

SUPPLEMENTAL MATERIAL

Patient Factors Associated with Gastroesophageal Reflux Disease Diagnostic Evaluation Strategies: A Retrospective Cohort Study Using Real-World Evidence from a Large U.S. Medical Claims Database

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CONTENTS (hyperlinks)

Supplemental table 1. Administrative codes to identify GERD	2
Supplemental table 2. Administrative codes to identify exclusion criteria for newly diagnosed GERD and outcomes of interest	3
Supplemental table 3. Provider specialty codes	6
Supplemental table 4. Upper gastrointestinal malignancy risk factors/signs codes	48
Supplemental table 5. Gastrointestinal signs/symptoms codes	50
Supplemental table 6. Sensitivity analysis—Multivariable Cox proportional hazards regression model describing patient factors associated with completion of a gastroenterology encounter in the expanded GERD cohort (n = 1,391,537)	52
Supplemental figure 1. Study design diagram	53
Supplemental figure 2. Kaplan-Meier time to encounter with a gastroenterology provider after a diagnosis of chronic GERD (n = 484,023)	54
Supplemental figure 3. Sensitivity analysis—Kaplan-Meier time to encounter with a gastroenterology provider in the expanded GERD cohort (n = 1,391,537)	55

Supplemental table 1. Administrative codes to identify GERD

<u>Code</u>	<u>ICD</u>
53081	9
K210	10
K219	10

Supplemental table 2. Administrative codes to identify exclusion criteria for newly diagnosed GERD and outcomes of interest

<u>Code</u>	<u>Description</u>	<u>Code type</u>
53085	Barrett's esophagus	ICD9
K2270	Barrett's esophagus	ICD10
K22710	Barrett's esophagus	ICD10
K22711	Barrett's esophagus	ICD10
K22719	Barrett's esophagus	ICD10
1500	Esophageal cancer	ICD9
1501	Esophageal cancer	ICD9
1502	Esophageal cancer	ICD9
1503	Esophageal cancer	ICD9
1504	Esophageal cancer	ICD9
1505	Esophageal cancer	ICD9
1508	Esophageal cancer	ICD9
1509	Esophageal cancer	ICD9
C153	Esophageal cancer	ICD10
C154	Esophageal cancer	ICD10
C155	Esophageal cancer	ICD10
C158	Esophageal cancer	ICD10
C159	Esophageal cancer	ICD10
78720	Dysphagia	ICD9
78721	Dysphagia	ICD9
78722	Dysphagia	ICD9
78723	Dysphagia	ICD9
78724	Dysphagia	ICD9
78729	Dysphagia	ICD9
R1310	Dysphagia	ICD10
R1311	Dysphagia	ICD10
R1312	Dysphagia	ICD10
R1313	Dysphagia	ICD10
R1314	Dysphagia	ICD10
R1319	Dysphagia	ICD10
43233	Upper endoscopy	CPT
43234	Upper endoscopy	CPT
43235	Upper endoscopy	CPT
43236	Upper endoscopy	CPT
43237	Upper endoscopy	CPT
43238	Upper endoscopy	CPT
43239	Upper endoscopy	CPT

<u>Code</u>	<u>Description</u>	<u>Code type</u>
43240	Upper endoscopy	CPT
43241	Upper endoscopy	CPT
43242	Upper endoscopy	CPT
43243	Upper endoscopy	CPT
43244	Upper endoscopy	CPT
43245	Upper endoscopy	CPT
43246	Upper endoscopy	CPT
43247	Upper endoscopy	CPT
43248	Upper endoscopy	CPT
43249	Upper endoscopy	CPT
43250	Upper endoscopy	CPT
43251	Upper endoscopy	CPT
43252	Upper endoscopy	CPT
43253	Upper endoscopy	CPT
43254	Upper endoscopy	CPT
43255	Upper endoscopy	CPT
43256	Upper endoscopy	CPT
43257	Upper endoscopy	CPT
43258	Upper endoscopy	CPT
43259	Upper endoscopy	CPT
43266	Upper endoscopy	CPT
43270	Upper endoscopy	CPT
06L34ZZ	Upper endoscopy	ICD10-PCS
0D554ZZ	Upper endoscopy	ICD10-PCS
0D558ZZ	Upper endoscopy	ICD10-PCS
0D564ZZ	Upper endoscopy	ICD10-PCS
0D568ZZ	Upper endoscopy	ICD10-PCS
0D594ZZ	Upper endoscopy	ICD10-PCS
0D598ZZ	Upper endoscopy	ICD10-PCS
0D774DZ	Upper endoscopy	ICD10-PCS
0D778DZ	Upper endoscopy	ICD10-PCS
0D778ZZ	Upper endoscopy	ICD10-PCS
0D954ZX	Upper endoscopy	ICD10-PCS
0D958ZX	Upper endoscopy	ICD10-PCS
0D964ZX	Upper endoscopy	ICD10-PCS
0D968ZX	Upper endoscopy	ICD10-PCS
0D998ZX	Upper endoscopy	ICD10-PCS
0DB54ZX	Upper endoscopy	ICD10-PCS
0DB54ZZ	Upper endoscopy	ICD10-PCS

<u>Code</u>	<u>Description</u>	<u>Code type</u>
0DB58ZX	Upper endoscopy	ICD10-PCS
0DB58ZZ	Upper endoscopy	ICD10-PCS
0DB64ZX	Upper endoscopy	ICD10-PCS
0DB64ZZ	Upper endoscopy	ICD10-PCS
0DB68ZZ	Upper endoscopy	ICD10-PCS
0DB94ZZ	Upper endoscopy	ICD10-PCS
0DB98ZX	Upper endoscopy	ICD10-PCS
0DB98ZZ	Upper endoscopy	ICD10-PCS
0DD54ZX	Upper endoscopy	ICD10-PCS
0DD64ZX	Upper endoscopy	ICD10-PCS
0DD98ZX	Upper endoscopy	ICD10-PCS
0DH64UZ	Upper endoscopy	ICD10-PCS
0DW04UZ	Upper endoscopy	ICD10-PCS
0DW08UZ	Upper endoscopy	ICD10-PCS
0W3P8ZZ	Upper endoscopy	ICD10-PCS
42.24	Upper endoscopy	ICD9-PCS
42.33	Upper endoscopy	ICD9-PCS
4224	Upper endoscopy	ICD9-PCS
4233	Upper endoscopy	ICD9-PCS
43.11	Upper endoscopy	ICD9-PCS
43.41	Upper endoscopy	ICD9-PCS
4311	Upper endoscopy	ICD9-PCS
4341	Upper endoscopy	ICD9-PCS
44.14	Upper endoscopy	ICD9-PCS
44.22	Upper endoscopy	ICD9-PCS
44.32	Upper endoscopy	ICD9-PCS
44.43	Upper endoscopy	ICD9-PCS
4414	Upper endoscopy	ICD9-PCS
4422	Upper endoscopy	ICD9-PCS
4432	Upper endoscopy	ICD9-PCS
4443	Upper endoscopy	ICD9-PCS
45.16	Upper endoscopy	ICD9-PCS
45.3	Upper endoscopy	ICD9-PCS
4516	Upper endoscopy	ICD9-PCS
4530	Upper endoscopy	ICD9-PCS
56283600	Proton pump inhibitor	American Hospital Formulary Service class
56281200	H2 receptor antagonist	American Hospital Formulary Service class

Supplemental table 3. Provider specialty codes

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
364S00000X	Primary care	Taxonomy
363A00000X	Primary care	Taxonomy
363L00000X	Primary care	Taxonomy
207YS0012X	Otolaryngology	Taxonomy
207Y00000X	Otolaryngology	Taxonomy
207YX0007X	Otolaryngology	Taxonomy
207YX0905X	Otolaryngology	Taxonomy
163WX0601X	Otolaryngology	Taxonomy
207YX0901X	Otolaryngology	Taxonomy
207YX0602X	Otolaryngology	Taxonomy
207YP0228X	Otolaryngology	Taxonomy
207YS0123X	Otolaryngology	Taxonomy
207QH0002X	Primary care	Taxonomy
207Q00000X	Primary care	Taxonomy
207QA0401X	Primary care	Taxonomy
207QG0300X	Primary care	Taxonomy
207QB0002X	Primary care	Taxonomy
363LF0000X	Primary care	Taxonomy
207QS1201X	Primary care	Taxonomy
364SF0001X	Primary care	Taxonomy
207QA0505X	Primary care	Taxonomy
207QA0000X	Primary care	Taxonomy
207QS0010X	Primary care	Taxonomy
207RG0100X	Gastroenterology	Taxonomy
2080P0206X	Gastroenterology	Taxonomy
207RT0003X	Gastroenterology	Taxonomy
207RI0008X	Gastroenterology	Taxonomy
163WG0100X	Gastroenterology	Taxonomy
207KA0200X	Internal Medicine specialty	Taxonomy
174400000X	Internal Medicine specialty	Taxonomy
207K00000X	Internal Medicine specialty	Taxonomy
207KI0005X	Internal Medicine specialty	Taxonomy
207RI0011X	Internal Medicine specialty	Taxonomy
207RC0000X	Internal Medicine specialty	Taxonomy
207RR0500X	Internal Medicine specialty	Taxonomy
207RE0101X	Internal Medicine specialty	Taxonomy
207RP1001X	Internal Medicine specialty	Taxonomy

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
207RA0201X	Internal Medicine specialty	Taxonomy
207RN0300X	Internal Medicine specialty	Taxonomy
207RC0200X	Internal Medicine specialty	Taxonomy
207RC0001X	Internal Medicine specialty	Taxonomy
207RA0401X	Internal Medicine specialty	Taxonomy
207RI0001X	Internal Medicine specialty	Taxonomy
207RS0010X	Internal Medicine specialty	Taxonomy
207RS0012X	Internal Medicine specialty	Taxonomy
207RA0001X	Internal Medicine specialty	Taxonomy
207RH0005X	Internal Medicine specialty	Taxonomy
207RG0300X	Internal Medicine specialty	Taxonomy
207RH0002X	Internal Medicine specialty	Taxonomy
207RH0000X	Internal Medicine specialty	Taxonomy
207RX0202X	Internal Medicine specialty	Taxonomy
364SX0200X	Internal Medicine specialty	Taxonomy
207RI0200X	Internal Medicine specialty	Taxonomy
207RM1200X	Internal Medicine specialty	Taxonomy
207RB0002X	Internal Medicine specialty	Taxonomy
207RH0003X	Internal Medicine specialty	Taxonomy
363AM0700X	Primary care	Taxonomy
207RA0000X	Primary care	Taxonomy
207R00000X	Primary care	Taxonomy
363LG0600X	Primary care	Taxonomy
363LP2300X	Primary care	Taxonomy
261QP2300X	Primary care	Taxonomy
364SC2300X	Primary care	Taxonomy
363LC1500X	Primary care	Taxonomy
364SA2200X	Primary care	Taxonomy
363LA2200X	Primary care	Taxonomy
364SC1501X	Primary care	Taxonomy
364SG0600X	Primary care	Taxonomy
4956	Primary care	Optum
5164	Primary care	Optum
5152	Primary care	Optum
4882	Primary care	Optum
5499	Primary care	Optum
5205	Primary care	Optum
5199	Primary care	Optum
5340	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
2173	Primary care	Optum
5077	Primary care	Optum
5469	Primary care	Optum
4955	Primary care	Optum
5181	Primary care	Optum
4911	Primary care	Optum
5184	Primary care	Optum
5540	Primary care	Optum
5508	Primary care	Optum
5009	Primary care	Optum
4951	Primary care	Optum
5159	Primary care	Optum
5513	Primary care	Optum
5140	Primary care	Optum
4976	Primary care	Optum
5439	Primary care	Optum
5146	Primary care	Optum
5581	Primary care	Optum
2265	Primary care	Optum
5024	Primary care	Optum
4999	Primary care	Optum
4970	Primary care	Optum
2179	Primary care	Optum
6962	Primary care	Optum
4959	Primary care	Optum
5188	Primary care	Optum
5138	Primary care	Optum
5703	Primary care	Optum
5122	Primary care	Optum
5370	Primary care	Optum
5409	Primary care	Optum
3149	Primary care	Optum
4967	Primary care	Optum
5080	Primary care	Optum
5515	Primary care	Optum
7073	Primary care	Optum
4934	Primary care	Optum
2697	Primary care	Optum
4922	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5293	Primary care	Optum
5557	Primary care	Optum
5195	Primary care	Optum
5149	Primary care	Optum
5638	Primary care	Optum
5224	Primary care	Optum
2131	Primary care	Optum
5253	Primary care	Optum
5365	Primary care	Optum
5494	Primary care	Optum
5369	Primary care	Optum
5577	Primary care	Optum
5215	Primary care	Optum
4889	Primary care	Optum
5241	Primary care	Optum
5360	Primary care	Optum
5197	Primary care	Optum
5546	Primary care	Optum
5578	Primary care	Optum
4916	Primary care	Optum
5555	Primary care	Optum
5346	Primary care	Optum
5567	Primary care	Optum
5214	Primary care	Optum
4945	Primary care	Optum
5097	Primary care	Optum
5378	Primary care	Optum
5375	Primary care	Optum
4944	Primary care	Optum
4982	Primary care	Optum
5576	Primary care	Optum
5452	Primary care	Optum
2279	Primary care	Optum
4919	Primary care	Optum
5327	Primary care	Optum
5210	Primary care	Optum
5678	Primary care	Optum
4950	Primary care	Optum
5456	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4865	Primary care	Optum
4957	Primary care	Optum
5240	Primary care	Optum
4962	Primary care	Optum
5438	Primary care	Optum
5617	Primary care	Optum
4966	Primary care	Optum
5043	Primary care	Optum
5307	Primary care	Optum
5286	Primary care	Optum
4902	Primary care	Optum
4210	Primary care	Optum
5565	Primary care	Optum
5300	Primary care	Optum
5000	Primary care	Optum
4860	Primary care	Optum
4989	Primary care	Optum
5427	Primary care	Optum
5304	Primary care	Optum
5393	Primary care	Optum
5192	Primary care	Optum
5371	Primary care	Optum
5503	Primary care	Optum
5136	Primary care	Optum
5242	Primary care	Optum
4997	Primary care	Optum
6738	Primary care	Optum
5166	Primary care	Optum
5554	Primary care	Optum
5473	Primary care	Optum
5474	Primary care	Optum
4827	Primary care	Optum
5521	Primary care	Optum
4931	Primary care	Optum
6646	Primary care	Optum
3211	Primary care	Optum
4964	Primary care	Optum
5252	Primary care	Optum
5532	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5534	Primary care	Optum
4896	Primary care	Optum
5407	Primary care	Optum
5350	Primary care	Optum
2308	Primary care	Optum
5133	Primary care	Optum
4868	Primary care	Optum
3153	Primary care	Optum
5536	Primary care	Optum
4947	Primary care	Optum
5312	Primary care	Optum
5564	Primary care	Optum
5098	Primary care	Optum
4938	Primary care	Optum
4891	Primary care	Optum
5571	Primary care	Optum
4872	Primary care	Optum
4949	Primary care	Optum
5095	Primary care	Optum
4874	Primary care	Optum
4910	Primary care	Optum
4983	Primary care	Optum
5568	Primary care	Optum
2557	Primary care	Optum
5509	Primary care	Optum
4992	Primary care	Optum
2723	Primary care	Optum
5594	Primary care	Optum
5207	Primary care	Optum
5229	Primary care	Optum
3970	Primary care	Optum
5179	Primary care	Optum
5398	Primary care	Optum
4907	Primary care	Optum
5311	Primary care	Optum
7088	Primary care	Optum
2237	Primary care	Optum
1581	Primary care	Optum
5636	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4924	Primary care	Optum
5641	Primary care	Optum
4996	Primary care	Optum
5538	Primary care	Optum
5124	Primary care	Optum
4930	Primary care	Optum
5445	Primary care	Optum
4936	Primary care	Optum
5458	Primary care	Optum
5587	Primary care	Optum
4905	Primary care	Optum
5161	Primary care	Optum
5379	Primary care	Optum
4943	Primary care	Optum
5233	Primary care	Optum
5634	Primary care	Optum
5110	Primary care	Optum
5310	Primary care	Optum
4985	Primary care	Optum
5372	Primary care	Optum
5569	Primary care	Optum
5354	Primary care	Optum
4965	Primary care	Optum
5470	Primary care	Optum
5212	Primary care	Optum
5551	Primary care	Optum
5216	Primary care	Optum
5035	Primary care	Optum
5261	Primary care	Optum
5071	Primary care	Optum
5563	Primary care	Optum
4877	Primary care	Optum
5182	Primary care	Optum
5418	Primary care	Optum
5506	Primary care	Optum
4935	Primary care	Optum
5201	Primary care	Optum
4869	Primary care	Optum
2680	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5366	Primary care	Optum
5196	Primary care	Optum
5441	Primary care	Optum
5465	Primary care	Optum
4908	Primary care	Optum
5417	Primary care	Optum
5177	Primary care	Optum
5194	Primary care	Optum
4948	Primary care	Optum
4971	Primary care	Optum
1944	Primary care	Optum
5073	Primary care	Optum
5156	Primary care	Optum
5016	Primary care	Optum
5167	Primary care	Optum
4887	Primary care	Optum
5173	Primary care	Optum
5163	Primary care	Optum
4867	Primary care	Optum
2504	Primary care	Optum
5169	Primary care	Optum
5019	Primary care	Optum
5258	Primary care	Optum
5388	Primary care	Optum
5193	Primary care	Optum
5432	Primary care	Optum
5660	Primary care	Optum
5151	Primary care	Optum
5301	Primary care	Optum
4929	Primary care	Optum
4866	Primary care	Optum
3935	Primary care	Optum
5384	Primary care	Optum
5123	Primary care	Optum
5006	Primary care	Optum
5134	Primary care	Optum
5001	Primary care	Optum
4963	Primary care	Optum
5028	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4973	Primary care	Optum
5446	Primary care	Optum
5562	Primary care	Optum
5246	Primary care	Optum
5651	Primary care	Optum
2918	Primary care	Optum
5108	Primary care	Optum
5502	Primary care	Optum
5586	Primary care	Optum
5514	Primary care	Optum
5147	Primary care	Optum
5226	Primary care	Optum
5118	Primary care	Optum
5171	Primary care	Optum
5208	Primary care	Optum
5013	Primary care	Optum
5150	Primary care	Optum
5589	Primary care	Optum
5511	Primary care	Optum
4884	Primary care	Optum
3266	Primary care	Optum
249	Primary care	Optum
5857	Primary care	Optum
4007	Primary care	Optum
5141	Primary care	Optum
4987	Primary care	Optum
1751	Primary care	Optum
4862	Primary care	Optum
5496	Primary care	Optum
5482	Primary care	Optum
4897	Primary care	Optum
4952	Primary care	Optum
2306	Primary care	Optum
5129	Primary care	Optum
6350	Primary care	Optum
5373	Primary care	Optum
2170	Primary care	Optum
5374	Primary care	Optum
5437	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5497	Primary care	Optum
5505	Primary care	Optum
5230	Primary care	Optum
5011	Primary care	Optum
5232	Primary care	Optum
4022	Primary care	Optum
5471	Primary care	Optum
6853	Primary care	Optum
3602	Primary care	Optum
5114	Primary care	Optum
4968	Primary care	Optum
5583	Primary care	Optum
5256	Primary care	Optum
4980	Primary care	Optum
5541	Primary care	Optum
5401	Primary care	Optum
5394	Primary care	Optum
5157	Primary care	Optum
5448	Primary care	Optum
5008	Primary care	Optum
4864	Primary care	Optum
5249	Primary care	Optum
1931	Primary care	Optum
5592	Primary care	Optum
5495	Primary care	Optum
5620	Primary care	Optum
2436	Primary care	Optum
4925	Primary care	Optum
4909	Primary care	Optum
5154	Primary care	Optum
5449	Primary care	Optum
5621	Primary care	Optum
1724	Primary care	Optum
2209	Primary care	Optum
5121	Primary care	Optum
5504	Primary care	Optum
4939	Primary care	Optum
5268	Primary care	Optum
5106	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4990	Primary care	Optum
5079	Primary care	Optum
5383	Primary care	Optum
5480	Primary care	Optum
5316	Primary care	Optum
5185	Primary care	Optum
4941	Primary care	Optum
5364	Primary care	Optum
5033	Primary care	Optum
5127	Primary care	Optum
5186	Primary care	Optum
4933	Primary care	Optum
4928	Primary care	Optum
5183	Primary care	Optum
5014	Primary care	Optum
5180	Primary care	Optum
5160	Primary care	Optum
5235	Primary care	Optum
1318	Primary care	Optum
5100	Primary care	Optum
4892	Primary care	Optum
5624	Primary care	Optum
5605	Primary care	Optum
4954	Primary care	Optum
4875	Primary care	Optum
5155	Primary care	Optum
5335	Primary care	Optum
5334	Primary care	Optum
5002	Primary care	Optum
4886	Primary care	Optum
5259	Primary care	Optum
4885	Primary care	Optum
2030	Primary care	Optum
5570	Primary care	Optum
5153	Primary care	Optum
2300	Primary care	Optum
5120	Primary care	Optum
5137	Primary care	Optum
4926	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4918	Primary care	Optum
5162	Primary care	Optum
5368	Primary care	Optum
5130	Primary care	Optum
5168	Primary care	Optum
5305	Primary care	Optum
5270	Primary care	Optum
5126	Primary care	Optum
5125	Primary care	Optum
4906	Primary care	Optum
5421	Primary care	Optum
5119	Primary care	Optum
4888	Primary care	Optum
5116	Primary care	Optum
5391	Primary care	Optum
5493	Primary care	Optum
5425	Primary care	Optum
5510	Primary care	Optum
4984	Primary care	Optum
5139	Primary care	Optum
5219	Primary care	Optum
5330	Primary care	Optum
5044	Primary care	Optum
5105	Primary care	Optum
5221	Primary care	Optum
5512	Primary care	Optum
5584	Primary care	Optum
4861	Primary care	Optum
5231	Primary care	Optum
5099	Primary care	Optum
5031	Primary care	Optum
4915	Primary care	Optum
7222	Primary care	Optum
5094	Primary care	Optum
5062	Primary care	Optum
4953	Primary care	Optum
5189	Primary care	Optum
5313	Primary care	Optum
5036	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5389	Primary care	Optum
5084	Primary care	Optum
5083	Primary care	Optum
5462	Primary care	Optum
5081	Primary care	Optum
5078	Primary care	Optum
7365	Primary care	Optum
5317	Primary care	Optum
3524	Primary care	Optum
5250	Primary care	Optum
4920	Primary care	Optum
4981	Primary care	Optum
4979	Primary care	Optum
5074	Primary care	Optum
5225	Primary care	Optum
4917	Primary care	Optum
4115	Primary care	Optum
4940	Primary care	Optum
5308	Primary care	Optum
4894	Primary care	Optum
5507	Primary care	Optum
250	Primary care	Optum
5045	Primary care	Optum
3717	Primary care	Optum
4932	Primary care	Optum
4878	Primary care	Optum
5038	Primary care	Optum
5332	Primary care	Optum
5598	Primary care	Optum
5034	Primary care	Optum
4898	Primary care	Optum
5257	Primary care	Optum
5176	Primary care	Optum
5030	Primary care	Optum
3971	Primary care	Optum
7291	Primary care	Optum
5027	Primary care	Optum
4895	Primary care	Optum
5460	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5158	Primary care	Optum
2655	Primary care	Optum
1152	Primary care	Optum
4978	Primary care	Optum
5018	Primary care	Optum
5309	Primary care	Optum
4974	Primary care	Optum
5148	Primary care	Optum
5490	Primary care	Optum
5010	Primary care	Optum
5498	Primary care	Optum
5613	Primary care	Optum
5007	Primary care	Optum
4969	Primary care	Optum
5615	Primary care	Optum
5198	Primary care	Optum
5003	Primary care	Optum
5318	Primary care	Optum
5376	Primary care	Optum
5328	Primary care	Optum
5220	Primary care	Optum
5266	Primary care	Optum
4995	Primary care	Optum
5020	Primary care	Optum
4991	Primary care	Optum
5128	Primary care	Optum
6570	Primary care	Optum
3089	Primary care	Optum
1567	Primary care	Optum
5539	Primary care	Optum
4960	Primary care	Optum
4899	Primary care	Optum
5333	Primary care	Optum
5203	Primary care	Optum
5422	Primary care	Optum
5200	Primary care	Optum
4927	Primary care	Optum
5491	Primary care	Optum
5103	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4961	Primary care	Optum
5145	Primary care	Optum
5190	Primary care	Optum
5610	Primary care	Optum
4075	Primary care	Optum
4170	Primary care	Optum
1245	Primary care	Optum
4893	Primary care	Optum
4998	Primary care	Optum
5223	Primary care	Optum
5187	Primary care	Optum
5597	Primary care	Optum
5191	Primary care	Optum
3360	Primary care	Optum
5082	Primary care	Optum
5414	Primary care	Optum
5178	Primary care	Optum
5172	Primary care	Optum
4890	Primary care	Optum
3583	Primary care	Optum
5475	Primary care	Optum
5461	Primary care	Optum
5238	Primary care	Optum
4958	Primary care	Optum
6959	Primary care	Optum
5175	Primary care	Optum
2876	Primary care	Optum
3808	Primary care	Optum
3433	Primary care	Optum
5267	Primary care	Optum
5204	Primary care	Optum
4903	Primary care	Optum
4972	Primary care	Optum
1132	Primary care	Optum
5209	Primary care	Optum
4975	Primary care	Optum
4923	Primary care	Optum
2694	Primary care	Optum
5685	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5206	Primary care	Optum
2374	Primary care	Optum
5236	Primary care	Optum
1358	Primary care	Optum
2475	Primary care	Optum
5558	Primary care	Optum
5117	Primary care	Optum
5416	Primary care	Optum
4921	Primary care	Optum
2069	Primary care	Optum
5218	Primary care	Optum
5415	Primary care	Optum
4213	Primary care	Optum
5347	Primary care	Optum
5527	Primary care	Optum
135	Primary care	Optum
5599	Primary care	Optum
5382	Primary care	Optum
5426	Primary care	Optum
5455	Primary care	Optum
4081	Primary care	Optum
5476	Primary care	Optum
5591	Primary care	Optum
5525	Primary care	Optum
5358	Primary care	Optum
5618	Primary care	Optum
5413	Primary care	Optum
5595	Primary care	Optum
5436	Primary care	Optum
5544	Primary care	Optum
5616	Primary care	Optum
5408	Primary care	Optum
3790	Primary care	Optum
5530	Primary care	Optum
5661	Primary care	Optum
5454	Primary care	Optum
5593	Primary care	Optum
5387	Primary care	Optum
5390	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5431	Primary care	Optum
3145	Primary care	Optum
5580	Primary care	Optum
5440	Primary care	Optum
2291	Primary care	Optum
5429	Primary care	Optum
5560	Primary care	Optum
5430	Primary care	Optum
5990	Primary care	Optum
5428	Primary care	Optum
5553	Primary care	Optum
5479	Primary care	Optum
5533	Primary care	Optum
5523	Primary care	Optum
5614	Primary care	Optum
3760	Primary care	Optum
5337	Primary care	Optum
1775	Primary care	Optum
5484	Primary care	Optum
5537	Primary care	Optum
5433	Primary care	Optum
1640	Primary care	Optum
5395	Primary care	Optum
5481	Primary care	Optum
5596	Primary care	Optum
2227	Primary care	Optum
2635	Primary care	Optum
5632	Primary care	Optum
5411	Primary care	Optum
1569	Primary care	Optum
2419	Primary care	Optum
5451	Primary care	Optum
5345	Primary care	Optum
2754	Primary care	Optum
5612	Primary care	Optum
5453	Primary care	Optum
3395	Primary care	Optum
5529	Primary care	Optum
7299	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5410	Primary care	Optum
2132	Primary care	Optum
5488	Primary care	Optum
5644	Primary care	Optum
5575	Primary care	Optum
5468	Primary care	Optum
5341	Primary care	Optum
4036	Primary care	Optum
5528	Primary care	Optum
5500	Primary care	Optum
5518	Primary care	Optum
1723	Primary care	Optum
5635	Primary care	Optum
5547	Primary care	Optum
5640	Primary care	Optum
1356	Primary care	Optum
5434	Primary care	Optum
5363	Primary care	Optum
5543	Primary care	Optum
5464	Primary care	Optum
5531	Primary care	Optum
5582	Primary care	Optum
3358	Primary care	Optum
5501	Primary care	Optum
5559	Primary care	Optum
5619	Primary care	Optum
1568	Primary care	Optum
1969	Primary care	Optum
5572	Primary care	Optum
5405	Primary care	Optum
5561	Primary care	Optum
5450	Primary care	Optum
5492	Primary care	Optum
5535	Primary care	Optum
5556	Primary care	Optum
5566	Primary care	Optum
5457	Primary care	Optum
5412	Primary care	Optum
2779	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5351	Primary care	Optum
5348	Primary care	Optum
5545	Primary care	Optum
5637	Primary care	Optum
5377	Primary care	Optum
2932	Primary care	Optum
5623	Primary care	Optum
5649	Primary care	Optum
5579	Primary care	Optum
5165	Primary care	Optum
5444	Primary care	Optum
5463	Primary care	Optum
5519	Primary care	Optum
5400	Primary care	Optum
5684	Primary care	Optum
3135	Primary care	Optum
5516	Primary care	Optum
5478	Primary care	Optum
5517	Primary care	Optum
5629	Primary care	Optum
5420	Primary care	Optum
5423	Primary care	Optum
2599	Primary care	Optum
5520	Primary care	Optum
5522	Primary care	Optum
5342	Primary care	Optum
2205	Primary care	Optum
5489	Primary care	Optum
1126	Primary care	Optum
1722	Primary care	Optum
5424	Primary care	Optum
5386	Primary care	Optum
5604	Primary care	Optum
5356	Primary care	Optum
5483	Primary care	Optum
3152	Primary care	Optum
5477	Primary care	Optum
5652	Primary care	Optum
5397	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5486	Primary care	Optum
5526	Primary care	Optum
5485	Primary care	Optum
2181	Primary care	Optum
2768	Primary care	Optum
5550	Primary care	Optum
1666	Primary care	Optum
5548	Primary care	Optum
5435	Primary care	Optum
3632	Primary care	Optum
5399	Primary care	Optum
5552	Primary care	Optum
5542	Primary care	Optum
5487	Primary care	Optum
3067	Primary care	Optum
5467	Primary care	Optum
5628	Primary care	Optum
5392	Primary care	Optum
5353	Primary care	Optum
5442	Primary care	Optum
5443	Primary care	Optum
5402	Primary care	Optum
5447	Primary care	Optum
2305	Primary care	Optum
5396	Primary care	Optum
2224	Primary care	Optum
2897	Otolaryngology	Optum
1441	Otolaryngology	Optum
698	Otolaryngology	Optum
696	Otolaryngology	Optum
697	Otolaryngology	Optum
693	Otolaryngology	Optum
1902	Otolaryngology	Optum
5766	Otolaryngology	Optum
3463	Otolaryngology	Optum
7747	Otolaryngology	Optum
2444	Otolaryngology	Optum
1819	Otolaryngology	Optum
2080	Otolaryngology	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
1676	Otolaryngology	Optum
7669	Otolaryngology	Optum
6669	Otolaryngology	Optum
695	Otolaryngology	Optum
701	Otolaryngology	Optum
2495	Otolaryngology	Optum
2638	Otolaryngology	Optum
2690	Otolaryngology	Optum
1119	Otolaryngology	Optum
4074	Otolaryngology	Optum
2850	Otolaryngology	Optum
6860	Otolaryngology	Optum
700	Otolaryngology	Optum
3994	Otolaryngology	Optum
7220	Otolaryngology	Optum
2104	Otolaryngology	Optum
2213	Otolaryngology	Optum
7677	Otolaryngology	Optum
3985	Otolaryngology	Optum
6911	Otolaryngology	Optum
7590	Otolaryngology	Optum
5841	Otolaryngology	Optum
7281	Otolaryngology	Optum
699	Otolaryngology	Optum
2530	Otolaryngology	Optum
1928	Otolaryngology	Optum
1714	Otolaryngology	Optum
4085	Otolaryngology	Optum
1877	Otolaryngology	Optum
5765	Otolaryngology	Optum
2985	Otolaryngology	Optum
1381	Otolaryngology	Optum
2995	Otolaryngology	Optum
2277	Otolaryngology	Optum
3639	Otolaryngology	Optum
2229	Otolaryngology	Optum
2908	Otolaryngology	Optum
702	Otolaryngology	Optum
1882	Otolaryngology	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
3884	Otolaryngology	Optum
6235	Otolaryngology	Optum
2961	Otolaryngology	Optum
704	Otolaryngology	Optum
694	Otolaryngology	Optum
703	Otolaryngology	Optum
1403	Otolaryngology	Optum
5918	Otolaryngology	Optum
706	Otolaryngology	Optum
711	Otolaryngology	Optum
5744	Otolaryngology	Optum
1746	Otolaryngology	Optum
707	Otolaryngology	Optum
705	Otolaryngology	Optum
6774	Otolaryngology	Optum
5665	Otolaryngology	Optum
712	Otolaryngology	Optum
709	Otolaryngology	Optum
708	Otolaryngology	Optum
1457	Otolaryngology	Optum
710	Otolaryngology	Optum
7623	Gastroenterology	Optum
4247	Gastroenterology	Optum
3334	Gastroenterology	Optum
7354	Gastroenterology	Optum
6286	Gastroenterology	Optum
6586	Gastroenterology	Optum
474	Gastroenterology	Optum
3032	Gastroenterology	Optum
2948	Gastroenterology	Optum
473	Gastroenterology	Optum
4261	Gastroenterology	Optum
475	Gastroenterology	Optum
1663	Gastroenterology	Optum
476	Gastroenterology	Optum
1700	Gastroenterology	Optum
3797	Gastroenterology	Optum
7167	Gastroenterology	Optum
6768	Gastroenterology	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
2417	Gastroenterology	Optum
5767	Gastroenterology	Optum
3597	Gastroenterology	Optum
3236	Gastroenterology	Optum
7356	Gastroenterology	Optum
4643	Gastroenterology	Optum
2085	Gastroenterology	Optum
3237	Gastroenterology	Optum
7211	Gastroenterology	Optum
5769	Gastroenterology	Optum
2018	Gastroenterology	Optum
2402	Gastroenterology	Optum
1131	Gastroenterology	Optum
5940	Gastroenterology	Optum
477	Gastroenterology	Optum
478	Gastroenterology	Optum
479	Gastroenterology	Optum
1427	Gastroenterology	Optum
3066	Gastroenterology	Optum
470	Gastroenterology	Optum
2389	Gastroenterology	Optum
482	Gastroenterology	Optum
1553	Gastroenterology	Optum
480	Gastroenterology	Optum
3340	Gastroenterology	Optum
481	Gastroenterology	Optum
471	Gastroenterology	Optum
4058	Gastroenterology	Optum
2802	Gastroenterology	Optum
2818	Gastroenterology	Optum
472	Gastroenterology	Optum
4105	Gastroenterology	Optum
485	Gastroenterology	Optum
484	Gastroenterology	Optum
483	Gastroenterology	Optum
1461	Gastroenterology	Optum
7124	Gastroenterology	Optum
6726	Gastroenterology	Optum
6727	Gastroenterology	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
7693	Gastroenterology	Optum
7082	Gastroenterology	Optum
4101	Gastroenterology	Optum
3806	Gastroenterology	Optum
1391	Gastroenterology	Optum
5805	Gastroenterology	Optum
3199	Gastroenterology	Optum
4301	Gastroenterology	Optum
492	Gastroenterology	Optum
2283	Gastroenterology	Optum
487	Gastroenterology	Optum
486	Gastroenterology	Optum
488	Gastroenterology	Optum
6734	Gastroenterology	Optum
3782	Gastroenterology	Optum
7254	Gastroenterology	Optum
5943	Gastroenterology	Optum
489	Gastroenterology	Optum
2923	Gastroenterology	Optum
5909	Gastroenterology	Optum
493	Gastroenterology	Optum
1157	Gastroenterology	Optum
490	Gastroenterology	Optum
491	Gastroenterology	Optum
3604	Gastroenterology	Optum
3794	Gastroenterology	Optum
7480	Gastroenterology	Optum
2954	Internal Medicine specialty	Optum
1377	Internal Medicine specialty	Optum
5890	Internal Medicine specialty	Optum
7101	Internal Medicine specialty	Optum
6215	Internal Medicine specialty	Optum
364	Internal Medicine specialty	Optum
367	Internal Medicine specialty	Optum
372	Internal Medicine specialty	Optum
2863	Internal Medicine specialty	Optum
370	Internal Medicine specialty	Optum
1789	Internal Medicine specialty	Optum
371	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
7381	Internal Medicine specialty	Optum
369	Internal Medicine specialty	Optum
6863	Internal Medicine specialty	Optum
7109	Internal Medicine specialty	Optum
1809	Internal Medicine specialty	Optum
368	Internal Medicine specialty	Optum
6178	Internal Medicine specialty	Optum
373	Internal Medicine specialty	Optum
6941	Internal Medicine specialty	Optum
365	Internal Medicine specialty	Optum
6176	Internal Medicine specialty	Optum
1917	Internal Medicine specialty	Optum
3635	Internal Medicine specialty	Optum
1117	Internal Medicine specialty	Optum
2968	Internal Medicine specialty	Optum
6966	Internal Medicine specialty	Optum
374	Internal Medicine specialty	Optum
1963	Internal Medicine specialty	Optum
3697	Internal Medicine specialty	Optum
5868	Internal Medicine specialty	Optum
2707	Internal Medicine specialty	Optum
5883	Internal Medicine specialty	Optum
7125	Internal Medicine specialty	Optum
375	Internal Medicine specialty	Optum
6848	Internal Medicine specialty	Optum
7092	Internal Medicine specialty	Optum
7108	Internal Medicine specialty	Optum
406	Internal Medicine specialty	Optum
403	Internal Medicine specialty	Optum
7431	Internal Medicine specialty	Optum
404	Internal Medicine specialty	Optum
6708	Internal Medicine specialty	Optum
405	Internal Medicine specialty	Optum
6797	Internal Medicine specialty	Optum
1473	Internal Medicine specialty	Optum
4303	Internal Medicine specialty	Optum
4287	Internal Medicine specialty	Optum
7034	Internal Medicine specialty	Optum
1363	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
1106	Internal Medicine specialty	Optum
1108	Internal Medicine specialty	Optum
1107	Internal Medicine specialty	Optum
1109	Internal Medicine specialty	Optum
2983	Internal Medicine specialty	Optum
1641	Internal Medicine specialty	Optum
4020	Internal Medicine specialty	Optum
2477	Internal Medicine specialty	Optum
6887	Internal Medicine specialty	Optum
409	Internal Medicine specialty	Optum
2531	Internal Medicine specialty	Optum
1728	Internal Medicine specialty	Optum
4187	Internal Medicine specialty	Optum
4337	Internal Medicine specialty	Optum
2559	Internal Medicine specialty	Optum
5742	Internal Medicine specialty	Optum
3186	Internal Medicine specialty	Optum
6203	Internal Medicine specialty	Optum
1135	Internal Medicine specialty	Optum
2678	Internal Medicine specialty	Optum
6296	Internal Medicine specialty	Optum
2568	Internal Medicine specialty	Optum
1947	Internal Medicine specialty	Optum
3267	Internal Medicine specialty	Optum
4653	Internal Medicine specialty	Optum
6801	Internal Medicine specialty	Optum
400	Internal Medicine specialty	Optum
2751	Internal Medicine specialty	Optum
2047	Internal Medicine specialty	Optum
2423	Internal Medicine specialty	Optum
2791	Internal Medicine specialty	Optum
2082	Internal Medicine specialty	Optum
2891	Internal Medicine specialty	Optum
3848	Internal Medicine specialty	Optum
407	Internal Medicine specialty	Optum
5761	Internal Medicine specialty	Optum
408	Internal Medicine specialty	Optum
413	Internal Medicine specialty	Optum
3137	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
5726	Internal Medicine specialty	Optum
4644	Internal Medicine specialty	Optum
2653	Internal Medicine specialty	Optum
1856	Internal Medicine specialty	Optum
7420	Internal Medicine specialty	Optum
5771	Internal Medicine specialty	Optum
6493	Internal Medicine specialty	Optum
6858	Internal Medicine specialty	Optum
7652	Internal Medicine specialty	Optum
3818	Internal Medicine specialty	Optum
2957	Internal Medicine specialty	Optum
411	Internal Medicine specialty	Optum
3259	Internal Medicine specialty	Optum
3394	Internal Medicine specialty	Optum
3534	Internal Medicine specialty	Optum
3928	Internal Medicine specialty	Optum
2810	Internal Medicine specialty	Optum
4120	Internal Medicine specialty	Optum
1123	Internal Medicine specialty	Optum
414	Internal Medicine specialty	Optum
402	Internal Medicine specialty	Optum
2854	Internal Medicine specialty	Optum
6643	Internal Medicine specialty	Optum
1757	Internal Medicine specialty	Optum
410	Internal Medicine specialty	Optum
412	Internal Medicine specialty	Optum
7028	Internal Medicine specialty	Optum
1745	Internal Medicine specialty	Optum
3108	Internal Medicine specialty	Optum
2804	Internal Medicine specialty	Optum
4163	Internal Medicine specialty	Optum
1561	Internal Medicine specialty	Optum
417	Internal Medicine specialty	Optum
6058	Internal Medicine specialty	Optum
415	Internal Medicine specialty	Optum
7649	Internal Medicine specialty	Optum
5913	Internal Medicine specialty	Optum
5949	Internal Medicine specialty	Optum
401	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
3073	Internal Medicine specialty	Optum
416	Internal Medicine specialty	Optum
1281	Internal Medicine specialty	Optum
377	Internal Medicine specialty	Optum
376	Internal Medicine specialty	Optum
378	Internal Medicine specialty	Optum
6682	Internal Medicine specialty	Optum
4111	Internal Medicine specialty	Optum
366	Internal Medicine specialty	Optum
6845	Internal Medicine specialty	Optum
4160	Internal Medicine specialty	Optum
5775	Internal Medicine specialty	Optum
1143	Internal Medicine specialty	Optum
1747	Internal Medicine specialty	Optum
459	Internal Medicine specialty	Optum
461	Internal Medicine specialty	Optum
3238	Internal Medicine specialty	Optum
2365	Internal Medicine specialty	Optum
7338	Internal Medicine specialty	Optum
3626	Internal Medicine specialty	Optum
2597	Internal Medicine specialty	Optum
460	Internal Medicine specialty	Optum
462	Internal Medicine specialty	Optum
2800	Internal Medicine specialty	Optum
5853	Internal Medicine specialty	Optum
2740	Internal Medicine specialty	Optum
2860	Internal Medicine specialty	Optum
3986	Internal Medicine specialty	Optum
1959	Internal Medicine specialty	Optum
1824	Internal Medicine specialty	Optum
464	Internal Medicine specialty	Optum
1923	Internal Medicine specialty	Optum
1429	Internal Medicine specialty	Optum
5900	Internal Medicine specialty	Optum
2532	Internal Medicine specialty	Optum
458	Internal Medicine specialty	Optum
3077	Internal Medicine specialty	Optum
6534	Internal Medicine specialty	Optum
3589	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
6667	Internal Medicine specialty	Optum
2704	Internal Medicine specialty	Optum
2499	Internal Medicine specialty	Optum
5916	Internal Medicine specialty	Optum
463	Internal Medicine specialty	Optum
5107	Internal Medicine specialty	Optum
2055	Internal Medicine specialty	Optum
2578	Internal Medicine specialty	Optum
6654	Internal Medicine specialty	Optum
465	Internal Medicine specialty	Optum
561	Internal Medicine specialty	Optum
6713	Internal Medicine specialty	Optum
6739	Internal Medicine specialty	Optum
563	Internal Medicine specialty	Optum
5927	Internal Medicine specialty	Optum
6436	Internal Medicine specialty	Optum
1315	Internal Medicine specialty	Optum
562	Internal Medicine specialty	Optum
554	Internal Medicine specialty	Optum
5729	Internal Medicine specialty	Optum
2099	Internal Medicine specialty	Optum
565	Internal Medicine specialty	Optum
2609	Internal Medicine specialty	Optum
7060	Internal Medicine specialty	Optum
6988	Internal Medicine specialty	Optum
6805	Internal Medicine specialty	Optum
3385	Internal Medicine specialty	Optum
1942	Internal Medicine specialty	Optum
1711	Internal Medicine specialty	Optum
5759	Internal Medicine specialty	Optum
5810	Internal Medicine specialty	Optum
4149	Internal Medicine specialty	Optum
2670	Internal Medicine specialty	Optum
564	Internal Medicine specialty	Optum
6954	Internal Medicine specialty	Optum
2084	Internal Medicine specialty	Optum
566	Internal Medicine specialty	Optum
7013	Internal Medicine specialty	Optum
555	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
1267	Internal Medicine specialty	Optum
1937	Internal Medicine specialty	Optum
2603	Internal Medicine specialty	Optum
6042	Internal Medicine specialty	Optum
6723	Internal Medicine specialty	Optum
2420	Internal Medicine specialty	Optum
2288	Internal Medicine specialty	Optum
556	Internal Medicine specialty	Optum
5760	Internal Medicine specialty	Optum
6271	Internal Medicine specialty	Optum
3417	Internal Medicine specialty	Optum
3501	Internal Medicine specialty	Optum
1835	Internal Medicine specialty	Optum
2783	Internal Medicine specialty	Optum
2782	Internal Medicine specialty	Optum
6019	Internal Medicine specialty	Optum
7335	Internal Medicine specialty	Optum
5784	Internal Medicine specialty	Optum
567	Internal Medicine specialty	Optum
3465	Internal Medicine specialty	Optum
6897	Internal Medicine specialty	Optum
3558	Internal Medicine specialty	Optum
1926	Internal Medicine specialty	Optum
1543	Internal Medicine specialty	Optum
2414	Internal Medicine specialty	Optum
569	Internal Medicine specialty	Optum
568	Internal Medicine specialty	Optum
380	Internal Medicine specialty	Optum
379	Internal Medicine specialty	Optum
3346	Internal Medicine specialty	Optum
381	Internal Medicine specialty	Optum
385	Internal Medicine specialty	Optum
7512	Internal Medicine specialty	Optum
1439	Internal Medicine specialty	Optum
7245	Internal Medicine specialty	Optum
3943	Internal Medicine specialty	Optum
6674	Internal Medicine specialty	Optum
1768	Internal Medicine specialty	Optum
2709	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
587	Internal Medicine specialty	Optum
3623	Internal Medicine specialty	Optum
3489	Internal Medicine specialty	Optum
588	Internal Medicine specialty	Optum
3491	Internal Medicine specialty	Optum
1892	Internal Medicine specialty	Optum
585	Internal Medicine specialty	Optum
7500	Internal Medicine specialty	Optum
3310	Internal Medicine specialty	Optum
7344	Internal Medicine specialty	Optum
6031	Internal Medicine specialty	Optum
6940	Internal Medicine specialty	Optum
1930	Internal Medicine specialty	Optum
2515	Internal Medicine specialty	Optum
6025	Internal Medicine specialty	Optum
586	Internal Medicine specialty	Optum
5811	Internal Medicine specialty	Optum
3500	Internal Medicine specialty	Optum
6650	Internal Medicine specialty	Optum
2595	Internal Medicine specialty	Optum
1249	Internal Medicine specialty	Optum
5817	Internal Medicine specialty	Optum
2115	Internal Medicine specialty	Optum
7326	Internal Medicine specialty	Optum
6664	Internal Medicine specialty	Optum
4622	Internal Medicine specialty	Optum
6378	Internal Medicine specialty	Optum
1212	Internal Medicine specialty	Optum
6616	Internal Medicine specialty	Optum
6380	Internal Medicine specialty	Optum
1629	Internal Medicine specialty	Optum
6553	Internal Medicine specialty	Optum
3925	Internal Medicine specialty	Optum
1582	Internal Medicine specialty	Optum
7362	Internal Medicine specialty	Optum
3800	Internal Medicine specialty	Optum
4621	Internal Medicine specialty	Optum
1162	Internal Medicine specialty	Optum
6593	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
6787	Internal Medicine specialty	Optum
7262	Internal Medicine specialty	Optum
3709	Internal Medicine specialty	Optum
7036	Internal Medicine specialty	Optum
571	Internal Medicine specialty	Optum
3631	Internal Medicine specialty	Optum
582	Internal Medicine specialty	Optum
7526	Internal Medicine specialty	Optum
1687	Internal Medicine specialty	Optum
5699	Internal Medicine specialty	Optum
7541	Internal Medicine specialty	Optum
6829	Internal Medicine specialty	Optum
5815	Internal Medicine specialty	Optum
572	Internal Medicine specialty	Optum
3322	Internal Medicine specialty	Optum
6802	Internal Medicine specialty	Optum
1863	Internal Medicine specialty	Optum
7673	Internal Medicine specialty	Optum
1213	Internal Medicine specialty	Optum
2833	Internal Medicine specialty	Optum
2429	Internal Medicine specialty	Optum
570	Internal Medicine specialty	Optum
2523	Internal Medicine specialty	Optum
1762	Internal Medicine specialty	Optum
2325	Internal Medicine specialty	Optum
1812	Internal Medicine specialty	Optum
2784	Internal Medicine specialty	Optum
4169	Internal Medicine specialty	Optum
574	Internal Medicine specialty	Optum
573	Internal Medicine specialty	Optum
1539	Internal Medicine specialty	Optum
557	Internal Medicine specialty	Optum
3781	Internal Medicine specialty	Optum
575	Internal Medicine specialty	Optum
4094	Internal Medicine specialty	Optum
7653	Internal Medicine specialty	Optum
2813	Internal Medicine specialty	Optum
597	Internal Medicine specialty	Optum
1698	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
599	Internal Medicine specialty	Optum
2851	Internal Medicine specialty	Optum
5847	Internal Medicine specialty	Optum
6703	Internal Medicine specialty	Optum
3785	Internal Medicine specialty	Optum
1179	Internal Medicine specialty	Optum
7081	Internal Medicine specialty	Optum
3171	Internal Medicine specialty	Optum
5690	Internal Medicine specialty	Optum
2669	Internal Medicine specialty	Optum
7620	Internal Medicine specialty	Optum
2026	Internal Medicine specialty	Optum
600	Internal Medicine specialty	Optum
6995	Internal Medicine specialty	Optum
2545	Internal Medicine specialty	Optum
4251	Internal Medicine specialty	Optum
6187	Internal Medicine specialty	Optum
3636	Internal Medicine specialty	Optum
7382	Internal Medicine specialty	Optum
2815	Internal Medicine specialty	Optum
6888	Internal Medicine specialty	Optum
5846	Internal Medicine specialty	Optum
2021	Internal Medicine specialty	Optum
598	Internal Medicine specialty	Optum
4239	Internal Medicine specialty	Optum
7651	Internal Medicine specialty	Optum
3854	Internal Medicine specialty	Optum
6785	Internal Medicine specialty	Optum
6867	Internal Medicine specialty	Optum
4113	Internal Medicine specialty	Optum
6839	Internal Medicine specialty	Optum
6825	Internal Medicine specialty	Optum
3249	Internal Medicine specialty	Optum
6097	Internal Medicine specialty	Optum
3692	Internal Medicine specialty	Optum
6784	Internal Medicine specialty	Optum
4001	Internal Medicine specialty	Optum
2715	Internal Medicine specialty	Optum
5719	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
3010	Internal Medicine specialty	Optum
4380	Internal Medicine specialty	Optum
3703	Internal Medicine specialty	Optum
3665	Internal Medicine specialty	Optum
1816	Internal Medicine specialty	Optum
2642	Internal Medicine specialty	Optum
1159	Internal Medicine specialty	Optum
1970	Internal Medicine specialty	Optum
892	Internal Medicine specialty	Optum
3919	Internal Medicine specialty	Optum
2243	Internal Medicine specialty	Optum
3198	Internal Medicine specialty	Optum
894	Internal Medicine specialty	Optum
3451	Internal Medicine specialty	Optum
885	Internal Medicine specialty	Optum
5737	Internal Medicine specialty	Optum
7098	Internal Medicine specialty	Optum
893	Internal Medicine specialty	Optum
6118	Internal Medicine specialty	Optum
6153	Internal Medicine specialty	Optum
3299	Internal Medicine specialty	Optum
3300	Internal Medicine specialty	Optum
3258	Internal Medicine specialty	Optum
4255	Internal Medicine specialty	Optum
3573	Internal Medicine specialty	Optum
6590	Internal Medicine specialty	Optum
3710	Internal Medicine specialty	Optum
5840	Internal Medicine specialty	Optum
5602	Internal Medicine specialty	Optum
1955	Internal Medicine specialty	Optum
940	Internal Medicine specialty	Optum
941	Internal Medicine specialty	Optum
1901	Internal Medicine specialty	Optum
2774	Internal Medicine specialty	Optum
2625	Internal Medicine specialty	Optum
3497	Internal Medicine specialty	Optum
1656	Internal Medicine specialty	Optum
939	Internal Medicine specialty	Optum
3924	Internal Medicine specialty	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
1263	Internal Medicine specialty	Optum
3853	Internal Medicine specialty	Optum
3695	Internal Medicine specialty	Optum
935	Internal Medicine specialty	Optum
4203	Internal Medicine specialty	Optum
5850	Internal Medicine specialty	Optum
3699	Internal Medicine specialty	Optum
334	Primary care	Optum
4876	Primary care	Optum
336	Primary care	Optum
2302	Primary care	Optum
3755	Primary care	Optum
6642	Primary care	Optum
7152	Primary care	Optum
1726	Primary care	Optum
7050	Primary care	Optum
7180	Primary care	Optum
1419	Primary care	Optum
5998	Primary care	Optum
4825	Primary care	Optum
342	Primary care	Optum
7545	Primary care	Optum
3268	Primary care	Optum
337	Primary care	Optum
1764	Primary care	Optum
7079	Primary care	Optum
5829	Primary care	Optum
7182	Primary care	Optum
4830	Primary care	Optum
335	Primary care	Optum
2485	Primary care	Optum
3564	Primary care	Optum
5873	Primary care	Optum
2672	Primary care	Optum
5086	Primary care	Optum
7497	Primary care	Optum
821	Primary care	Optum
7136	Primary care	Optum
7579	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
2321	Primary care	Optum
7631	Primary care	Optum
1183	Primary care	Optum
816	Primary care	Optum
820	Primary care	Optum
822	Primary care	Optum
7065	Primary care	Optum
1744	Primary care	Optum
1570	Primary care	Optum
312	Primary care	Optum
7017	Primary care	Optum
1423	Primary care	Optum
311	Primary care	Optum
313	Primary care	Optum
4331	Primary care	Optum
2208	Primary care	Optum
2068	Primary care	Optum
315	Primary care	Optum
7091	Primary care	Optum
3765	Primary care	Optum
5706	Primary care	Optum
7106	Primary care	Optum
314	Primary care	Optum
7741	Primary care	Optum
4333	Primary care	Optum
5774	Primary care	Optum
2254	Primary care	Optum
3702	Primary care	Optum
1046	Primary care	Optum
316	Primary care	Optum
4206	Primary care	Optum
1755	Primary care	Optum
3413	Primary care	Optum
2614	Primary care	Optum
2286	Primary care	Optum
3350	Primary care	Optum
2615	Primary care	Optum
2340	Primary care	Optum
2904	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4362	Primary care	Optum
2677	Primary care	Optum
2613	Primary care	Optum
4648	Primary care	Optum
1127	Primary care	Optum
1785	Primary care	Optum
1646	Primary care	Optum
318	Primary care	Optum
5994	Primary care	Optum
2644	Primary care	Optum
2375	Primary care	Optum
1643	Primary care	Optum
1661	Primary care	Optum
2233	Primary care	Optum
3150	Primary care	Optum
1790	Primary care	Optum
2978	Primary care	Optum
2790	Primary care	Optum
2324	Primary care	Optum
2219	Primary care	Optum
1903	Primary care	Optum
5063	Primary care	Optum
5696	Primary care	Optum
2403	Primary care	Optum
5683	Primary care	Optum
317	Primary care	Optum
2446	Primary care	Optum
308	Primary care	Optum
1854	Primary care	Optum
2354	Primary care	Optum
319	Primary care	Optum
4135	Primary care	Optum
1433	Primary care	Optum
321	Primary care	Optum
322	Primary care	Optum
309	Primary care	Optum
320	Primary care	Optum
323	Primary care	Optum
325	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
1431	Primary care	Optum
310	Primary care	Optum
324	Primary care	Optum
2073	Primary care	Optum
5717	Primary care	Optum
6589	Primary care	Optum
5919	Primary care	Optum
7443	Primary care	Optum
326	Primary care	Optum
327	Primary care	Optum
7138	Primary care	Optum
1417	Primary care	Optum
333	Primary care	Optum
3787	Primary care	Optum
7555	Primary care	Optum
328	Primary care	Optum
4645	Primary care	Optum
1865	Primary care	Optum
3777	Primary care	Optum
2736	Primary care	Optum
5732	Primary care	Optum
1927	Primary care	Optum
2359	Primary care	Optum
1694	Primary care	Optum
1832	Primary care	Optum
2378	Primary care	Optum
2837	Primary care	Optum
2811	Primary care	Optum
332	Primary care	Optum
1721	Primary care	Optum
329	Primary care	Optum
2628	Primary care	Optum
3094	Primary care	Optum
3812	Primary care	Optum
330	Primary care	Optum
331	Primary care	Optum
2826	Primary care	Optum
3317	Primary care	Optum
2189	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
2574	Primary care	Optum
1940	Primary care	Optum
2996	Primary care	Optum
3122	Primary care	Optum
2889	Primary care	Optum
2930	Primary care	Optum
6000	Primary care	Optum
2835	Primary care	Optum
1791	Primary care	Optum
7592	Primary care	Optum
5781	Primary care	Optum
1113	Primary care	Optum
3779	Primary care	Optum
4044	Primary care	Optum
6788	Primary care	Optum
825	Primary care	Optum
3894	Primary care	Optum
6653	Primary care	Optum
1435	Primary care	Optum
6948	Primary care	Optum
6659	Primary care	Optum
6666	Primary care	Optum
7660	Primary care	Optum
7266	Primary care	Optum
7654	Primary care	Optum
7496	Primary care	Optum
2554	Primary care	Optum
6121	Primary care	Optum
4162	Primary care	Optum
823	Primary care	Optum
817	Primary care	Optum
7228	Primary care	Optum
824	Primary care	Optum
6100	Primary care	Optum
2739	Primary care	Optum
551	Primary care	Optum
3304	Primary care	Optum
2329	Primary care	Optum
2674	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
3574	Primary care	Optum
3957	Primary care	Optum
5783	Primary care	Optum
2733	Primary care	Optum
552	Primary care	Optum
1840	Primary care	Optum
3081	Primary care	Optum
1177	Primary care	Optum
3847	Primary care	Optum
4153	Primary care	Optum
1997	Primary care	Optum
2661	Primary care	Optum
3093	Primary care	Optum
550	Primary care	Optum
549	Primary care	Optum
3537	Primary care	Optum
5778	Primary care	Optum
4404	Primary care	Optum
4207	Primary care	Optum
2280	Primary care	Optum
2050	Primary care	Optum
2373	Primary care	Optum
3241	Primary care	Optum
2384	Primary care	Optum
3041	Primary care	Optum
6685	Primary care	Optum
1697	Primary care	Optum
6379	Primary care	Optum
340	Primary care	Optum
2658	Primary care	Optum
2610	Primary care	Optum
2314	Primary care	Optum
5991	Primary care	Optum
1864	Primary care	Optum
341	Primary care	Optum
2313	Primary care	Optum
338	Primary care	Optum
2228	Primary care	Optum
339	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
4641	Primary care	Optum
2842	Primary care	Optum
2630	Primary care	Optum
2607	Primary care	Optum
5724	Primary care	Optum
5736	Primary care	Optum
1133	Primary care	Optum
1673	Primary care	Optum
3817	Primary care	Optum
2392	Primary care	Optum
2249	Primary care	Optum
1860	Primary care	Optum
3531	Primary care	Optum
1743	Primary care	Optum
3650	Primary care	Optum
1719	Primary care	Optum
827	Primary care	Optum
3801	Primary care	Optum
818	Primary care	Optum
5906	Primary care	Optum
5938	Primary care	Optum
828	Primary care	Optum
826	Primary care	Optum
1349	Primary care	Optum
4182	Primary care	Optum
6971	Primary care	Optum
831	Primary care	Optum
819	Primary care	Optum
7489	Primary care	Optum
829	Primary care	Optum
7217	Primary care	Optum
6721	Primary care	Optum
7525	Primary care	Optum
830	Primary care	Optum
7467	Primary care	Optum
7248	Primary care	Optum
7368	Primary care	Optum
4049	Primary care	Optum
7318	Primary care	Optum

<u>Code</u>	<u>Specialty</u>	<u>Code type</u>
7416	Primary care	Optum
3193	Primary care	Optum
7020	Primary care	Optum
7537	Primary care	Optum
7523	Primary care	Optum
1345	Primary care	Optum
7599	Primary care	Optum
6771	Primary care	Optum
1515	Primary care	Optum
832	Primary care	Optum
7432	Primary care	Optum
6617	Primary care	Optum
6799	Primary care	Optum
5933	Primary care	Optum
833	Primary care	Optum
835	Primary care	Optum
834	Primary care	Optum
7105	Primary care	Optum

Supplemental table 4. Upper gastrointestinal malignancy risk factors/signs codes

<u>Code</u>	<u>Description</u>	<u>Code type</u>
V160	Family history of GI cancer	ICD9
Z800	Family history of GI cancer	ICD10
27800	Obesity	ICD9
27801	Obesity	ICD9
27803	Obesity	ICD9
V8530	Obesity	ICD9
V8531	Obesity	ICD9
V8532	Obesity	ICD9
V8533	Obesity	ICD9
V8534	Obesity	ICD9
V8535	Obesity	ICD9
V8536	Obesity	ICD9
V8537	Obesity	ICD9
V8538	Obesity	ICD9
V8539	Obesity	ICD9
V8541	Obesity	ICD9
V8542	Obesity	ICD9
V8543	Obesity	ICD9
V8544	Obesity	ICD9
V8545	Obesity	ICD9
E6601	Obesity	ICD10
E662	Obesity	ICD10
Z6830	Obesity	ICD10
Z6831	Obesity	ICD10
Z6832	Obesity	ICD10
Z6833	Obesity	ICD10
Z6834	Obesity	ICD10
Z6835	Obesity	ICD10
Z6836	Obesity	ICD10
Z6837	Obesity	ICD10
Z6838	Obesity	ICD10
Z6839	Obesity	ICD10
Z6841	Obesity	ICD10
Z6842	Obesity	ICD10
Z6843	Obesity	ICD10
Z6844	Obesity	ICD10
Z6845	Obesity	ICD10

<u>Code</u>	<u>Description</u>	<u>Code type</u>
3051	Tobacco use	ICD9
V1582	Tobacco use	ICD9
F17200	Tobacco use	ICD10
F17201	Tobacco use	ICD10
F17203	Tobacco use	ICD10
F17208	Tobacco use	ICD10
F17209	Tobacco use	ICD10
F17210	Tobacco use	ICD10
F17211	Tobacco use	ICD10
F17213	Tobacco use	ICD10
F17218	Tobacco use	ICD10
F17219	Tobacco use	ICD10
F17220	Tobacco use	ICD10
F17221	Tobacco use	ICD10
F17223	Tobacco use	ICD10
F17228	Tobacco use	ICD10
F17229	Tobacco use	ICD10
F17290	Tobacco use	ICD10
F17291	Tobacco use	ICD10
F17293	Tobacco use	ICD10
F17298	Tobacco use	ICD10
F17299	Tobacco use	ICD10
Z87891	Tobacco use	ICD10

Supplemental table 5. Gastrointestinal signs/symptoms codes

<u>Code</u>	<u>Description</u>	<u>Code type</u>
78900	Abdominal pain	ICD9
78901	Abdominal pain	ICD9
78902	Abdominal pain	ICD9
78903	Abdominal pain	ICD9
78904	Abdominal pain	ICD9
78905	Abdominal pain	ICD9
78906	Abdominal pain	ICD9
78907	Abdominal pain	ICD9
78909	Abdominal pain	ICD9
R1010	Abdominal pain	ICD10
R1011	Abdominal pain	ICD10
R1012	Abdominal pain	ICD10
R1013	Abdominal pain	ICD10
R1030	Abdominal pain	ICD10
R1031	Abdominal pain	ICD10
R1032	Abdominal pain	ICD10
R1033	Abdominal pain	ICD10
R1084	Abdominal pain	ICD10
R109	Abdominal pain	ICD10
5645	Diarrhea	ICD9
0092	Diarrhea	ICD9
0093	Diarrhea	ICD9
78791	Diarrhea	ICD9
K591	Diarrhea	ICD10
A09	Diarrhea	ICD10
R197	Diarrhea	ICD10
78720	Dysphagia	ICD9
78721	Dysphagia	ICD9
78722	Dysphagia	ICD9
78723	Dysphagia	ICD9
78724	Dysphagia	ICD9
78729	Dysphagia	ICD9
R1310	Dysphagia	ICD10
R1311	Dysphagia	ICD10
R1312	Dysphagia	ICD10
R1313	Dysphagia	ICD10
R1314	Dysphagia	ICD10

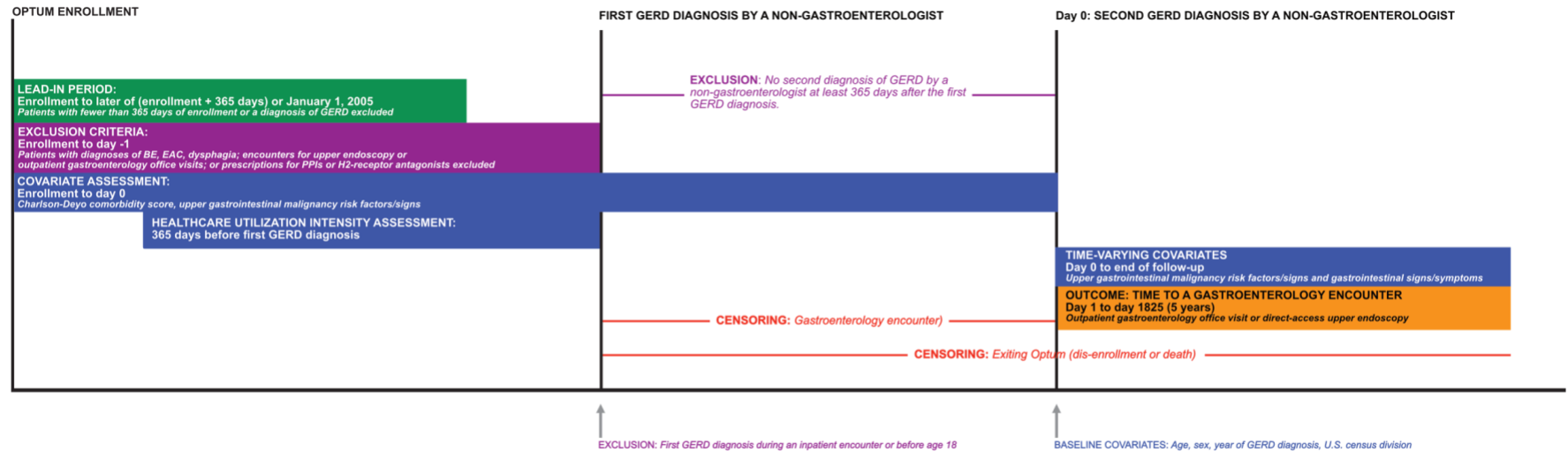
<u>Code</u>	<u>Description</u>	<u>Code type</u>
R1319	Dysphagia	ICD10
78701	Nausea and vomiting	ICD9
78702	Nausea and vomiting	ICD9
78703	Nausea and vomiting	ICD9
78704	Nausea and vomiting	ICD9
R110	Nausea and vomiting	ICD10
R1110	Nausea and vomiting	ICD10
R1111	Nausea and vomiting	ICD10
R1112	Nausea and vomiting	ICD10
R1113	Nausea and vomiting	ICD10
R1114	Nausea and vomiting	ICD10
R1115	Nausea and vomiting	ICD10
R112	Nausea and vomiting	ICD10
5693	Melena/rectal bleeding	ICD9
5781	Melena/rectal bleeding	ICD9
5789	Melena/rectal bleeding	ICD9
K625	Melena/rectal bleeding	ICD10
K921	Melena/rectal bleeding	ICD10
K922	Melena/rectal bleeding	ICD10
260	Weight loss	ICD9
261	Weight loss	ICD9
262	Weight loss	ICD9
2630	Weight loss	ICD9
2631	Weight loss	ICD9
2632	Weight loss	ICD9
2638	Weight loss	ICD9
2639	Weight loss	ICD9
78321	Weight loss	ICD9
78322	Weight loss	ICD9
E40	Weight loss	ICD10
E41	Weight loss	ICD10
E42	Weight loss	ICD10
E43	Weight loss	ICD10
E440	Weight loss	ICD10
E441	Weight loss	ICD10
E45	Weight loss	ICD10
E46	Weight loss	ICD10
R634	Weight loss	ICD10
R64	Weight loss	ICD10

Supplemental table 6. Sensitivity analysis—Multivariable Cox proportional hazards regression model describing patient factors associated with completion of a gastroenterology encounter in the expanded GERD cohort (n = 1,391,537)

	aHR	95% CI
Demographics		
Age (ref: 50-59)		
18-29	0.57	(0.53 - 0.61)
30-39	0.62	(0.60 - 0.65)
40-49	0.75	(0.73 - 0.76)
60-69	0.97	(0.95 - 0.99)
70-79	0.90	(0.88 - 0.91)
80+	0.71	(0.66 - 0.77)
Female	1.04	(1.02 - 1.05)
Race/ethnicity (ref: White)		
Asian	0.96	(0.93 - 0.99)
Black	0.90	(0.88 - 0.92)
Hispanic	0.91	(0.88 - 0.93)
Unknown	1.05	(1.02 - 1.09)
Year of GERD diagnosis	1.00	(0.99 - 1.02)
Charlson-Deyo score	0.99	(0.98 - 0.99)
High-dimensional utilization score	0.99	(0.99 - 0.99)
Upper gastrointestinal malignancy risk factors/signs		
Family history of gastrointestinal cancer	1.33	(1.27 - 1.40)
<i>Helicobacter pylori</i> infection	1.39	(1.31 - 1.47)
Iron deficiency anemia	1.58	(1.57 - 1.60)
Obesity	1.43	(1.41 - 1.46)
Tobacco use	1.48	(1.46 - 1.50)
Gastrointestinal signs/symptoms		
Abdominal pain	2.15	(2.09 - 2.21)
Diarrhea	1.43	(1.39 - 1.46)
Dysphagia	2.30	(2.12 - 2.49)
Nausea/vomiting	1.50	(1.46 - 1.55)
Melena/rectal bleeding	1.89	(1.81 - 1.98)
Weight loss	1.54	(1.51 - 1.57)

Caption: The model was also adjusted for U.S. census division (data not shown)

Supplemental figure 1. Study design diagram

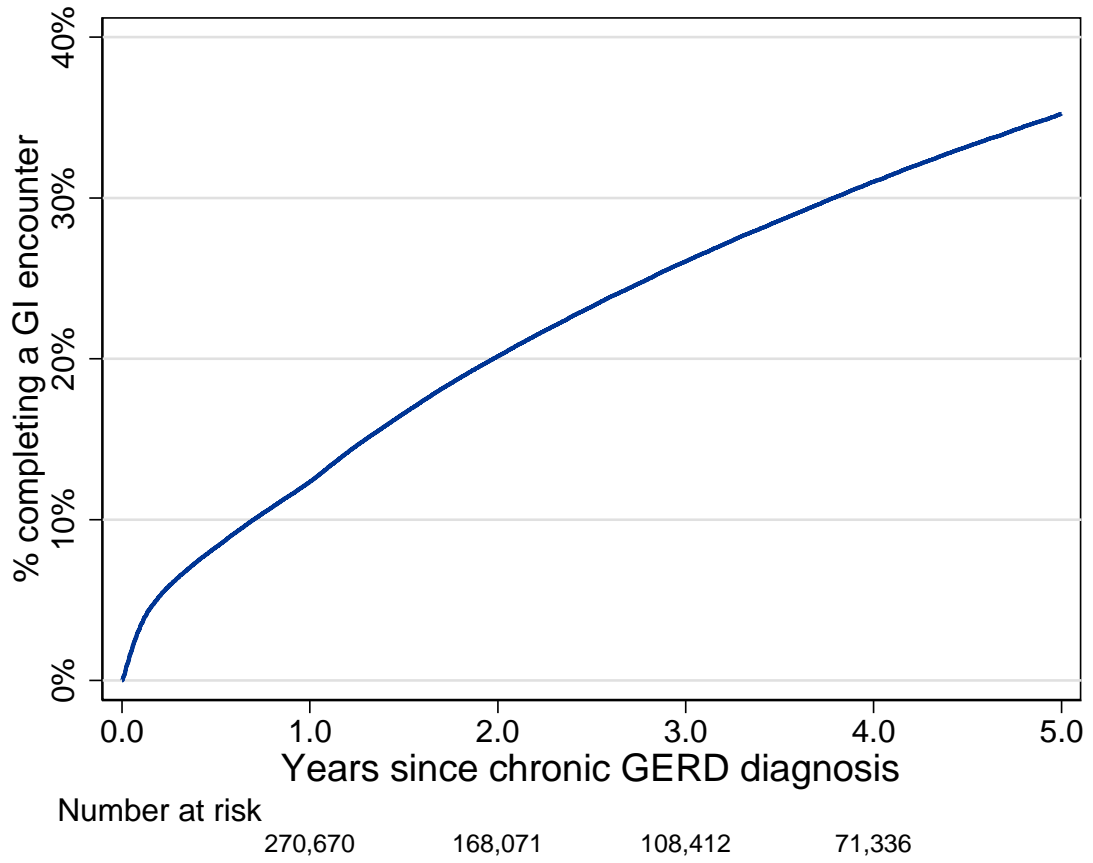


Abbreviations: PPI—proton pump inhibitor

Upper gastrointestinal malignancy risk factors/signs: Family history of gastrointestinal cancer (surrogate for family history of EAC), *Helicobacter pylori* infection, iron deficiency anemia, obesity, and tobacco smoking

Gastrointestinal signs/symptoms: Abdominal pain, diarrhea, dysphagia, nausea/vomiting, melena/rectal bleeding, and weight loss

Supplemental figure 2. Kaplan-Meier time to encounter with a gastroenterology provider after a diagnosis of chronic GERD (n = 484,023)



Supplemental figure 3. Sensitivity analysis—Kaplan-Meier time to encounter with a gastroenterology provider in the expanded GERD cohort (n = 1,391,537)

