80-89), 6.51 (≥90)	M: 19.4% (60-69), 12.5% (70-79), 34.8% (≥80); F: 10.8% (60-69), 24.7% (70-79), 32% (≥80)	No complications		
Carpenter et al (2019)¹²	Local	6.74 (50-59), 9.32 (60-69), 12.02 (70-79), 12.78 (80-100)	3.8% (50-59), 6.9% (60-69), 18.5% (70-100)	Acute ocular: 3% (50-59), 4% (60-69), 5% (70-79), 7% (80-100)		1.26 (50-59), 2.22 (60-69), 6.18 (70-79), 23.96 (80-89), 152.13 (90-100)
Drolet et al (2019)¹³	Multiple, local	3.8 (50-54), 6 (55-64), 8.6 (65-74), 9.9 (≥75)	9.4% (50-54), 9.4% (55-64), 26% (65-74), 27.7% (≥75)		1.1% (50-54), 1.6% (55-64), 3.3% (65-74), 9.9% (≥75)	0 (50-54), 0 (55-64), 12 (65-74), 76 (≥75)
McGirr et al (2019)¹⁴	Local (regional)	5.982 (50-59), 8.662 (60-69), 10.841 (70-79), 11.039 (≥80)	14.6% (50-59), 20.5% (60-69), 33.8% (≥70)	Ocular: 2.87% (50-59), 3.82% (60-69), 4.14% (70-79); 5.41% (≥80); Neurological: 2.46% (50-59), 3.17% (60-69), 5.99% (70-79); 4.23% (≥80); Cutaneous: 1.74% (50-59), 1.05% (60-69), 2.09% (70-79); 2.44% (≥80); Other non-pain: 2.03% (50-59), 1.63% (60-69), 2.44% (70-79); 2.85% (≥80);		0 (50-64), 12 (65-79), 76 (≥80)
Curran et al (2021)¹⁵	Local	7.72 (50-59), 10.0 (60-64), 11.4 (65-69), 13.3 (70-79), 13.8 (≥80);	13% (50-59), 15.4% (60-64), 17.5% (65-69), 20% (70-79), 20.4% (≥80);			1 (50-59), 3 (60-64), 5 (65-69), 10 (70-74), 25 (75-79), 43 (80-84), 165 (≥85);
Pieters et al (2022)¹⁶	Local (HZ), UK (PHN)	GP rate: 4.0 (50), 5.6 (60), 7.8 (70), 9.9 (80), 10 (85); Hospitalization rate: 9.4e-2 (50), 1.9e-1 (60), 3.3e-1 (70), 6.8e-1 (80), 8.9e-1 (85); IC-free adjustments: GP rate: 0.465 (50-59), 0.7139 (60-69), 0.6652 (70-79), 0.6203 (≥80); Hospitalization rate: 0.3708	8% (50-54), 10% (55-59), 11% (60-64), 13% (65-69), 15% (70-74), 18% (75-79), 21% (80-84), 19% (≥85)		Absolute rates reported (see column HZ incidence)	0 (50-59), 0.018 (60-74), 0.54 (75-89); 4.0 (≥90)

Author/year	Epi sources	HZ incidence (per 1000 PY) by age group	PHN relative incidence (%) by age group	Complications (per HZ case unless otherwise specified)	Hospitalizations (per HZ case unless otherwise specified)	HZ mortality (per 100,000 HZ cases unless otherwise specified)
		(50-59), 0.5915 (60-69), 0.4000 (70-79), 0.4356 (≥80)				
Ortega-Sanchez (2021)²⁷	Local, US	CDC Model: 40.2 GSK Model: 60.0	CDC Model: 9.1% GSK Model: 12.9%			
Ultsch et al (2017)²⁸	Local	M: 4.64 (50-54), 5.84 (55-59), 7.22 (60-64), 8.95 (65-69), 9.87 (70-74), 10.96 (75-79), 11.35 (80-84), 11.65 (85-89), 11.98 (≥90); F: 7.8 (50-54), 9.31 (55-59), 10.59 (60-64), 12.3 (65-69), 12.58 (70-74), 13.02 (75-79), 13.14 (80-84), 12.91 (85-89), 13.57 (≥90)	17.27% (50-59), 20.51% (60-69), 24.05% (70-79), 26.03% (≥80)			

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11 CDC: Centers for Disease Control and Prevention; Epi: Epidemiological; GP: general practitioner; HZ: herpes zoster; IC: immunocompromised; M/F:
12 male/female; PHN: post-herpetic neuralgia; PY: person-year; UK: United Kingdom; US: United States

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14 **Table B2: RZV vaccine characteristics**

Author/year	Efficacy modeling RZV	HZ model 2-dose RZV	HZ model 1-dose RZV	Series completion	Completion reference
Le and Rothberg (2018)¹	Linear	Intercept 1.049, Slope -0.054 (60-69); Intercept 1.008, Slope -0.054 (≥ 70)	Intercept 0.927, Slope - 0.109 (60-69); Intercept 0.722, Slope - 0.109 (≥ 70)	56.20%	Hep A
You et al (2018)²	Linear	Intercept 1.0765, Slope -0.0319 (all ages)	Intercept 0.8801, Slope -0.0507 (all ages)	100%	Assumed
Curran et al (2018)³	Linear	Intercept 0.984, Slope (Years 1-4) -0.01, Slope (\geq Year 5) -0.023 (50-69); Intercept 0.978, Slope -0.036 (≥ 70)	Intercept 0.901, Slope (Years 1-4) -0.054, Slope (\geq Year 5) -0.051 (50-69); Intercept 0.695, Slope (Years 1-4) -0.054, Slope (\geq Year 5) -0.051 (≥ 70)	69%	NA
Le and Rothberg (2018b)⁴	NA	NA	NA	69%	Hep A, B
de Boer et al (2018)⁵	Linear	Intercept 0.981, Slope -0.009 (50-69); Intercept 0.992, Slope -0.041 (≥ 70)	Assumed equal to 1-dose ZVL	100%	NA
Van Oorschot et al (2019)⁶	NA	Intercept 0.984, Slope (Years 1-4) -0.01, Slope (\geq Year 5) -0.023 (50-69); Intercept 0.978, Slope -0.036 (≥ 70)	Intercept 0.901, Slope (Years 1-4) -0.054, Slope (\geq Year 5) -0.051 (50-69); Intercept 0.695, Slope (Years 1-4) -0.054, Slope (\geq Year 5) -0.051 (≥ 70)	70%	Assumed
Curran et al (2019)⁷	NA	Intercept 0.984, Slope (Years 1-4) -0.01, Slope (\geq Year 5) -0.023 (50-69); Intercept 0.978, Slope -0.036 (≥ 70)	Intercept 0.901, Slope (Years 1-4) -0.054, Slope (\geq Year 5) -0.051 (50-69); Intercept 0.695, Slope (Years 1-4) -0.054, Slope (\geq Year 5) -0.051 (≥ 70)	NA	NA
You et al (2019)⁸	Linear	Intercept 1.0765, Slope -0.0319 (all ages)	Intercept 0.8801, Slope -0.0507 (all ages)	100%	Assumed
Prosser et al (2019)⁹	Linear	Intercept 1.0; Waning to 0 after 19.4 years (50-59); Intercept 0.97; Waning to 0 after 18.8 years (≥ 60)	Intercept 0.90; Waning to 0 after 11 years (50-59); Intercept 0.69; Waning to 0 after 4 years (≥ 60)	100%	Assumed

Author/year	Efficacy modeling RZV	HZ model 2-dose RZV	HZ model 1-dose RZV	Series completion	Completion reference
Shiragami et al (2019) ¹⁰	Linear	Intercept 0.984, Slope -0.01 (Years 1-4), -0.023 (Years ≥ 5) (50-69); Intercept 0.978, Slope -0.036 (≥70)	50-69: Intercept 0.900, Slope -0.054 (Years 1-4), -0.051 (Years ≥ 5) 70+: Intercept 0.695, Slope -0.054 (Years 1-4), -0.051 (Years ≥ 5)	95%	RCT
Hoshi et al (2019) ¹¹	Linear	Intercept 1.00; Waning to 0 after 19.4 years (65-69); Intercept 0.97; Waning to 0 after 18.8 years (≥70)	Intercept 0.90; Waning to 0 after 11 years (65-69); Intercept 0.69; Waning to 0 after 4 years (≥70)	80%	Informed literature
Carpenter et al (2019) ¹²	Linear	Intercept 0.969, Slope -0.0544 (50-59); Intercept 0.941, Slope -0.0544 (60-69); Intercept 0.899, Slope -0.0544 (70-79); Intercept 0.897, Slope -0.0544 (80-100)	Intercept 0.969, Slope -0.080 (50-59); Intercept 0.941, Slope -0.080 (60-69); Intercept 0.899, Slope -0.080 (70-79); Intercept 0.897, Slope -0.080 (80-100)	Unclear	NA
Drolet et al (2019) ¹³	6 functions			Varied in PSA	
McGirr et al (2019) ¹⁴	Linear	Intercept 0.9840, Slope -0.01 (Years 1-4), -0.023 (Years ≥ 5) (50-69); Intercept 0.9784 Slope -0.036 (≥70)	Intercept 0.900, Slope -0.054 (Years 1-4), -0.051 (Years ≥ 5) (50-69); Intercept 0.695, Slope -0.054 (Years 1-4), -0.051 (Years ≥ 5) (≥70)	75%	NA
Curran et al (2021) ¹⁵	Linear	Intercept 0.989, Slope -0.015 (50-59); Intercept 0.954, Slope -0.023 (≥60)	Intercept 0.900, Slope -0.054 (Years 1-4), -0.051 (Years ≥ 5) (50-69); Intercept 0.695, Slope -0.054 (Years 1-4), -0.051 (Years ≥ 5) (≥70)	70%	Assumed
Pieters et al (2022) ¹⁶	6 functions	1-minus exponential model: VE = 1 - exp(A+B*Years) with A=log(0.0162), B=0.3068; Logarithmic model: VE = A - B*log(Years) with A=0.9768, B=0.0179	NA	100%	NA
Ortega-Sanchez (2021) ¹⁷	Linear	CDC Model: 0.680 waning to 0 in 20 years GSK Model: 0.725, waning 0.091	CDC Model: 0.390 waning to 0 in 11 years GSK Model: 0.580, waning 0.182	CDC Model: < 86% GSK Model: 100%	Assumed
Ultsch et al (2017) ¹⁸	Linear	HZ: 0.97 (Year 1), 0.91 (Year 2), 0.82 (Year 3), 0.85 (Year 4); PHN: 0.98 (Year 1), 0.92 (Year 2), 0.85 (Year 3), 0.88 (Year 4)	NA	100%	Assumed

16 CDC: Centers for Disease Control and Prevention; RCT: randomized clinical trial; Hep A/B: hepatitis A/B; HZ: herpes zoster; NA: Not applicable;
17 PHN: post-herpetic neuralgia; PSA: probabilistic sensitivity analysis; RCT: randomized control trial; RZV: recombinant zoster vaccine; VE: vaccine
18 effectiveness.

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20 **Table B3: ZVL vaccine characteristics**

Author/Year	Efficacy source ZVL	Top-up efficacy ZVL	Efficacy modeling ZVL	HZ model ZVL	PHN model ZVL
Le and Rothberg (2018)¹	SPS, STPS, LTPS	PHN, BOI	Linear	Intercept 0.6478, Slope -0.0544; Adjusted with likelihood ratios by age: 1.797 (60-64), 1.582 (65-69), 0.742 (70-74), 0.541 (75-79), 0.232 (80-84), 0.080 (≥85)	Intercept 0.632, Slope (Years 1-5) 0, Slope (Year ≥ 6) -0.1;
You et al (2018)²	NA	NA	NA	NA	NA
Curran et al (2018)³	SPS, ZEST, STPS, LTPS	PHN	Linear	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (50-59); Intercept 0.6389, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (60-69); Intercept 0.4085, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (70-79); Intercept 0.1825, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (≥80)	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (50-59); Intercept 0.6569, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (60-69); Intercept 0.7338, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (70-79); Intercept 0.3951, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (≥80)
Le and Rothberg (2018b)⁴	SPS, ZEST, STPS, LTPS	PHN	Linear	50-59: Intercept 0.698, Slope - 0.054 (Years 1-4), -0.051 (Year ≥ 5) 60-69: Intercept 0.639, Slope - 0.054 (Years 1-4), -0.051 (Year ≥ 5) 70-79: Intercept 0.409, Slope - 0.054 (Years 1-4), -0.051 (Year ≥ 5)	
de Boer et al (2018)⁵	SPS, STPS, LTPS	No	1-minus exponential;	[1 – exp(Intercept + Slope*Year)] Intercept -0.893, Slope 0.0807; Adjusted with likelihood ratios by age: 1.282 (50-59), 1.274 (60-69), 1.219 (65-69), 0.852 (70-74), 0.711 (75-79), 0.391 (80-84), 0.152 (≥85)	No
Van Oorschot et al (2019)⁶	NA	NA	NA	NA	NA

Author/Year	Efficacy source ZVL	Top-up efficacy ZVL	Efficacy modeling ZVL	HZ model ZVL	PHN model ZVL
Curran et al (2019) ⁷	SPS, ZEST, STPS, LTPS	PHN	Linear	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (50-59); Intercept 0.6389, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (60-69); Intercept 0.4085, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (70-79); Intercept 0.1825, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (\geq 80)	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (50-59); Intercept 0.6569, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (60-69); Intercept 0.7338, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (70-79); Intercept 0.3951, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (\geq 80)
You et al (2019) ⁸	NA	NA	NA	NA	NA
Prosser et al (2019) ⁹	SPS, LTPS	No	Linear	Intercept 0.781; Waning to 0 after 12 years (50); Intercept 0.779; Waning to 0 after 10 years (60); Intercept 0.659; Waning to 0 after 7 years (70); Intercept 0.385; Waning to 0 after 4 years (80); Intercept 0.095; Waning to 0 after 1 years (90)	No
Shiragami et al (2019) ¹⁰	SPS, ZEST, STPS, LTPS	PHN	Linear	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (50-59); Intercept 0.6389, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (60-69); Intercept 0.4085, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (70-79); Intercept 0.1825, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (\geq 80)	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (50-59); Intercept 0.6569, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (60-69); Intercept 0.7338, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (70-79); Intercept 0.3951, Slope (Years 1-4) -0.0544, Slope (\geq Year 5) -0.0510 (\geq 80)
Hoshi et al (2019) ¹¹	RWE ¹⁹ (Baxter)	No	Lookup	70.6% (Year 1) to 32.1% (Year 8) (65-69); 64.5% (Year 1) to 0% (Year 8) (70-79); 63.7% (Year 1) to 0% (Year 7) (\geq 80)	No
Carpenter et al (2019) ¹²	Le and Rothberg (2015) based on LTPS	No	Linear	Intercept 0.698, Slope -0.0544 (50-59); Intercept 0.657, Slope -0.0544 (60-69); Intercept 0.407, Slope -0.0544 (70-79); Intercept 0.157, Slope -0.0544 (80-100)	No

Author/Year	Efficacy source ZVL	Top-up efficacy ZVL	Efficacy modeling ZVL	HZ model ZVL	PHN model ZVL
Drolet et al (2019) ¹³	All RCTs	NA	6 functions	I + S*Years (linear); I + S*log(Years) (logarithmic); I*exp(S*Years) (exponential); 1- I*exp(S*Years) (1-minus exponential); I*Pow(Years, S) (power); 1 - I*Pow(Years, S) (1-minus power) Constants not stated	No
McGirr et al (2019) ¹⁴	RCT	PHN	Linear	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (50-59); Intercept 0.6389, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (60-69); Intercept 0.4085, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (70-79); Intercept 0.1825, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (≥80)	Intercept 0.698, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (50-59); Intercept 0.6569, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (60-69); Intercept 0.7338, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (70-79); Intercept 0.3951, Slope (Years 1-4) -0.0544, Slope (≥ Year 5) -0.0510 (≥80)
Curran et al (2021) ¹⁵	NA	NA	NA	NA	NA
Pieters et al (2022) ¹⁶	SPS, STPS, LTPS	No	6 functions; 1-minus exp best fit;	VE = 1 - exp(A+B*Years); A = log(0.3912), B = 0.0805; And likelihood ratios: 1.269 (50-59), 1.275 (60-64), 1.22 (65-69), 0.853 (70-74), 0.712 (75-79), 0.392 (80-84), 0.258 (≥85)	
Ortega-Sanchez (2021) ¹⁷	NA	NA	NA	NA	NA
Ultsch et al (2017) ¹⁸	SPS, STPS, LTPS	PHN	Linear	0.69 (Year 1), 0.50 (Year 2), 0.39 (Year 3), 0.35 (Year 4), 0.37 (Year 5), 0.33 (Year 6), 0.17 (Year 7)	0.83 (Year 1), 0.70 (Year 2), 0.38 (Year 3)

- 22 BOI: burden of illness; HZ: herpes zoster; I: Intercept; LTPS: Long-Term Persistence Substudy; NA: not applicable; PHN: post-herpetic neuralgia;
- 23 RCT: randomized controlled trial; RWE: real-world evidence; S: Slope; SPS: Shingles Prevention Study; STPS: Short-Term Persistence Substudy;
- 24 ZEST: Zoster Efficacy, Safety, and Tolerability; ZVL: zoster vaccine live; Y: year

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26 **Table B4: Direct cost model inputs**

Author/year	Price RZV (per dose)	Price RZV source	Price ZVL	Price ZVL source	Admin cost	Cost HZ by age group (without complications unless otherwise specified)	Cost PHN by age group	Cost complications by age group	Inpatient/outpatient/misc costs by age group (per HZ case unless otherwise specified)	Cost AE by age group	Other cost relevant data (per HZ case unless otherwise specified)
Le and Rothberg (2018)¹	140	Assumed	212.67	CDC vaccine price list	26	412 (all ages)	812 (all ages)	Ophthalmic: 16147; Aural: 512; HZ hospitalization: 8656; Serious reaction 6710 (all ages)			
You et al (2018)²	104	Estimated from ZVL	NA	Market		309 (all ages)	40 per month (all ages); own estimation 567 (50-59), 673 (≥60)	Serious reaction 900; Ophthalmic 3068; SSTI 1900; Ramsay Hunt Syndrome 6597; Disseminated HZ 6299; CNSI 26269 (all ages)			
Curran et al (2018)³	140	Assumed	196.91	CDC vaccine price list	20	876.4 (50-59), 1065.48 (60-69), 1355.32 (≥70)	2577.04 (50-59), 2574.02 (60-69), 5144.53 (≥70) (including the costs of acute HZ)	Ocular 3042.17; Neurological 7213.61; Cutaneous 7214.59; Other non-pain 7623.38 (all ages)		RZV: 24.08 (50-59), 21.52 (60-64), 21.05 (65-69), 19.60 (70-79), 19.53 (≥80); ZVL: 13.42 (50-59), 10.28 (60-64), 10.01 (65-69), 9.82 (70-79), 9.78 (≥80)	
Le and Rothberg (2018b)⁴	140	Assumed	NA	CDC vaccine price list	26	412 (all ages)	812 (all ages)	Ophthalmic 16147; Aural 512; HZ hospitalization 8656;			

Author/year	Price RZV (per dose)	Price RZV source	Price ZVL	Price ZVL source	Admin cost	Cost HZ by age group (without complications unless otherwise specified)	Cost PHN by age group	Cost complications by age group	Inpatient/outpatient/misc costs by age group (per HZ case unless otherwise specified)	Cost AE by age group	Other cost relevant data (per HZ case unless otherwise specified)
								Serious reaction 6710 (all ages)			
de Boer et al (2018)⁵	54.5 (70 YOA)	Max price at threshold	51.37 (60 YOA)	Max price at threshold	11.36	Own estimate from source data per case of HZ with or without PHN: 182.22 (50-59), 234.58 (60-69), 245.12 (70-79), 271.98 (≥80)	Not estimated explicitly		Hospitalization: 2856 (50-59), 3632 (60-69), 3671 (70-79), 4504 (≥80); One-day hospitalization: 282 (all ages); GP/specialist visits: 158 50-59), 198 (≥60)		Patient costs: OTC medication 10.42 (50-59), 12.65 (≥ 60); Travel to GP 3.33 (50-59), 4.07 (≥ 60); Travel to hospital 5.79; Travel to vaccination: 0.43
Van Oorschot et al (2019)⁶	110	Assumed	NA	NA	7.55	226 (60-69), 203 (70-79), 320 (≥80)	1349 (60-69), 1172 (70-79), 642 (≥80)			1.86 (60-64), 1.86 (65-69), 1.81 (70-79), 1.85 (≥80)	
Curran et al (2019)⁷	140	Assumed	196.91	CDC vaccine price list	20	876.4 (50-59), 1065.48 (60-69), 1355.32 (≥70)	2577.04 (50-59), 2574.02 (60-69), 5144.53 (≥70) (including the costs of acute HZ)	Ocular 3042.17; Neurological 7213.61; Cutaneous 7214.59; Other non-pain 7623.38 (all ages)		RZV: 24.08 (50-59), 21.52 (60-64), 21.05 (65-69), 19.60 (70-79), 19.53 (≥80); ZVL: 13.42 (50-59), 10.28 (60-64), 10.01 (65-69), 9.82 (70-79), 9.78 (≥80)	

Author/year	Price RZV (per dose)	Price RZV source	Price ZVL	Price ZVL source	Admin cost	Cost HZ by age group (without complications unless otherwise specified)	Cost PHN by age group	Cost complications by age group	Inpatient/outpatient/misc costs by age group (per HZ case unless otherwise specified)	Cost AE by age group	Other cost relevant data (per HZ case unless otherwise specified)
You et al (2019)⁸	80-100-120	Estimated from ZVL	NA	Market		309 (all ages)	40 per month (all ages); own estimation 567 (50-59), 673 (≥60)	Inpatient 2887; Ophthalmic 3068; SSTI 1900; Oticus 6597; Disseminated HZ 6299; CNSI 26269 (all ages)			
Prosser et al (2019)⁹	140	Published	223	Published	25.42	1684 (50-59), 1284 (60-69), 1688 (70-79), 2064 (≥80)	6255 (50-59), 4885 (60-69), 6186 (70-79), 7849 (≥80)	Ocular 3765; Neurological 6604; Skin complications 5159; Other non-pain 7623.38 (all ages)			
Shiragami et al (2019)¹⁰	12960	Assumed	NA	NA	3424	38471 (all ages)	127079 (all ages) (including the costs of acute HZ)	72789 (all ages) (including the costs of acute HZ)		Own estimation using AE frequencies and cost by type reported: 162 (50-59), 148 (60-69), 156 (≥70)	
Hoshi et al (2019)¹¹	15000	CDC list price	8000	Ad hoc online survey	Include	36615 (65-69), 38414 (70-79), 33853 (≥80)	123988 (65-69), 82502 (70-79), 113304 (≥80)				
Carpenter et al (2019)¹²	102.19	CDC list price	134.16	CDC vaccine price list	20.88	957 (all ages)	5831 (all ages)	Ocular 4163 (all ages)			
Drolet et al (2019)¹³	50-100 (PSA approach)		100-200 (PSA)	Assumed	Assumed	Not hospitalized HZ: 136 (all ages)	Not hospitalized PHN: 1588 (all ages)		Hospitalization: 918 per day; GP consultation: 28 per visit		Length of hospitalization (days): 9.3 (50-54), 11.1 (55-64), 12.6 (65-

Author/year	Price RZV (per dose)	Price RZV source	Price ZVL	Price ZVL source	Admin cost	Cost HZ by age group (without complications unless otherwise specified)	Cost PHN by age group	Cost complications by age group	Inpatient/outpatient/misc costs by age group (per HZ case unless otherwise specified)	Cost AE by age group	Other cost relevant data (per HZ case unless otherwise specified)
			approach)						Own estimation using mean hospitalization length (days): 8537 (50-54), 10190 (55-64), 11567 (65-74), 16524 (≥75)		74), 18 (≥75); Consultations: 1.7 (50-54), 2.0 (55-64), 2.3 (65-74), 2.6 (≥75)
McGirr et al (2019) ¹⁴	122	Assumed	176.77	Intelligent Medical Software Canada price list	4.50 (first dose); 9.60 (second dose)	264 (50-64), 301 (≥65)	921 (50-64), 1639 (≥65)				
Curran et al (2021) ¹⁵	110 (133.62)	Legacy (update)	NA	NA	7.55	193 (50-59), 226 (60-69), 203 (70-79), 320 (≥80)	872 (50-59), 1349 (60-69), 1172 (70-79), 642 (≥80)			1.86 (60-64), 1.86 (65-69), 1.81 (70-79), 1.85 (≥80);	
Pieters et al (2022) ¹⁶	140.26	CDC list price	137.4	Belgian Center for Pharmacotherapeutic Information	26.78	Ambulatory: 26.78 (no pain), 85.81 (mild), 204.91 (moderate), 208.22 (severe); Hospitalized: 5334.27 (no pain), 5330.19 (mild), 5560.45 (moderate), 6151.53 (severe); Own estimation from intensity of pain as reported for ambulatory and hospitalized HZ patients: 216 (50-59), 250 (60-64),	Ambulatory: 457.49 (moderate), 710.02 (severe); Hospitalized: 6241.50 (moderate), 10411.39 (severe) Own estimation from intensity of pain as reported for ambulatory and hospitalized and PHN patients: 662 (50-59), 701 (60-64), 730 (65-69), 810 (70-79), 966 (≥80)				

Author/year	Price RZV (per dose)	Price RZV source	Price ZVL	Price ZVL source	Admin cost	Cost HZ by age group (without complications unless otherwise specified)	Cost PHN by age group	Cost complications by age group	Inpatient/outpatient/misc costs by age group (per HZ case unless otherwise specified)	Cost AE by age group	Other cost relevant data (per HZ case unless otherwise specified)
						276 (65-69), 355 (70-79), 489 (≥80)					
Ortega-Sanchez (2021)¹⁷	162	CDC vaccine price list				CDC Model: 1549 GSK Model: 3578	CDC Model: 4906 GSK Model: 8513		CDC model hospitalization: 37852 (no PHN complications)		
Ultsch et al (2017)¹⁸	84	rote-liste.de	175	rote-liste.de	7	193 (50-59), 226 (60-69), 203 (70-79), 320 (≥80)	872 (50-59), 1349 (60-69), 1172 (70-79), 642 (≥80)				

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28 All costs are reported in the corresponding study currency as stated in Table 3; AE: adverse events; CDC: Centers for Disease Control and Prevention;

29 CNSI: central nervous system infection; GP: general practitioner; HZ: herpes zoster; Misc: miscellaneous; NA: not applicable; PHN: post-herpetic

30 neuralgia; PSA: probabilistic sensitivity analysis; RZV: recombinant zoster vaccine; SSTI: skin and soft tissue infection; YOA: years of age; ZVL:

31 zoster vaccine live

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33 **Table B5: Indirect cost model inputs**

Author/year	Indirect cost type	Indirect cost by age group (per HZ case unless otherwise specified)	Time to seek care (in days unless otherwise specified)
Le and Rothberg (2018)¹	Productivity losses	4915 (60-64), 4632 (≥65)	
You et al (2018)²	Productivity losses, life-time earnings loss	Own estimation from labor force participation by gender, unemployment rate, median monthly earnings, and length of hospitalization: 254 (50-54), 215 (55-59), 105 (60-64), 24 (65-69)	HZ without complications: 5; Ophthalmic: 5; SSTI: 3; Ramsay Hunt Syndrome: 11; Disseminated HZ: 10; CNSI: 43
Curran et al (2018)³	Productivity losses	1689.17 (50-59); 2269.10 (60-64); 1220.51 (65-69); 455.19 (70-79); 313.05 (≥80)	
Le and Rothberg (2018b)⁴	Productivity losses	4915 (60-64), 4632 (≥65)	
de Boer et al (2018)⁵	Productivity losses, HZ death (friction period of 84 days)	HZ: 398 (50-59), 136 (60-69); Death: 14937 (50-59), 5074 (60-69)	
Van Oorschot et al (2019)⁶	Productivity losses	HZ: 112 (60-69), 11 (70-79); 11 (≥80) PHN: 788 (60-69), 46 (70-79); 34 (≥80)	
Curran et al (2019)⁷	Productivity losses	1687.19 (50-59); 2269.10 (60-64); 1220.51 (65-69); 455.19 (70-79); 313.05 (≥80)	
You et al (2019)⁸	Productivity losses	Own estimation from labor force participation by gender, unemployment rate, median monthly earnings, and length of hospitalization: 254 (50-54), 215 (55-59), 105 (60-64), 24 (65-69)	HZ without complications: 5; Ophthalmic: 5; SSTI: 3; Ramsay Hunt Syndrome: 11; Disseminated HZ: 10; CNSI: 43;
Prosser et al (2019)⁹	Productivity losses	HZ: 962 (all ages); PHN: 580 (50-59), 647 (60-69), 715 (70-79), 782 (80-89), 1004 (90-95)	

Shiragami et al (2019)¹⁰	Productivity losses including caretakers	HZ without PHN: 17747 (50-59), 15128 (60-69), 11892 (70-79), 15115 (≥80); HZ with PHN: 57662 (50-59), 32733 (60-69), 20297 (70-79), 19046 (≥80)	
Hoshi et al (2019)¹¹	NA		
Carpenter et al (2019)¹²	Productivity losses	Unit cost per hour: 26.61 Own estimation from hours lost per HZ and PHN case by severity of pain: 994 (50-59), 995 (60-69)	By HZ pain severity (in hours): no pain 5, mild 6, moderate 22, severe 61; by PHN pain severity (in hours): mild 4, moderate 30, severe 81
Drolet et al (2019)¹³	NA		
McGirr et al (2019)¹⁴	NA		
Curran et al (2021)¹⁵	Productivity losses	HZ without PHN: 112 (50-59), 112 (60-69), 11 (70-79), 11 (≥80); HZ with PHN: 788 (50-59), 788 (60-69), 46 (70-79), 34 (≥80)	
Pieters et al (2022)¹⁶	NA		
Ortega-Sanchez (2021)¹⁷	Productivity losses	GSK model: 199 per HZ case	
Ultsch et al (2017)¹⁸	Productivity losses	HZ without PHN: 377 (50-59), 112 (60-69), 11 (70-79), 11 (≥80); HZ with PHN: 467 (50-59), 788 (60-69), 46(70-79), 34 (≥80)	

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35 All costs are reported in the corresponding study currency as stated in Table 3; CNSI: central nervous system infection; HZ: herpes zoster; NA: not
36 applicable; PHN: post-herpetic neuralgia; SSTI: skin and soft tissue infection.

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38 **Table B6: QALY loss and utility model inputs**

Author/year	QALY loss HZ by age group	QALY loss PHN by age group	Other QALY loss	QALY AE	Additional data
Le and Rothberg (2018)¹	0.013 (60-69), 0.022 (≥70)	Not explicit; beyond month 6 assuming 77% (23%) of subjects experience mild (severe) pain with an average utility value of 0.670; Own estimation: 0.278 (60-69), 0.321 (70-79), 0.31 (≥80)	Hospitalization: 0.013, serious reaction: 0.008	Yes	Utility M 0.827 (60-69), 0.788 (70-79), 0.782 (80-89); utility F 0.811 (60-69), 0.771 (70-79), 0.724 (80-89); PHN duration 6-12 months 21.5% (all ages); ≥ 12 months 31% (< 70), 52% (≥70)
You et al (2018)²	From utility decrement 0.31 and duration (outpatient); From utility decrement 0.42 and duration (inpatient without complications); From utility decrement 0.75 and duration (inpatient with complications); Own estimation: 0.0256 (50-69); 0.0257 (70-79), 0.0258 (≥80)	From utility decrement 0.42 and PHN duration; Own estimation: 0.471 (50-59), 0.491 (≥ 60)		Yes	Utility M 0.92 (50-54), 0.92 (55-64), 0.84 (≥65); Utility F 0.92 (50-54), 0.84 (55-64), 0.84 (≥65); PHN duration from monthly probabilities of PHN to persist beyond 12 months: $P(t) = 1 - \exp[\lambda \times (t - 1)^\gamma - \lambda \times t^\gamma]$ with $\lambda = 0.06203$, $\gamma = 0.51101$ (50-59); $\lambda = 0.2488$, $\gamma = 0.46843$ (≥60)
Curran et al (2018)³	Unvaccinated: 0.005 (50-59), 0.010 (60-69), 0.012 (≥70); Vaccinated: 0.005 (50-59), 0.010 (60-69), 0.011 (≥70)	Unvaccinated: 0.053 (50-59), 0.106 (60-69), 0.156 (≥70); Vaccinated: 0.049 (50-59), 0.098 (60-69), 0.091 (≥70)		Yes	Utility 0.8412 (50-59), 0.827 (60-64), 0.813 (65-69), 0.7886 (70-79), 0.754 (≥80)
Le and Rothberg (2018b)⁴	Same as Le and Rothberg (2018) ¹	Same as Le and Rothberg (2018) ¹	Same as Le and Rothberg (2018) ¹	Yes	Same as Le and Rothberg (2018) ¹
de Boer et al (2018)⁵	0.040 (50-59), 0.057 (≥ 60)	0.040 (50-59), 0.057 (≥ 60)		No (*)	Utility 0.890 (50-64), 0.886 (65-74), 0.83 (≥75) (*) Only is scenario analyses
Van Oorschot et al (2019)⁶	0.018 (60-69), 0.019 (≥70)	0.158 (all ages)		Yes	Utility 0.975 (60-64), 0.976 (65-69), 0.959 (70-79), 0.895 (≥80)
Curran et al (2019)⁷	Same as Curran et al (2018) ³	Same as Curran et al (2018) ³		Yes	Same as Curran et al (2018) ³
You et al (2019)⁸	Same as You et al (2018) ²	Same as You et al (2018) ²		Yes	

Author/year	QALY loss HZ by age group	QALY loss PHN by age group	Other QALY loss	QALY AE	Additional data
Prosser et al (2019)⁹	Own estimation: 0.0247 (50-59), 0.0240 (60-69), 0.0228 (70-79), 0.0216 (80-89), 0.0214 (≥90)	Own estimation: 0.2604 (50-59), 0.2628 (60-69), 0.2585 (70-79), 0.2482 (80-89), 0.2437 (≥90)	Ocular own estimation: 0.0705 (50-59), 0.0748 (60-69), 0.0714 (70-79), 0.0664 (80-89), 0.0651 (≥90)	Yes	Utilities 0.8487 (50-59), 0.8248 (60-69), 0.7849 (70-79), 0.7461 (80-89), 0.74 (90-99); QALD lost HZ 10.62 (50-59), 10.62 (60-69), 10.59 (70-79), 10.59 (80-89), 10.55 (90-99); QALD lost PHN 112 (50-59), 116.3 (60-69), 120.2 (70-79), 121.4 (80-89), 120.2 (90-99); QALD lost ocular 32.3 (50-59), 33.1 (60-69), 33.2 (70-79), 32.5 (80-89), 32.1 (90-99)
Shiragami et al (2019)¹⁰	0.014 (50-59), 0.015 (60-69), 0.020 (70-79), 0.017 (≥80)	0.118 (50-59), 0.135 (60-69), 0.154 (70-79), 0.179 (≥80)		Yes	Utilities 0.962 (50-59), 0.975 (60-69), 0.942 (70-79), 0.883 (≥80)
Hoshi et al (2019)¹¹	0.00902 (65-69), 0.01367 (70-79), 0.01637 (≥80)	0.12017 (65-69), 0.17369 (70-79), 0.23339 (≥80)		No	Utilities 1.0 (all ages)
Carpenter et al (2019)¹²	0.050 (weighted average value from pain levels)	Own estimation from PHN QALY losses by pain severity level and the distribution of pain severity in PHN by age 0.471 (50-59), 0.506 (60-69), 0.5235 (70-79), 0.5375 (80-84), 0.548 (85-100)	Ocular: 0.24	Yes	Probability of pain given HZ: no pain 5%, mild 11%, moderate 37%, severe 47% Probability of pain severity given PHN: mild 54%, moderate 23%, severe 23% (50-59); mild 44%, moderate 28%, severe 28% (60-69); mild 49%, moderate 30.5%, severe 30.5% (70-79); mild 35%, moderate 37.5%, severe 37.5% (80-84); mild 32%, moderate 34%, severe 34% (85-100) Utility loss given PHN: mild 0.31, moderate 0.55, severe 0.77
Drolet et al (2019)¹³	0.009 (50-59), 0.01 (60-69), 0.01 (≥70)	0.041 (50-59), 0.192 (60-69), 0.234 (≥70)			
McGirr et al (2019)¹⁴	0.036 (all ages)	0.1357 (all ages)		Yes	Utilities 0.92 (50-59), 0.91 (60-79), 0.88 (≥80)
Curran et al (2021)¹⁵	0.018 (50-59), 0.018 (60-69), 0.019 (≥70)	0.158 (all ages)		Yes	Utilities 0.975 (50-59), 0.975 (60-64), 0.976 (65-69), 0.959 (70-79), 0.895 (≥80)

Author/year	QALY loss HZ by age group	QALY loss PHN by age group	Other QALY loss	QALY AE	Additional data
Pieters et al (2022) ¹⁶	Own estimation: 0.00589 (50-69), 0.01173 (≥70)	Own estimation: 0.20439 (50-69), 0.26133 (≥70)		No	Utilities 0.8559 (All ages); HZ duration 28.66 d (<70), 44.38 d (≥70); PHN duration 254.06 d (<70), 319.46 d (≥70)
Ortega-Sanchez (2021) ¹⁷					
Ultsch et al (2017) ¹⁸	Own estimation: 0.026 (50-60), 0.033 (61-70), 0.031 (>70)	Own estimation: 0.226 (50-60), 0.263 (61-70), 0.296 (>70)			Utilities 1.0 (all ages); Utilities HZ 0.68 (50-60), 0.60 (61-70), 0.62 (>70); Utilities PHN 0.725 (50-60), 0.68 (61-70), 0.64 (>70)

39

40 AE: adverse events; d: day(s); HZ: herpes zoster; M/F: male/female; PHN: post-herpetic neuralgia; QALD: quality-adjusted life-day; QALY: quality-
41 adjusted life year

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43 **Table B7: Adverse event model inputs**

Author/Year	AEs	Frequency (% ZVL inoculations)	Frequency (% RZV inoculations)	Duration (days)	Utility AE	QALY loss AE	Cost AE
Le and Rothberg (2018)¹	Local, grade 3, serious	Local: 34%; grade 3: 0.3%; serious: 0.7%	Local: 39.5%, grade 3: 5.9%, serious: 0.1%; Cumulative over two doses: Local: 79.1%, grade 3: 8.5%, serious 0.1%	Local: 1; grade 3: 1; serious: 3	Local: 0.73, grade 3: 0.47	Calculated implicitly from duration & disutility	
You et al (2018)²	Local, serious		Not stated explicitly	Local: 2; serious: 1.5	Local: 0.01; serious: 0.5	Calculated implicitly from duration & disutility	
Curran et al (2018)³	Local, outpatient, ER, serious	Local: 49.5% (50-59), 31.7% (≥ 60); outpatient: 0.72% (all ages); ER: 0.02% (all ages); serious: 0.03% (all ages)	Local: 85.3% (50-59), 79.8% (60-69), 68.8% (≥ 70); outpatient: 1.72% (50-59), 1.38% (60-69), 1.27% (≥ 70); ER: 0.04% (50-69), 0.18% (≥ 70); serious: 0.04% (all ages)			Local: 0.0001 (all ages); serious: 0.0082 (all ages)	Local: 16.48 (all ages); outpatient: 381.08 (50-59), 361.69 (60-64), 336.61 (65-69), 318.30 (70-79), 314.90 (≥ 80); ER: 876.38 (50-59), 837.60 (60-64), 787.43 (65-69), 750.82 (70-79), 744.02 (80+); serious: 7791.24 (50-59), 7597.32 (60-64), 7346.50 (65-69), 7163.44 (70-79), 7129.44 (≥ 80)
Le and Rothberg (2018b)⁴	Same as Le and Rothberg (2018)	Same as Le and Rothberg (2018)	Same as Le and Rothberg (2018)	Same as Le and Rothberg (2018)	Same as Le and Rothberg (2018)	Same as Le and Rothberg (2018)	
de Boer et al (2018)⁵	Grade 3					0.000329 (RZV), 0.000022 (ZVL)	
Van Oorschot et al (2019)⁶	Same as Curran et al (2018)		Same as Curran et al (2018)			Same as Curran et al (2018)	Serious: 1812.97 (all ages); other classes not reported explicitly (local, GP, ER)

Author/Year	AEs	Frequency (% ZVL inoculations)	Frequency (% RZV inoculations)	Duration (days)	Utility AE	QALY loss AE	Cost AE
Curran et al (2019)⁷	Same as Curran et al (2018)	Same as Curran et al (2018)	Same as Curran et al (2018)	Same as Curran et al (2018)		Same as Curran et al (2018)	Same as Curran et al (2018)
You et al (2019)⁸	Same as You et al (2018)		Same as You et al (2018)	Same as You et al (2018)	Same as You et al (2018)	Same as You et al (2018)	Injection site reaction: 1
Prosser et al (2019)⁹	Local, systemic (Grade 1-2 or Grade 3), severe	Local grade 1-2: 18%; local grade 3: 0.6%; systemic grade 1-2: 1.4%; systemic grade 3: 0%; severe: 0.005%	Local grade 1-2: 60.5%; local grade 3: 9%; systemic grade 1-2: 27.2%; systemic grade 3: 6.8%; severe: 0.01%				Local grade 3: 20.46 plus GP visit in 5% of cases; systemic grade 3: 44.14 plus GP visit in 5% of cases, ER visit in 3% of cases (additional cost per ER visit: 1000); severe: 5856
Shiragami et al (2019)¹⁰	Local, serious		Local: 85.3% (50-59), 79.8% (60-69), 68.8% (≥ 70); outpatient: 1.72% (50-59), 1.38% (60-69), 1.27% (≥ 70); ER: 0.04% (50-69), 0.18% (≥ 70); Serious: 0.04% (all ages)			Local: 0.0001; hospitalized: 0.0082	Outpatient: 3957.5; ER: 8757.5; hospitalized: 225750
Hoshi et al (2019)¹¹	Grade 3 systemic	2%	10.80%				
Carpenter et al (2019)¹²	Local, serious	Local 31.7%; serious 0.1%	Local 66.9%; serious 0.058%			Local 0.001; serious 2.13E-5 (per dose both)	Serious 9778.32
Drolet et al (2019)¹³							RZV: 2.88 (50-59), 2.62 (60-64), 2.89 (65-69), 2.81 (≥ 70); ZVL: 1.70 (all ages)
McGirr et al (2019)¹⁴	Same as Curran et al (2018)	Same as Curran et al (2018)	Same as Curran et al (2018)			Same as Curran et al (2018)	
Curran et al (2021)¹⁵	Same as Curran et al (2018)		Same as Curran et al (2018)			Same as Curran et al (2018)	

Author/Year	AEs	Frequency (% ZVL inoculations)	Frequency (% RZV inoculations)	Duration (days)	Utility AE	QALY loss AE	Cost AE
Pieters et al (2022) ¹⁶	NA						
Ortega-Sanchez (2021) ¹⁷							
Ultsch et al (2017) ¹⁸	Local, systemic	Not quantified	Local 81%, systemic 20%				

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45 All costs are reported in the corresponding study currency as stated in Table 3; AE: adverse event; ER: emergency room; Freq: Frequency; GP: general
 46 practitioner; NA: not applicable; RZV: recombinant zoster vaccine; QALY: quality-adjusted life year; ZVL: zoster vaccine live

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48 **Table B8: Detailed cost-effectiveness results**

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
Le and Rothberg (2018)¹	60	Societal	RZV	ZVL	Cost-saving	\$140 (USD)	\$212.67 (USD)	
	70	Societal	RZV	ZVL	Cost-saving	\$140 (USD)	\$212.67 (USD)	
	80	Societal	RZV	ZVL	Cost-saving	\$140 (USD)	\$212.67 (USD)	
	60	Societal	RZV	Control	30.1 K	\$140 (USD)	NA	
	70	Societal	RZV	Control	20.0 K	\$140 (USD)	NA	
	80	Societal	RZV	Control	21.7 K	\$140 (USD)	NA	
You et al (2018)²	50	Societal	RZV	Control	64.3 K	\$104 (USD)	NA	
	60	Societal	RZV	Control	47.4 K	\$104 (USD)	NA	
	70	Societal	RZV	Control	46.3 K	\$104 (USD)	NA	
Curran et al (2018)³	60+	Societal	RZV	ZVL	Cost-saving	\$140 (USD)	\$196.91 (USD)	
	60+	Societal	RZV	Control	11.9 K	\$140 (USD)	NA	
	50	Societal	RZV	Control	14.9 K	\$140 (USD)	NA	
	60	Societal	RZV	Control	Cost-saving	\$140 (USD)	NA	
	65	Societal	RZV	Control	4.6 K	\$140 (USD)	NA	
	70	Societal	RZV	Control	20.4 K	\$140 (USD)	NA	
	80	Societal	RZV	Control	56.1 K	\$140 (USD)	NA	
Le and Rothberg (2018b)⁴	50	Societal	RZV	Control	125.0 K	\$140 (USD)	NA	100% compliance

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	55	Societal	RZV	Control	60.0 K	\$140 (USD)	NA	100% compliance
	59	Societal	RZV	Control	27.0 K	\$140 (USD)	NA	100% compliance
	50	Societal	RZV	Control	150.0 K	\$140 (USD)	NA	56% compliance
	55	Societal	RZV	Control	75.0 K	\$140 (USD)	NA	56% compliance
	59	Societal	RZV	Control	37.5 K	\$140 (USD)	NA	56% compliance
de Boer et al (2018)⁵	50	Societal	RZV	Control	20.0 K	€31.84	NA	
	60	Societal	RZV	Control	20.0 K	€52.15	NA	
	70	Societal	RZV	Control	20.0 K	€54.54	NA	
	80	Societal	RZV	Control	20.0 K	€53.01	NA	
	50	Societal	ZVL	Control	20.0 K	NA	€29.6	
	60	Societal	ZVL	Control	20.0 K	NA	€51.4	
	70	Societal	ZVL	Control	20.0 K	NA	€27.5	
	80	Societal	ZVL	Control	20.0 K	NA	€0.7	
	50	Societal	ZVL+booster	Control	20.0 K	NA	€27.1	
	60	Societal	ZVL+booster	Control	20.0 K	NA	€37.8	
	70	Societal	ZVL+booster	Control	20.0 K	NA	€19.4	
	80	Societal	ZVL+booster	Control	20.0 K	NA	€-1.5	
Van Oorschot et al (2019)⁶	60+	Societal	RZV	Control	37.0 K	€110	NA	
	70+	Societal	RZV	Control	44.0 K	€110	NA	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	60	Societal	RZV	Control	29.5 K	€110	NA	
	65	Societal	RZV	Control	29.5 K	€110	NA	
	70	Societal	RZV	Control	39.3 K	€110	NA	
Curran et al (2019) ⁷	60+	Societal	RZV	Control	58.8 K	\$140 (USD)	NA	
	60+	Societal	RZV	ZVL	Cost-saving	\$140 (USD)	\$196.91 (USD)	
You et al (2019) ⁸	Various M	Societal	RZV	Control	Below WTP between 54-74 YOA	\$100 (USD)	NA	Tabulated data NA
	Various M	Societal	RZV	Control	Below WTP between 50-80 YOA	\$80 (USD)	NA	Tabulated data NA
	Various F	Societal	RZV	Control	Below WTP between 50-79 YOA	\$100 (USD)	NA	Tabulated data NA
	Various F	Societal	RZV	Control	Below WTP between 50-80 YOA	\$80 (USD)	NA	Tabulated data NA
	Various F	Societal	RZV	Control	Below WTP between 58-72 YOA	\$120 (USD)	NA	Tabulated data NA
Prosser et al (2019) ⁹	50-59	Societal	RZV	Control	46.8 K	\$140 (USD)	\$223 (USD)	
	60-69	Societal	RZV	Control	25.7 K	\$140 (USD)	\$223 (USD)	
	70-79	Societal	RZV	Control	11.6 K	\$140 (USD)	\$223 (USD)	
	80-99	Societal	RZV	Control	9.7 K	\$140 (USD)	\$223 (USD)	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	90-99	Societal	RZV	Control	27.3 K	\$140 (USD)	\$223 (USD)	
	60+	Societal	RZV	Control	19K	\$140 (USD)	\$223 (USD)	
	50-59	Healthcare	RZV	Control	60.8 K	\$140 (USD)	\$223 (USD)	
	60-69	Healthcare	RZV	Control	37.1 K	\$140 (USD)	\$223 (USD)	
	70-79	Healthcare	RZV	Control	20.3 K	\$140 (USD)	\$223 (USD)	
	80-99	Healthcare	RZV	Control	16.5 K	\$140 (USD)	\$223 (USD)	
	90-99	Healthcare	RZV	Control	32.4 K	\$140 (USD)	\$223 (USD)	
	60+	Healthcare	RZV	Control	28.7 K	\$140 (USD)	\$223 (USD)	
	50-59	Societal	RZV	ZVL 1 year	97.0 K	\$140 (USD)	\$223 (USD)	
	60-69	Societal	RZV	ZVL 1 year	51.4 K	\$140 (USD)	\$223 (USD)	
	70-79	Societal	RZV	ZVL 1 year	23.1 K	\$140 (USD)	\$223 (USD)	
	80-99	Societal	RZV	ZVL 1 year	12.5 K	\$140 (USD)	\$223 (USD)	
	90-99	Societal	RZV	ZVL 1 year	27.3 K	\$140 (USD)	\$223 (USD)	
	50-59	Societal	RZV	ZVL 5 year	64.3 K	\$140 (USD)	\$223 (USD)	
	60-69	Societal	RZV	ZVL 5 year	33.4 K	\$140 (USD)	\$223 (USD)	
	70-79	Societal	RZV	ZVL 5 year	13.2 K	\$140 (USD)	\$223 (USD)	
	80-99	Societal	RZV	ZVL 5 year	9.7 K	\$140 (USD)	\$223 (USD)	
	90-99	Societal	RZV	ZVL 5 year	27.3 K	\$140 (USD)	\$223 (USD)	
Shiragami et al (2019)¹⁰	65+	Payer	RZV	Control	4,316.5 K	¥12,960	NA	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	50+	Payer	RZV	Control	4,518.5 K	¥12,960	NA	
	60+	Payer	RZV	Control	4,336.2 K	¥12,960	NA	
	70+	Payer	RZV	Control	4,374.2 K	¥12,960	NA	
	65+	Societal	RZV	Control	4,036.0 K	¥12,960	NA	
	50+	Societal	RZV	Control	4,144.4 K	¥12,960	NA	
	60+	Societal	RZV	Control	4,034.6 K	¥12,960	NA	
	70+	Societal	RZV	Control	4,117.8 K	¥12,960	NA	
Hoshi et al (2019)¹¹	80-84	Payer	ZVL	Control	2,633.6 K	¥15,000	NA	
	75-84	Payer	ZVL	Control	2,902.1 K	¥15,000	NA	
	70-84	Payer	ZVL	Control	2,961.0 K	¥15,000	NA	
	65-84	Payer	ZVL	Control	3,434.3 K	¥15,000	NA	
	80-84	Payer	RZV	Control	5,262.2 K	¥15,000	NA	
	75-84	Payer	RZV	Control	5,561.5 K	¥15,000	NA	
	70-84	Payer	RZV	Control	5,629.6 K	¥15,000	NA	
	65-84	Payer	RZV	Control	6,278.6 K	¥15,000	NA	
Carpenter et al (2019)¹²	50	Societal	RZV	Control	91.2 K	\$102.19 (USD)	NA	
	60	Societal	RZV	Control	19.3 K	\$102.19 (USD)	NA	
	70	Societal	RZV	Control	1.4 K	\$102.19 (USD)	NA	
	50	Societal	ZVL	Control	118.5 K	\$102.19 (USD)	NA	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	60	Societal	ZVL	Control	42.7 K	\$102.19 (USD)	NA	
	70	Societal	ZVL	Control	88.3 K	\$102.19 (USD)	NA	
Drolet et al (2019)¹³	50	Healthcare	RZV	Control	25.9 K	\$100 (CAD)	NA	
	60	Healthcare	RZV	Control	11.0 K	\$100 (CAD)	NA	
	65	Healthcare	RZV	Control	5.3 K	\$100 (CAD)	NA	
	70	Healthcare	RZV	Control	4.2 K	\$100 (CAD)	NA	
	75	Healthcare	RZV	Control	0.8 K	\$100 (CAD)	NA	
	80	Healthcare	RZV	Control	7.8 K	\$100 (CAD)	NA	
	85	Healthcare	RZV	Control	18.4 K	\$100 (CAD)	NA	
	50	Healthcare	ZVL	Control	130.6 K	NA	\$200 (CAD)	
	60	Healthcare	ZVL	Control	54.8 K	NA	\$200 (CAD)	
	65	Healthcare	ZVL	Control	36.3 K	NA	\$200 (CAD)	
	70	Healthcare	ZVL	Control	36.6 K	NA	\$200 (CAD)	
	75	Healthcare	ZVL	Control	31.1 K	NA	\$200 (CAD)	
	80	Healthcare	ZVL	Control	47.5 K	NA	\$200 (CAD)	
	85	Healthcare	ZVL	Control	71.9 K	NA	\$200 (CAD)	
McGirr et al (2019)¹⁴	60+	Healthcare	RZV	Control	28.4 K	\$122 (CAD)	NA	
	60+	Healthcare	RZV	ZVL	2.4 K	\$122 (CAD)	\$176.77 (CAD)	
Curran et al (2021)¹⁵	50	Societal	RZV	Control	29.5 K	€110	NA	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	60	Societal	RZV	Control	25.5 K	€110	NA	
	65	Societal	RZV	Control	26.1 K	€110	NA	
	70	Societal	RZV	Control	34.7 K	€110	NA	
	50+	Societal	RZV	Control	31.7 K	€133.62	NA	
	60+	Societal	RZV	Control	33.0 K	€133.62	NA	
	70+	Societal	RZV	Control	39.7 K	€133.62	NA	
Pieters et al (2022) ¹⁶	50	Healthcare	RZV	Control	87.4 K	€140.26	NA	RZV VE logarithmic model
	60	Healthcare	RZV	Control	108.0 K	€140.26	NA	
	70	Healthcare	RZV	Control	98.2 K	€140.26	NA	
	80	Healthcare	RZV	Control	97.5 K	€140.26	NA	
	85	Healthcare	RZV	Control	125.9 K	€140.26	NA	
	50	Healthcare	RZV	ZVL	Cost-saving	€140.26	€137.4	
	60	Healthcare	RZV	ZVL	Cost-saving	€140.26	€137.4	
	70	Healthcare	RZV	ZVL	Cost-saving	€140.26	€137.4	
	80	Healthcare	RZV	ZVL	Cost-saving	€140.26	€137.4	
	85	Healthcare	RZV	ZVL	Cost-saving	€140.26	€137.4	
	50	Healthcare	RZV	ZVL+booster	Cost-saving	€140.26	€137.4	
	60	Healthcare	RZV	ZVL+booster	Cost-saving	€140.26	€137.4	
	70	Healthcare	RZV	ZVL+booster	Cost-saving	€140.26	€137.4	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	80	Healthcare	RZV	ZVL+booster	Cost-saving	€140.26	€137.4	
	85	Healthcare	RZV	ZVL+booster	Cost-saving	€140.26	€137.4	
Ortega-Sanchez (2021) ¹⁷	CDC	Healthcare	RZV	Control	Cost-saving	\$162 (USD)	NA	HSCT
	CDC	Healthcare	RZV	Control	Cost-saving	\$162 (USD)	NA	Multiple myeloma
	CDC	Healthcare	RZV	Control	10.0 K	\$162 (USD)	NA	Hematologic malignancy
	CDC	Healthcare	RZV	Control	79.0 K	\$162 (USD)	NA	HIV
	CDC	Healthcare	RZV	Control	99.0 K	\$162 (USD)	NA	Non-Hogkin lymphoma
	CDC	Healthcare	RZV	Control	208.0 K	\$162 (USD)	NA	Autoimmune & Inflammatory
	Industry	Societal	RZV	Control	Cost-saving	\$162 (USD)	NA	HSCT
	Industry	Societal	RZV	Control	Cost-saving	\$162 (USD)	NA	Renal transplant
	Industry	Societal	RZV	Control	33.0 K	\$162 (USD)	NA	HIV
	Industry	Societal	RZV	Control	68.0 K	\$162 (USD)	NA	Breast cancer
	Industry	Societal	RZV	Control	96.0 K	\$162 (USD)	NA	Hogkin lymphoma
	Industry	Societal	RZV	Control	150.0 K	\$162 (USD)	NA	Autoimmune & Inflammatory
Ultsch et al (2017) ¹⁸	50	Societal	RZV	Control	34.3 K	€84	NA	
	60	Societal	RZV	Control	23.9 K	€84	NA	
	70	Societal	RZV	Control	25.3 K	€84	NA	
	80	Societal	RZV	Control	35.7 K	€84	NA	
	50	Societal	ZVL	Control	104.8 K	NA	€175	

Author/year	Cohort	Perspective	Determinant	Comparator	ICER	Price RZV (per dose)	Price ZVL	Notes
	60	Societal	ZVL	Control	88.4 K	NA	€175	
	70	Societal	ZVL	Control	114.9 K	NA	€175	
	80	Societal	ZVL	Control	196.0 K	NA	€175	

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50 CAD: Canadian Dollars; HIV: human immunodeficiency virus; HSCT: hematopoietic stem cell transplantation; ICER: incremental cost-effectiveness
51 ratio; K: thousand(s); M/F: male/female; NA: not applicable; RZV: recombinant zoster vaccine; USD: United States Dollars; VE: vaccine
52 effectiveness; WTP: willingness to pay; YOA: years of age; ZVL: zoster vaccine live

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