A. APPENDIX

A.1. Baseline Model Estimates

Tables 10 and 11 show parameter estimates for the baseline incidence models described in section 2.2. Table 12 shows the estimates for the prevalence model of section 2.2.

Table 10. Transition Model Estimates for Patients in the Asymptomatic or No AS State

	Untreated Symptomatic			SAVR			TAVR		
Parameter	**Estimate**	**Std. err.**	***p***	**Estimate**	**Std. err.**	***p***	**Estimate**	**Std. err.**	***p***
Intercept	-10.819	1.459	<.0001	-16.668	4.485	0.0002	-38.964	26.465	0.1409
Male	1.787	1.891	0.3446	6.188	5.505	0.2609	-16.373	35.083	0.6407
Black	0.858	3.664	0.8148	-12.608	14.562	0.3866	63.018	86.426	0.4659
Hispanic	0.959	4.390	0.8270	-7.505	14.188	0.5968	229.300	140.800	0.1033
Linear Age Spline: 65 <= Age < 70	0.079	0.022	0.0002	0.132	0.066	0.0464	0.408	0.391	0.2964
Linear Age Spline: 70 <= Age < 75	0.084	0.003	<.0001	0.070	0.010	<.0001	0.086	0.051	0.0898
Linear Age Spline: 75 <= Age < 80	0.074	0.003	<.0001	0.061	0.008	<.0001	0.204	0.035	<.0001
Linear Age Spline: 80 <= Age < 85	0.080	0.002	<.0001	0.008	0.009	0.3317	0.197	0.023	<.0001
Linear Age Spline: 85 <= Age	0.023	0.001	<.0001	-0.243	0.010	<.0001	-0.013	0.011	0.2513
Male Linear Age Spline: 65 <= Age < 70	-0.020	0.028	0.4666	-0.081	0.081	0.3210	0.248	0.518	0.6314
Male Linear Age Spline: 70 <= Age < 75	-0.006	0.004	0.1931	0.007	0.012	0.5523	0.028	0.065	0.6697
Male Linear Age Spline: 75 <= Age < 80	-0.007	0.004	0.0647	-0.009	0.011	0.3796	-0.052	0.045	0.2468
Male Linear Age Spline: 80 <= Age < 85	-0.007	0.003	0.0243	0.007	0.011	0.5552	0.010	0.032	0.7495
Male Linear Age Spline: 85 <= Age	0.005	0.002	0.0036	0.082	0.013	<.0001	0.046	0.016	0.0049
Black Linear Age Spline: 65 <= Age < 70	-0.015	0.054	0.7783	0.173	0.215	0.4207	-0.950	1.278	0.4574
Black Linear Age Spline: 70 <= Age < 75	-0.019	0.009	0.0318	-0.048	0.034	0.1600	0.191	0.193	0.3228
Black Linear Age Spline: 75 <= Age < 80	-0.009	0.008	0.2229	0.015	0.032	0.6367	-0.160	0.130	0.2188
Black Linear Age Spline: 80 <= Age < 85	-0.023	0.007	0.0017	-0.058	0.037	0.1213	0.083	0.102	0.4185
Black Linear Age Spline: 85 <= Age	-0.011	0.004	0.0095	0.008	0.048	0.8622	0.010	0.046	0.8334
Hispanic Linear Age Spline: 65 <= Age < 70	-0.016	0.065	0.8067	0.105	0.210	0.6179	-3.425	2.094	0.1019
Hispanic Linear Age Spline: 70 <= Age < 75	-0.009	0.010	0.3799	-0.015	0.032	0.6375	0.621	0.403	0.1234
Hispanic Linear Age Spline: 75 <= Age < 80	-0.012	0.009	0.1753	-0.027	0.029	0.3653	-0.106	0.147	0.4727
Hispanic Linear Age Spline: 80 <= Age < 85	-0.020	0.008	0.0152	-0.025	0.034	0.4634	-0.115	0.119	0.3351
Hispanic Linear Age Spline: 85 <= Age	0.002	0.005	0.6317	-0.014	0.047	0.7646	0.096	0.055	0.0798
Diabetes Diagnosis	0.375	0.013	<.0001	0.497	0.040	<.0001	0.899	0.126	<.0001
Hyperlipidemia Diagnosis	0.222	0.009	<.0001	0.280	0.030	<.0001	0.350	0.112	0.0017
Hypertension Diagnosis	0.343	0.007	<.0001	0.334	0.025	<.0001	0.392	0.084	<.0001
Diabetes and Hyperlipidemia Diagnoses	-0.206	0.020	<.0001	-0.227	0.062	0.0002	-0.291	0.203	0.1527
Diabetes and Hypertension Diagnoses	-0.312	0.016	<.0001	-0.259	0.053	<.0001	-0.422	0.161	0.0089
Hyperlipidemia and Hypertension Diagnoses	-0.052	0.011	<.0001	0.022	0.037	0.5607	0.036	0.131	0.7821
Diabetes, Hyperlipidemia and Hypertension diagnoses	0.177	0.023	<.0001	0.115	0.073	0.1154	0.279	0.234	0.2327

Table 11. Transition Model Estimates for Untreated Symptomatic State

	SAVR			TAVR		
Parameter	**Estimate**	**Std. Err.**	***p***	**Estimate**	**Std.Err.**	***p***
Intercept	-7.483	6.128	0.2220	8.969	20.486	0.6615
Male	14.687	7.664	0.0553	7.549	27.642	0.7848
Black	-10.565	18.274	0.5632	-15.975	58.802	0.7859
Hispanic	-28.364	20.763	0.1719	-38.672	59.977	0.5191
Linear Age Spline: 65 <= Age < 70	0.059	0.091	0.5158	-0.229	0.303	0.4499
Linear Age Spline: 70 <= Age < 75	0.015	0.013	0.2662	0.136	0.043	0.0015
Linear Age Spline: 75 <= Age < 80	-0.026	0.011	0.0129	0.026	0.027	0.3344
Linear Age Spline: 80 <= Age < 85	-0.041	0.010	<.0001	0.112	0.020	<.0001
Linear Age Spline: 85 <= Age	-0.239	0.010	<.0001	-0.034	0.009	0.0003
Male Linear Age Spline: 65 <= Age < 70	-0.213	0.113	0.0600	-0.113	0.408	0.7815
Male Linear Age Spline: 70 <= Age < 75	0.028	0.017	0.0945	0.013	0.059	0.8260
Male Linear Age Spline: 75 <= Age < 80	-0.005	0.014	0.7381	0.067	0.038	0.0739
Male Linear Age Spline: 80 <= Age < 85	0.010	0.013	0.4368	-0.019	0.027	0.4913
Male Linear Age Spline: 85 <= Age	0.052	0.014	0.0002	0.048	0.014	0.0005
Black Linear Age Spline: 65 <= Age < 70	0.144	0.270	0.5935	0.229	0.868	0.7923
Black Linear Age Spline: 70 <= Age < 75	0.052	0.040	0.1924	-0.045	0.128	0.7278
Black Linear Age Spline: 75 <= Age < 80	-0.060	0.036	0.0923	-0.009	0.094	0.9201
Black Linear Age Spline: 80 <= Age < 85	-0.004	0.041	0.9320	0.063	0.074	0.3968
Black Linear Age Spline: 85 <= Age	0.051	0.043	0.2313	-0.056	0.044	0.2095
Hispanic Linear Age Spline: 65 <= Age < 70	0.412	0.307	0.1792	0.574	0.886	0.5175
Hispanic Linear Age Spline: 70 <= Age < 75	-0.020	0.044	0.6497	-0.502	0.179	0.0051
Hispanic Linear Age Spline: 75 <= Age < 80	0.009	0.037	0.8104	0.282	0.154	0.0675
Hispanic Linear Age Spline: 80 <= Age < 85	-0.014	0.039	0.7300	-0.039	0.093	0.6748
Hispanic Linear Age Spline: 85 <= Age	0.002	0.046	0.9646	0.055	0.045	0.2207
Diabetes Diagnosis	0.097	0.077	0.2107	0.879	0.153	<.0001
Hyperlipidemia Diagnosis	0.005	0.052	0.9277	0.199	0.130	0.1272
Hypertension Diagnosis	-0.086	0.044	0.0508	0.081	0.105	0.4376
Diabetes and Hyperlipidemia Diagnoses	-0.075	0.105	0.4749	-0.544	0.222	0.0144
Diabetes and Hypertension Diagnoses	-0.110	0.090	0.2220	-0.544	0.178	0.0023
Hyperlipidemia and Hypertension Diagnoses	0.008	0.060	0.8898	-0.062	0.144	0.6651
Diabetes, Hyperlipidemia and Hypertension Diagnoses	0.132	0.116	0.2558	0.546	0.244	0.0252

Table 12. Untreated Symptomatic AS Prevalence Model Estimates

Parameter	Estimate	Std. Err.	p
Intercept	-4.075	0.304	<.0001
Male	0.198	0.408	0.6276
Black	-0.268	0.713	0.7072
Hispanic	1.196	0.897	0.1821
Linear Age Spline: 65 <= Age < 70	0.025	0.004	<.0001
Linear Age Spline: 70 <= Age < 75	0.034	0.001	<.0001
Linear Age Spline: 75 <= Age < 80	0.036	0.001	<.0001
Linear Age Spline: 80 <= Age < 85	0.043	0.001	<.0001
Linear Age Spline: 85 <= Age	0.019	0.000	<.0001
Male Linear Age Spline: 65 <= Age < 70	-0.001	0.006	0.8514
Male Linear Age Spline: 70 <= Age < 75	-0.001	0.001	0.1290
Male Linear Age Spline: 75 <= Age < 80	0.003	0.001	0.0002
Male Linear Age Spline: 80 <= Age < 85	-0.001	0.001	0.3450
Male Linear Age Spline: 85 <= Age	0.006	0.000	<.0001
Black Linear Age Spline: 65 <= Age < 70	0.004	0.011	0.6837
Black Linear Age Spline: 70 <= Age < 75	-0.013	0.002	<.0001
Black Linear Age Spline: 75 <= Age < 80	-0.009	0.002	<.0001
Black Linear Age Spline: 80 <= Age < 85	-0.014	0.002	<.0001
Black Linear Age Spline: 85 <= Age	-0.007	0.001	<.0001
Hispanic Linear Age Spline: 65 <= Age < 70	-0.018	0.013	0.1841
Hispanic Linear Age Spline: 70 <= Age < 75	-0.005	0.002	0.0334
Hispanic Linear Age Spline: 75 <= Age < 80	-0.003	0.002	0.0713
Hispanic Linear Age Spline: 80 <= Age < 85	-0.007	0.002	0.0001
Hispanic Linear Age Spline: 85 <= Age	-0.001	0.001	0.2348
Diabetes Diagnosis	0.260	0.004	<.0001
Hyperlipidemia Diagnosis	0.293	0.002	<.0001
Hypertension Diagnosis	0.436	0.002	<.0001
Diabetes and Hyperlipidemia Diagnoses	-0.134	0.005	<.0001
Diabetes and Hypertension Diagnoses	-0.142	0.004	<.0001
Hyperlipidemia and Hypertension Diagnoses	-0.079	0.003	<.0001
Diabetes, Hyperlipidemia and Hypertension Diagnoses	0.157	0.006	<.0001

A.2. Age-Specific TAVR AND SAVR Through 2020

TM patient data show differential time trends in SAVR and TAVR use by age group. We account for this by dividing age into five-year bins: 65–69, 70–74, 75–79, 80–84, and 85 and older. Within each age group, we count SAVR and TAVR procedures in two-year time windows starting with 2011–2012 and ending with 2017–2018, the last year of available TM patient data. These two-year time windows correspond to the FEM transition periods. We take 2011–2012 as the baseline time period and compute for each period the growth relative to the baseline period. Some of this growth is due to temporal shifts of the underlying risk profiles in the symptomatic population while the remainder is due to increasing availability of TAVR and shifting preferences for TAVR and SAVR within each risk profile. Since FEM also simulates shifting risk profiles, we derive a set of age-specific TAVR and SAVR growth multipliers that make the FEM procedure growth approximately match the procedure growth among TM patients. Ultimately, we arrive at separate multipliers for TAVR and SAVR in each five-year age bin and in each two-year time period. TM procedure counts and growth factors are shown in table 13 along with FEM multipliers. We assume the age-specific TAVR and SAVR multipliers stay constant at the 2017–2018 levels into the future. In other words, each procedure's relative distribution between age groups stays constant over time. However, the total number of procedures grows, as described in the next sections.

A.3. Calibration with Registry Counts

Carroll et al. show annual counts of all SAVR and TAVR procedures performed in the U.S. through 2019, as recorded in the Transcatheter Valve Therapy Registry.[25] Comparing this with the total TM procedure counts, we see that TM patient data undercount the total number of procedures performed in each time period through 2018. Also, there is a noticeable shift from SAVR to TAVR in 2019 due to regulatory expansion of TAVR eligibility to lower-risk patients. This motivates us to derive a separate TAVR and SAVR multiplier for each time period so that total FEM procedure counts match the registry counts. These multipliers are not age specific. Since Carroll et al. do not provide the 2020 procedure counts and we need two years of data to match the FEM time-step length, we assume that the 2020 SAVR and TAVR counts match the 2019 counts. This is probably conservative because the effects of the eligibility expansion would likely have continued into 2020.

In order to obtain the calibration multipliers, we first perform the time-trend calibration to TM procedure counts described in section A.2. Then, we calculate a second multiplier that makes the time-trended total SAVR and TAVR counts in FEM approximately match Carroll et al. These calibration multipliers are shown in table 14. Each time step in the FEM simulation proceeds by calculating baseline transition probabilities, multiplying the SAVR and TAVR probabilities by the appropriate age-specific multiplier from table 13, and then multiplying again by the appropriate registry calibration multiplier from table 14.

Table 13. TM Procedure Counts, Growth Rates and FEM Probability Multipliers Relative to Baseline Period (2012–2013)

Age Group	Period	TM SAVR Count	TM SAVR Growth Over Baseline Period	FEM SAVR Probability multiplier	TM TAVR Count	TM TAVR Growth Over Baseline Period	FEM TAVR Probability Multiplier
65-69	2011–2012	10,967	Baseline Period	1.00	1,374	Baseline Period	1.00
	2013–2014	10,310	0.94	1.18	3,415	2.49	0.75
	2015–2016	7,893	0.72	0.84	6,485	4.72	1.49
	2017–2018	5,176	0.47	0.58	8,669	6.31	3.20
70-74	2011–2012	12,621	Baseline Period	1.00	1,087	Baseline Period	1.00
	2013–2014	7,075	0.56	0.77	2,113	1.94	0.93
	2015–2016	2,018	0.16	0.22	1,671	1.54	0.79
	2017–2018	1,384	0.11	0.13	2,358	2.17	0.84
75-79	2011–2012	15,469	Baseline Period	1.00	2,152	Baseline Period	1.00
	2013–2014	16,102	1.04	1.65	5,364	2.49	0.81
	2015–2016	12,980	0.84	1.36	10,033	4.66	1.90
	2017–2018	6,215	0.40	0.59	10,191	4.74	1.68
80-84	2011–2012	13,530	Baseline Period	1.00	1,904	Baseline Period	1.00
	2013–2014	13,430	0.99	1.74	5,007	2.63	1.21
	2015–2016	12,245	0.91	1.67	10,632	5.58	3.42
	2017–2018	11,293	0.83	1.49	16,818	8.83	5.54
85 and older	2011–2012	16,709	Baseline Period	1.00	2,771	Baseline Period	1.00
	2013–2014	20,143	1.21	2.26	7,566	2.73	1.34
	2015–2016	23,290	1.39	2.66	20,002	7.22	3.80
	2017–2018	21,464	1.28	2.94	35,226	12.71	7.45

Table 14. FEM Multipliers for Transcatheter Valve Therapy Registry Calibration

Period	FEM SAVR Probability Multiplier	FEM TAVR Probability Multiplier
2011–2012	1.47	0.35
2013–2014	1.14	2.13
2015–2016	1.43	2.38
2017–2018	1.87	2.51
2019–2020	1.62	3.29

[11] *When patients have multiple TAVR or SAVR claims, we use the date on their first claim and ignore subsequent procedure dates.*
[12] *A perfect match is impossible because FEM simulates a relatively small number of individuals (roughly 15,000), and then weights them to match the size of the population. Only a small proportion of these simulated individuals become eligible for SAVR or TAVR. In some cases, there might be fewer than 10 eligible individuals.*

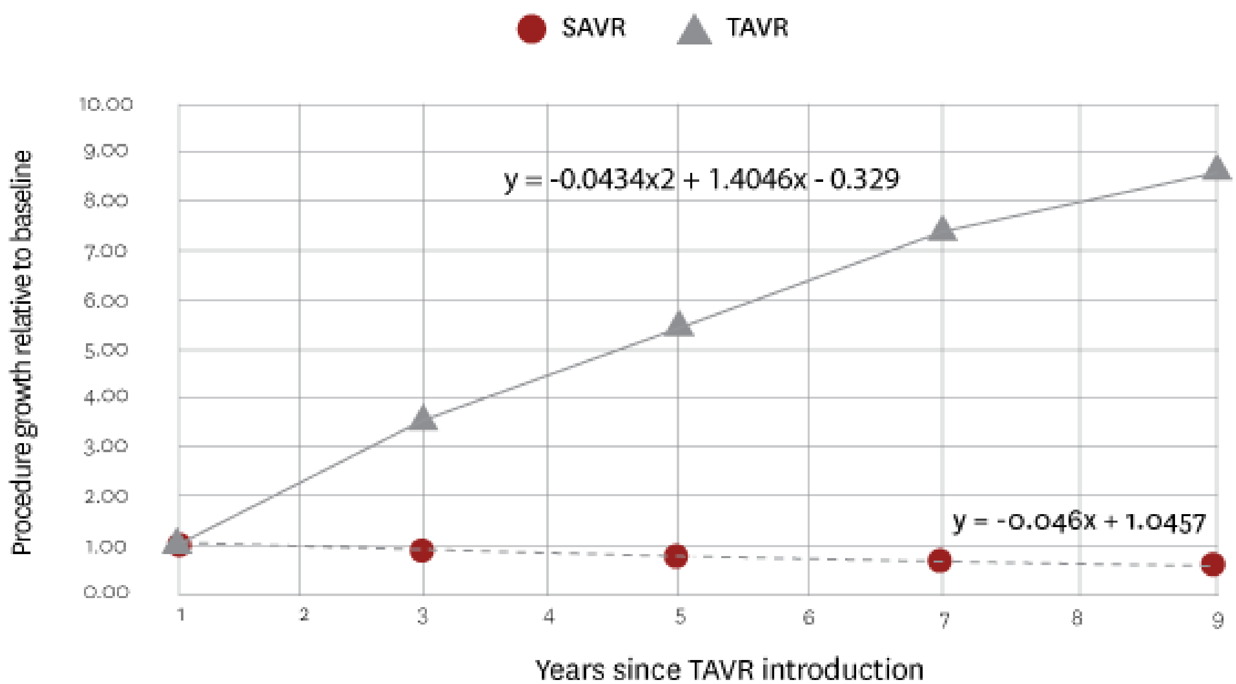
A.4. Projected TAVR and SAVR After 2020

We expect SAVR and TAVR time trends to continue after 2020. However, the rapid increase in TAVR use since its introduction is unlikely to continue into the future. The European Union approved TAVR in 2007. Eggebrecht et al. provide counts of all SAVR and TAVR procedures performed in Germany from 2008 to 2017.[26] Compared to Carroll et al., this gives an additional year of data after TAVR introduction that motivates using the German data to estimate future trends.

We start by estimating the number of symptomatic AS patients age 75 and older in Germany for each year that TAVR was available. The annual number of Germans age 75 and older is taken from the U.S. Census Bureau International Data Base. Osnabrugge et al. estimate that 3.4% of the population age 75 and older have severe AS and 75.6% of these are symptomatic cases.[2] From this, we assume 2.6% of the German population age 75 and older has symptomatic AS in each year.

Next, we use Germany's annual TAVR and SAVR counts to calculate two-year procedure rates. The 2008–2009 TAVR rate is the number of TAVR procedures in 2008 and 2009 divided by the symptomatic population size in 2008; the 2010–2011 TAVR rate is the number TAVR procedures in 2010 and 2011 divided by the symptomatic population size in 2010; and so on for other time periods and SAVR. From here, we calculate period growth rates relative to 2008–2009 as the baseline period. Finally, we fit a second-order polynomial regression to the TAVR growth rates and a linear regression to the SAVR growth rates. These models are illustrated in figure 2. The polynomial structure of the German TAVR trend implies that TAVR use will start decreasing 16 years after its introduction. We force TAVR growth to halt and remain constant after year 16 instead.

Figure 2. German SAVR and TAVR growth trends with regression lines



We apply the German SAVR and TAVR growth trends in FEM by shifting the intercepts of the regression equations so that the German growth at nine years after Germany's TAVR introduction matches the FEM growth multipliers at nine years after TAVR introduction in the U.S. (2019–2020). Similarly, the German SAVR growth at nine years after TAVR introduction is shifted to match the FEM SAVR multiplier for the same period. From that time forward, the slope of the FEM multipliers matches the slope of the German growth trend. This is illustrated for each five-year age bin in figures 3–7.

[13] *We also fit a second-order polynomial to the SAVR growth trend, but we opted for the linear form because the polynomial term is effectively zero*

Figure 3. FEM TAVR and SAVR probability multipliers for ages 65–69

Figure 7. FEM TAVR and SAVR probability multipliers for ages 85 and older

Figure 5. FEM TAVR and SAVR probability multipliers for ages 75–79

Figure 6. FEM TAVR and SAVR probability multipliers for ages 80–84

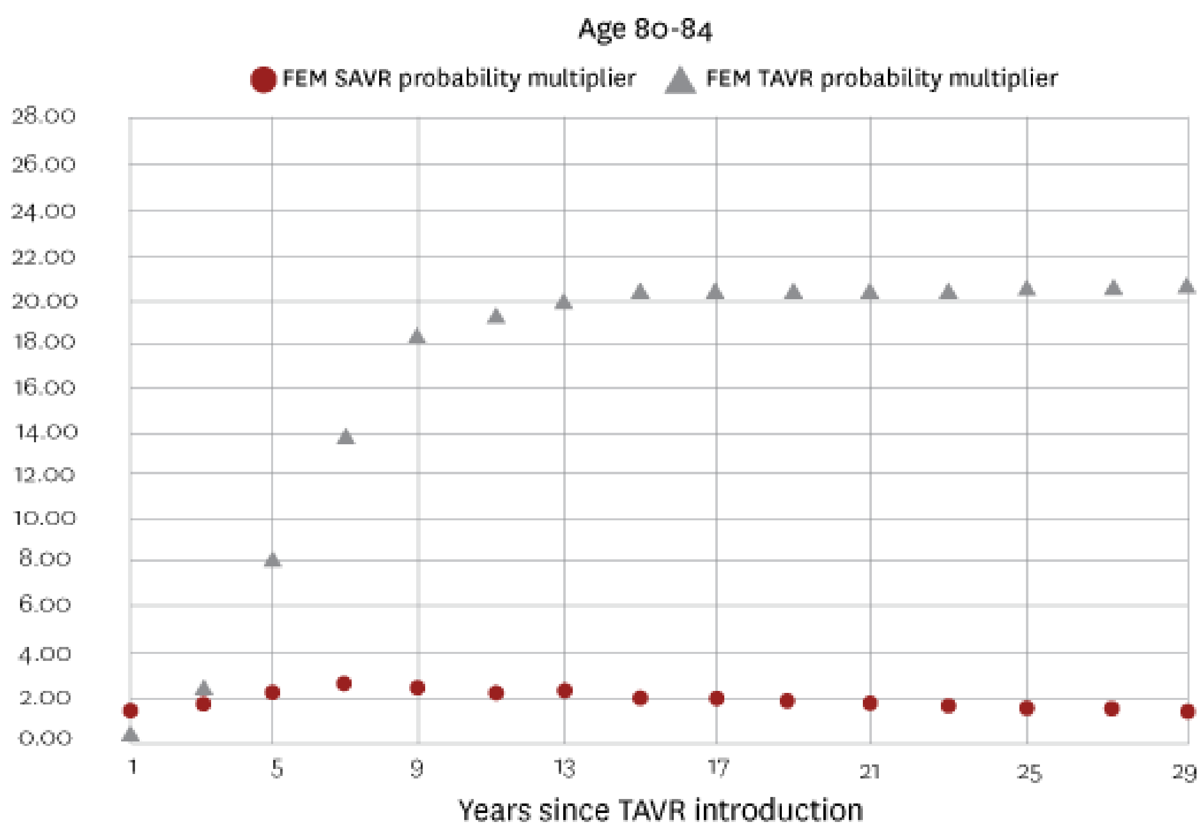
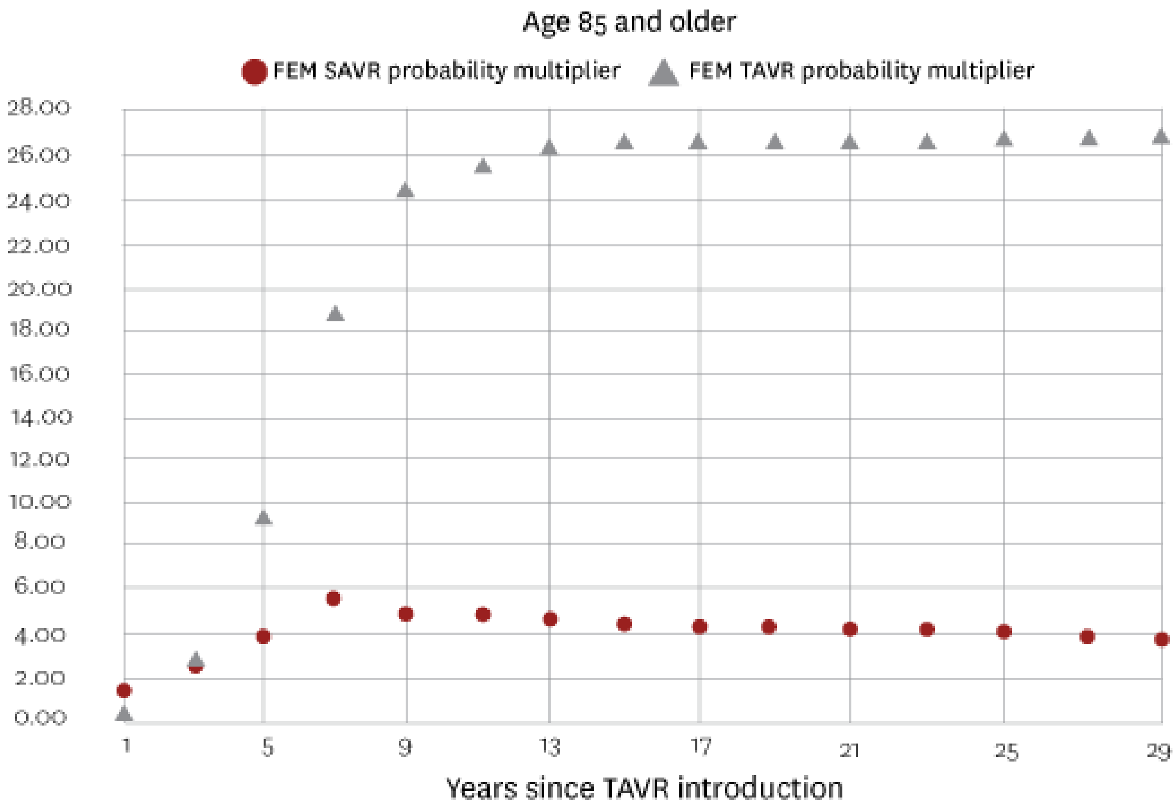


Figure 7. FEM TAVR and SAVR probability multipliers for ages 85 and older



A.5. ICD-9 Diagnosis Codes Aortic Valve Disease

093.22 Aortic valve—syphilitic aortic incompetence or stenosis
424.1 Aortic valve disorders
395 Diseases of aortic valve
395.0 Rheumatic aortic stenosis
395.1 Rheumatic aortic insufficiency
395.2 Rheumatic aortic stenosis with insufficiency
395.9 Other and unspecified rheumatic aortic diseases
396 Diseases of mitral and aortic valves
396.0 Mitral valve stenosis and aortic valve stenosis
396.1 Mitral valve stenosis and aortic valve insufficiency
396.2 Mitral valve insufficiency and aortic valve stenosis
396.3 Mitral valve insufficiency and aortic valve insufficiency
396.8 Multiple involvement of mitral and aortic valves
396.9 Mitral and aortic valve diseases, unspecified
746.3 Congenital stenosis of aortic valve

Symptoms of Aortic Stenosis

398.91 Rheumatic heart failure (congestive)
413.9 Angina pectoris
428 Heart failure
428.0 Congestive heart failure, unspecified
428.1 Left heart failure
428.2 Systolic heart failure
428.20 Systolic heart failure, unspecified
428.21 Acute systolic heart failure
428.22 Chronic systolic heart failure
428.23 Acute on chronic systolic heart failure
428.3 Diastolic heart failure
428.30 Diastolic heart failure, unspecified
428.31 Acute diastolic heart failure
428.32 Chronic diastolic heart failure
428.33 Acute on chronic diastolic heart failure
428.4 Combined systolic and diastolic heart failure
428.40 Combined systolic and diastolic heart failure, unspecified
428.41 Acute combined systolic and diastolic heart failure
428.42 Chronic combined systolic and diastolic heart failure
428.43 Acute on chronic combined systolic and diastolic heart failure
428.9 Heart failure, unspecified
780.2 Syncope
786.05 Shortness of breath
786.09 Other respiratory abnormalities

A.6. ICD-10 Diagnosis Codes Aortic Valve Disease

I35 Nonrheumatic aortic valve disorders
I35.0 Nonrheumatic aortic (valve) stenosis
I35.1 Nonrheumatic aortic (valve) insufficiency
I35.2 Nonrheumatic aortic (valve) stenosis with insufficiency
I35.8 Other nonrheumatic aortic valve disorders
I35.9 Nonrheumatic aortic valve disorder, unspecified
I06 Rheumatic aortic valve diseases
I06.0 Rheumatic aortic stenosis
I06.1 Rheumatic aortic insufficiency
I06.2 Rheumatic aortic stenosis with insufficiency
I06.8 Other rheumatic aortic valve diseases
I06.9 Rheumatic aortic valve disease, unspecified
I08 Multiple valve diseases
I08.0 Rheumatic disorders of both mitral and aortic valves
I08.2 Rheumatic disorders of both aortic and tricuspid valves
I08.3 Combined rheumatic disorders of mitral, aortic and tricuspid valves

Symptoms of Aortic Stenosis

I20 Angina pectoris
I20.0 Unstable angina
I20.1 Angina pectoris with documented spasm
I20.8 Other forms of angina pectoris
I20.9 Angina pectoris, unspecified
I50 Heart failure
I50.1 Left ventricular failure, unspecified
I50.2 Systolic (congestive) heart failure
I50.20 Unspecified systolic (congestive) heart failure
I50.21 Acute systolic (congestive) heart failure
I50.22 Chronic systolic (congestive) heart failure
I50.23 Acute on chronic systolic (congestive) heart failure
I50.3 Diastolic (congestive) heart failure
I50.30 Unspecified diastolic (congestive) heart failure
I50.31 Acute diastolic (congestive) heart failure
I50.32 Chronic diastolic (congestive) heart failure
I50.33 Acute on chronic diastolic (congestive) heart failure
I50.4 Combined systolic (congestive) and diastolic (congestive) heart failure
I50.40 Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41 Acute combined systolic (congestive) and diastolic (congestive) heart failure
I50.42 Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43 Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.9 Heart failure, unspecified
I09.81 Rheumatic heart failure
R06.0 Dyspnea
R06.00 Dyspnea, unspecified
R06.01 Orthopnea
R06.02 Shortness of breath
R06.03 Acute respiratory distress
R06.09 Other forms of dyspnea
R55 Syncope and collapse
R57.0 Cardiovascular collapse

A.7. CPT Procedure Codes

SAVR
33400, 33401, 33402, 33403, 33404, 33405, 33406, 33407, 33408, 33409, 33410, 33411, 33412
TAVR
33361, 33362, 33363, 33364, 33365, 33366, 33367, 33368, 33369, 0318T

A.8. Sensitivity Analysis of Mortality Assumptions

In addition to the high-risk and average-risk mortality assumptions described in section 2.4, we consider several other two-year mortality hazard ratios for untreated symptomatic patients and patients treated with TAVR. The hazard ratios and per capita outcomes are shown by age group in table 15.

A.8. Sensitivty Analysis of Mortality Assumptions

In addition to the high-risk and average-risk mortality assumptions described in section 2.4, we consider several other two-year mortality hazard ratios for untreated symptomatic patients and patients treated with TAVR. The hazard ratios and per capita outcomes are shown by age group in table 15.

Table 15. Social value outcomes under different mortality assumptions

Age at time of TAVR	Mortality HR for Untreated Symptomatic	Mortality HR for TAVR	Additional Years Per Person	Additional Cost Per Person (Thousands)	Social Value Per Person @ $100k (Thousands)	Social Value Per Person @ $150k (Thousands)	Social Value Per Person @ $200k (Thousands)
70–74	3.00	1.00	2.49	178	70	195	319
70–74	3.00	1.40	1.77	132	45	134	223
70–74	4.50	1.00	3.10	201	109	264	419
70–74	4.50	1.20	2.77	176	101	239	378
70–74	5.00	1.20	2.85	180	105	247	390
70–74	5.00	1.56	2.36	154	83	201	319
75–79	3.00	1.00	2.08	163	44	148	252
75–79	3.00	1.40	1.27	114	12	76	139
75–79	4.50	1.00	2.46	177	69	192	315
75–79	4.50	1.20	1.98	146	53	152	251
75–79	5.00	1.20	2.02	145	57	157	258
75–79	5.00	1.56	1.53	121	32	109	185
80–84	3.00	1.00	1.61	145	16	96	176
80–84	3.00	1.40	1.06	109	-4	49	102
80–84	4.50	1.00	1.84	151	33	126	218
80–84	4.50	1.20	1.57	132	25	103	182
80–84	5.00	1.20	1.61	133	28	109	189
80–84	5.00	1.56	1.22	110	11	72	133
85+	3.00	1.00	1.09	124	-15	39	94
85+	3.00	1.40	0.66	94	-28	5	38
85+	4.50	1.00	1.22	129	-7	54	115
85+	4.50	1.20	0.99	112	-13	37	87
85+	5.00	1.20	1.01	112	-11	39	90
85+	5.00	1.56	0.71	93	-21	14	50

Figure 9. Simulation flow for a time step in the counterfactual scenario

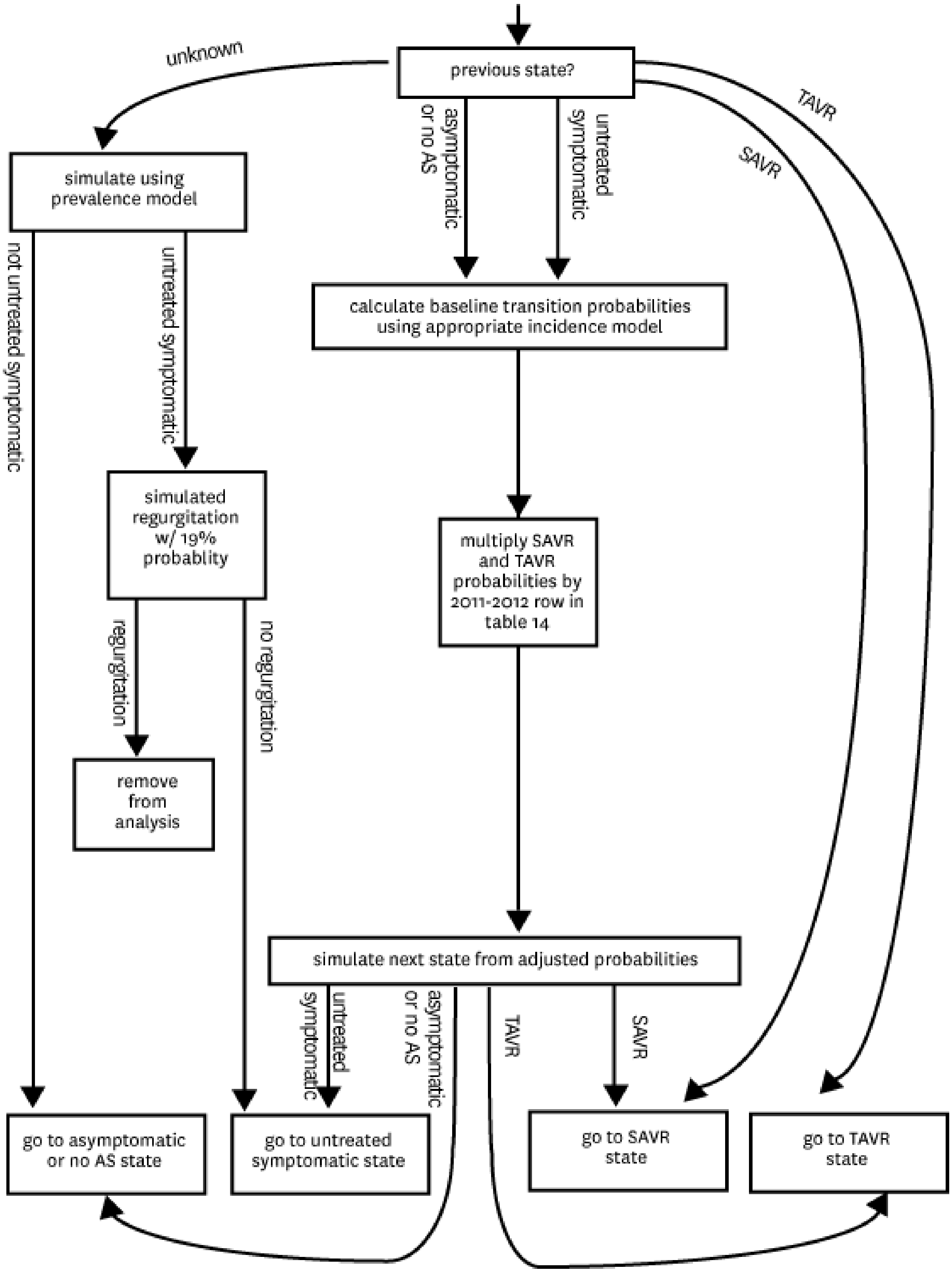


Figure 9. Simulation flow for a time step in the counterfactual scenario