Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Procedural Codes Relevant for HS		
Name of procedure	**Code of procedure**	**Number of times performed**
Likely HS procedural codes		
Incision and drainage of abscess in mamma	KTHA40	2930 times
Incision of pilonidal cyst	KQBA10B	10684 times
Minor incision of soft tissue in pelvic	KTNE05	34 times
Incision of perianal abscess	KJHA00A	17167 times
Incision in vulva and perineum	KLFA00	15742 times
Less likely HS procedural codes		
Incision of skin on the upper limb	KQCA10	18488 times
Incision of skin without further specification of localization	KQXA10	356 times
Insertion of surgical drain into the subcutaneous skin of the upper limb	KQCA10A	120 times
LEGEND: Distribution of the chosen procedural codes used in the algorithm to define ‘proxy HS’.		

eTable 2.
How Common the Trajectories with Min 100 Patients (4.55%) Found Through *ICD-10* Codes Alone, are Amongst Those Identified by the Procedure Codes Algorithm

ICD-10 Identified			Procedure codes			Procedure codes minus K61 & L05		
Place	**Trajectory by ICD-10 codes**	**N (%) amongst ICD-10 codes trajectories**	**Trajectory placed amongst top X trajectories**	**Place If trajectory order of HS did not matter**	**That trajectory order is**	**Trajectory placed amongst top X trajectories**	**Place If trajectory order of HS did not matter**	**That trajectory order is**
1	L02:L73:E66	423 (3.55)	21.75 %			13.29 %		
2	L02:L73:I10	375 (3.14)		15.19 %	L02:I10:L76		8.74 %	L02:I10:L76
3	L02:L73:F17	279 (2.34)	23.83 %			15.77 %		
4	L02:L73:E11	238 (2.0)	39.67 %			29.09 %		
5	L02:L73:J18	219 (1.84)	49.12 %			38.43 %		
6	L02:L73:E78	211 (1.77)	Not part of the trajectories			Not part of the trajectories		
7	F10:L02:L73	206 (1.73)	6.68 %			2.6 %		
8	R10:N76:L73	175 (1.47)	1.36 %			1.94 %		
9	L02:L73:J44	172 (1.44)	82.36 %			77.57 %		
10	F43:F60:L73	159 (1.33)	82.36 %			77.57 %		
11	L02:L73:G56	158 (1.32)	43.85 %			33.19 %		
12	M62:L02:L73	158 (1.32)	11.53 %			5.5 %		
13	L73:I21:I25	149 (1.25)	Not part of the trajectories			Not part of the trajectories		
14	N92:L02:L73	147 (1.23)	12.42 %			6.35 %		
15	L73:E66:R52	140 (1.17)	Not part of the trajectories			Not part of the trajectories		
16	L73:I10:J18	138 (1.16)	Not part of the trajectories			Not part of the trajectories		
17	J45:L02:L73	136 (1.14)	12.12 %			5.92 %		
18	L73:I10:R06	134 (1.12)	Not part of the trajectories			Not part of the trajectories		
19	J35:L02:L73	133 (1.11)	16.16 %			9.44 %		
20	L02:L73:G47	128 (1.07)	Not part of the trajectories			Not part of the trajectories		
21	L73:I10:R07	127 (1.06)	Not part of the trajectories			Not part of the trajectories		
22	F60:L02:L73	126 (1.06)	18.99 %			11.6 %		
23	L02:L73:D12	123 (1.03)	Not part of the trajectories			Not part of the trajectories		
24	L73:E11:E10	121 (1.01)		9.17 %	E11:E10:L76		3.13 %	E11:E10:L76
25	L02:L73:I25	118 (0.99)	Not part of the trajectories			Not part of the trajectories		
26	N76:L73:E66	118 (0.99)	28.86 %			19.55 %		
27	L73:J18:J96	116 (0.97)	Not part of the trajectories			Not part of the trajectories		
28	L73:E66:R06	108 (0.91)	Not part of the trajectories			Not part of the trajectories		
29	L73:J18:R06	105 (0.88)	Not part of the trajectories			Not part of the trajectories		
30	F32:F60:L73	104 (0.87)	Not part of the trajectories			Not part of the trajectories		
31	E10:L02:L73	102 (0.86)	14.40 %			8.36 %		
32	L73:J44:J96	102 (0.86)	Not part of the trajectories			Not part of the trajectories		
33	N97:L02:L73	101 (0.85)	22.65 %			14.32 %		
In total:	19 out of 33 trajectories could be found amongst the procedure patients – they make up 66.29 %							
	Average trajectory placed amongst top			52.59 %		46.93 %		
	For those trajectories that could be found			26.98 %		19.95 %		

LEGEND: How common the trajectories clustered in Figure 1 are amongst the trajectories found through the algorithm, and an algorithm-subgroup where ICD-10 diagnoses L05 and K61 are removed.

eTable 3. How Common the Trajectories With Min 23 Patients (11.31%) Found Through the Procedure Code Algorithm, are Amongst Those Identified by *ICD-10* Codes Alone.

Procedure codes			ICD-10 Identified		
Place	**Trajectory from algorithm defined group**	**N (%) amongst ICD-10 codes trajectories**	**Trajectory placed amongst top X trajectories**	**Place If trajectory order of HS did not matter**	**That trajectory order is**
1	R10:N76:L76	146 (5.23)	1.77 %		
2	F10:K61:L76	89 (3.19)	7.66 %		
3	M62:K61:L76	71 (2.54)	14.37 %		
4	J35:L05:L76	63 (2.26)	33.08 %		
5	J45:L05:L76	62 (2.22)	48.1 %		
6	K51:K61:L76	62 (2.22)	40.06 %		
7	I84:K61:L76	61 (2.19)	34.71 %		
8	K61:R10:L76	59 (2.11)	Not part of the trajectories		
9	J35:K61:L76	56 (2.01)	45.49 %		
10	F10:L02:L76	50 (1.79)	1.62 %		
11	H10:K61:L76	50 (1.79)	39.68 %		
12	F10:L05:L76	46 (1.65)	11.91 %		
13	K61:K60:R62	46 (1.65)	Not part of the trajectories		
14	A09:L05:L76	44 (1.57)	65.47 %		
15	M22:K61:L76	43 (1.54)	35.16 %		
16	E11:E10:L76	40 (1.43)		3.36 %	L73:E11:E10
17	K51:K61:K60	39 (1.40)	40.06 %		
18	R10:F32:L76	38 (1.36)	Not part of the trajectories		
19	K61:K60:E66	37 (1.33)	28.84 %		
20	J45:R10:L76	36 (1.29)	Not part of the trajectories		
21	F10:R10:L76	35 (1.25)	Not part of the trajectories		
22	R10:M79:L76	35 (1.25)	Not part of the trajectories		
23	M62:L02:L76	34 (1.22)	2.31 %		
24	F60:K61:L76	32 (1.15)	17.91 %		
25	J45:L02:L76	32 (1.15)	2.9 %		
26	N92:L02:L76	32 (1.15)	2.55 %		
27	F10:N76:L76	31 (1.11)	17.02		
28	J35:N76:L76	31 (1.11)	17.97		
29	K35:L05:L76	31 (1.11)	58.88 %		
30	K50:L02:L76	31 (1.11)	12 %		
31	H65:L05:L76	30 (1.07)	62.53 %		
32	N70:N76:L76	30 (1.07)	20.29 %		
33	E10:L02:L76	29 (1.04)	4.28 %		
34	L05:N76:L76	29 (1.04)	14.78 %		
35	H65:K61:L76	28 (1.00)	39.7 %		
36	L02:I10:L76	28 (1.00)		0.66 %	L02:L73:I10
37	M23:R10:L76	28 (1.00)	Not part of the trajectories		
38	F10:K61:K60	26 (0.93)	18.61 %		
39	M22:L05:L76	26 (0.93)	43.15 %		
40	J35:L02:L76	25 (0.90)	3.12 %		
41	K61:R10:R52	25 (0.90)	Not part of the trajectories		
42	M62:K61:F17	25 (0.90)	23.37 %		
43	R10:N76:L73	25 (0.90)	1.77 %		
44	M22:N76:L76	24 (0.86)	20.21 %		
45	F10:K61:F17	23 (0.82)	15.5 %		
46	H10:L05:L76	23 (0.82)	47.76 %		
47	I84:K61:K60	23 (0.82)	70.54 %		
48	I84:L02:L76	23 (0.82)	7.77 %		
49	K35:K61:L76	23 (0.82)	42.51 %		
50	K35:L02:L76	23 (0.82)	7.12 %		
51	K51:L02:L76	23 (0.82)	13.21 %		
52	M62:I10:L76	23 (0.82)		7.31 %	M62:L73:I10
In total:	44 out of 52 trajectories could be found amongst the ICD-10 patients – they make up 85.08 %				

	Average trajectory placed amongst top	34.63 %
	For those trajectories that could be found	23.16 %
LEGEND: How common the trajectories clustered in Figure 2 are amongst the trajectories found solely through ICD-10 codes alone		

eTable 4. Differences in Diagnosis Received for the Deceased vs. Those Alive in the *ICD-10* Group by the End of the Study

Variables	Deceased HS patients	HS patients alive at end of study	Subgroup alive and older than 52 years by the end of study
Amount	954	10,975	4,098
Age at death / end of study for those still alive, median (IQR)	59 (50.7 : 68.7)	47.7 (38.6 : 56.5)	59.6 (55.3 : 65.5)
Diagnose I21, n (%)	100 (10.48)	266 (2.42)	192 (4.69)
Diagnose I25, n (%)	162 (16.98)	387 (3.53)	306 (7.47)
Diagnose J44, n (%)	225 (23.58)	524 (4.77)	408 (9.96)
Diagnose J18, n (%)	320 (33.54)	843 (7.68)	457 (11.15)
Diagnose J96, n (%)	170 (17.82)	185 (1.69)	128 (3.12)

LEGEND: The subgroup alive and older than 52 by the end of the study were created to best match the deceased patients of the ICD-10 group

eTable 5. Differences in Diagnosis Received for the Deceased vs Those Alive in the Proxy Group by the End of the Study

Variables	Deceased HS patients	HS patients alive at end of study	Subgroup alive and older than 59 years by the end of study
Amount	136	2,655	383
Age at death / end of study for those still alive, median (IQR)	66.3 (55.7 : 77.5)	40.5 (30 : 52.5)	66.1 (62.1 : 67.2)
Diagnose I21, n (%)	23 (16.91)	63 (2.37)	36 (9.40)
Diagnose I25, n (%)	27 (19.85)	75 (2.82)	48 (12.53)
Diagnose J44, n (%)	34 (25)	90 (3.39)	37 (9.66)
Diagnose J18, n (%)	37 (27.21)	177 (6.67)	51 (13.32)
Diagnose J96, n (%)	22 (16.18)	36 (1.36)	14 (3.66)

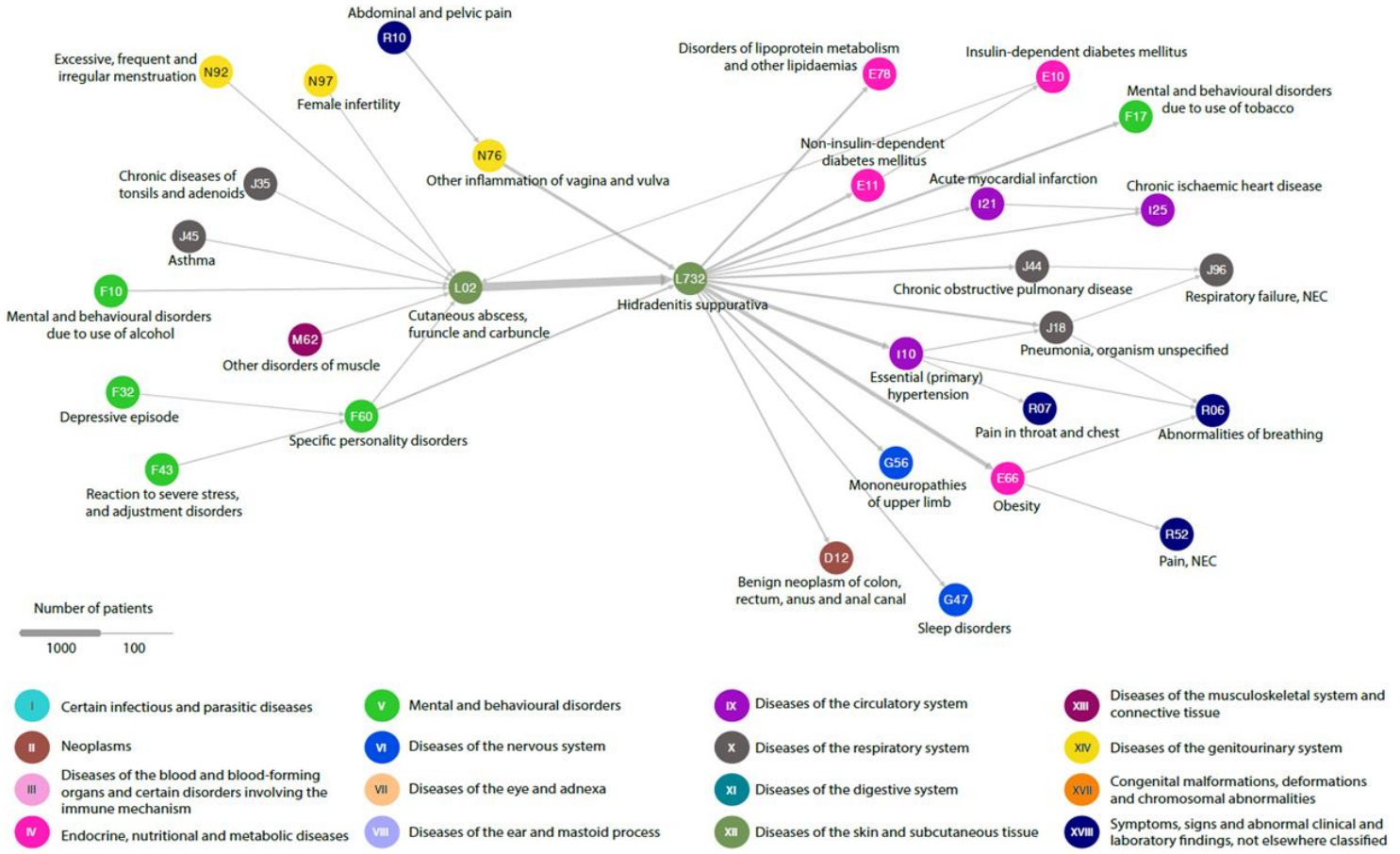
LEGEND: The subgroup alive and older than 59 by the end of the study were created to best match the deceased patients of the proxy group

eTable 6. Disease Development and Yearly Rates in the Procedure Group Based on Follow-up Time and Matched With the *ICD-10* Group

	Procedure patients, N = 2,791		**Subgroup of procedure patients*, N = 1225**		**ICD-10 codes patients, N = 11,929**	
ICD-10 codes & names	**N (%) [risk of occurrence per person-year]**	**N after HS diagnosis (% of total) [risk of occurrence per person-year]**	**N (%) [risk of occurrence per person-year]**	**N after HS diagnosis, (% of total) [risk of occurrence per person-year]**	**N (%) [risk of occurrence per person-year]**	**N after HS diagnosis (% of total) [risk of occurrence per person-year]**
Years followed	67,737	16,193	29,731	12,758	289,517	138,225
I21 Acute myocardial infarction	86 (3.08) [0.13]	45 (52) [0.28]	43 (3.51) [0.14]	32 (74) [0.25]	366 (3.07) [0.13]	210 (57) [0.15]
I25 Chronic ischemic heart disease	102 (3.65) [0.15]	58 (57) [0.36]	49 (4) [0.16]	30 (61) [0.23]	549 (4.60) [0.19]	306 (56) [0.22]
J44 Chronic obstructive pulmonary disease	124 (4.44) [0.18]	78 (63) [0.48]	60 (4.90) [0.20]	39 (65) [0.31]	749 (6.28) [0.26]	416 (56) [0.30]
J18 Pneumonia	214 (7.67) [0.32]	115 (54) [0.71]	96 (7.84) [0.32]	69 (72) [0.54]	1163 (9.75) [0.40]	631 (54) [0.46]
J96 Respiratory failure	58 (2.08) [0.09]	37 (64) [0.23]	24 (1.96) [0.08]	15 (63) [0.12]	355 (2.98) [0.12]	187 (53) [0.14]
R06 Abnormalities of breathing	204 (7.31) [0.30]	124 (61) [0.77]	88 (7.18) [0.30]	54 (61) [0.42]	1007 (8.44) [0.35]	551 (55) [0.40]
R07 Pain in throat and chest	151 (5.41) [0.22]	89 (59) [0.55]	78 (6.37) [0.26]	50 (64) [0.39]	685 (5.74) [0.24]	373 (54) [0.27]
G56 Mononeuropathies in upper limb	150 (5.37) [0.22]	81 (54) [0.50]	93 (7.59) [0.31]	62 (67) [0.49]	960 (8.05) [0.33]	547 (57) [0.40]
G47 Sleep disorders	94 (3.37) [0.14]	43 (46) [0.27]	42 (3.43) [0.14]	30 (71) [0.23]	554 (4.64) [0.19]	306 (55) [0.22]
E78 Disorders of lipoprotein metabolism	173 (6.20) [0.26]	99 (57) [0.61]	86 (7.02) [0.29]	56 (65) [0.44]	907 (7.60) [0.31]	498 (55) [0.36]
D12 Benign neoplasm of colon, rectum, anus and anal canal	112 (4.01) [0.17]	63 (56) [0.39]	47 (3.84) [0.16]	27 (57) [0.21]	569 (4.77) [0.20]	312 (55) [0.23]

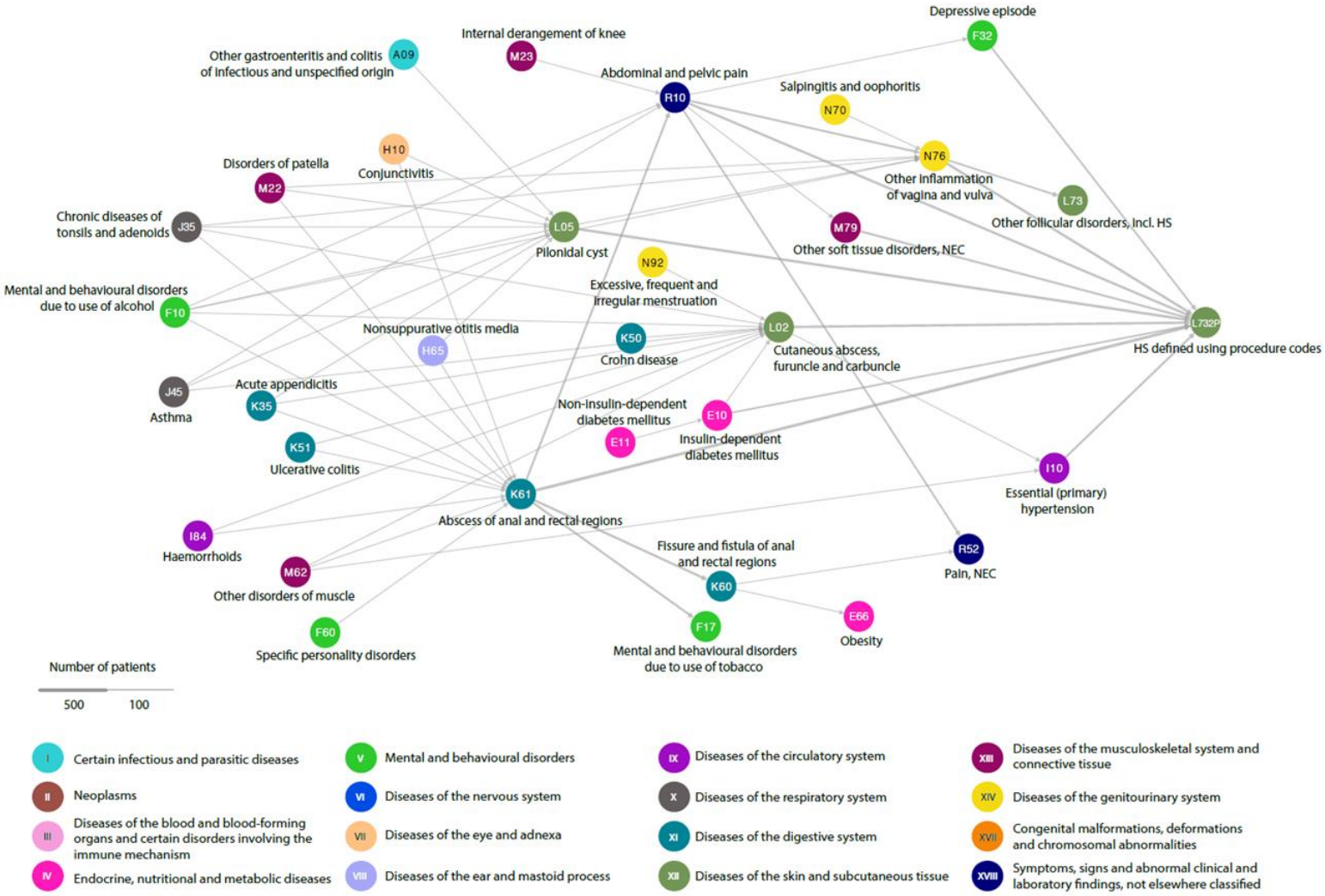
LEGEND: Full list of ICD-10 codes the same as Table 2, * the 1225 procedure patients who were followed the longest after their proxy-HS-diagnosis have a median follow period of 10.4 years, and inter quartile range of 7.08 : 13.69 years.

eFigure 1. Disease Trajectory Network Experienced by the HS Group Identified From the Danish National Patient Registry



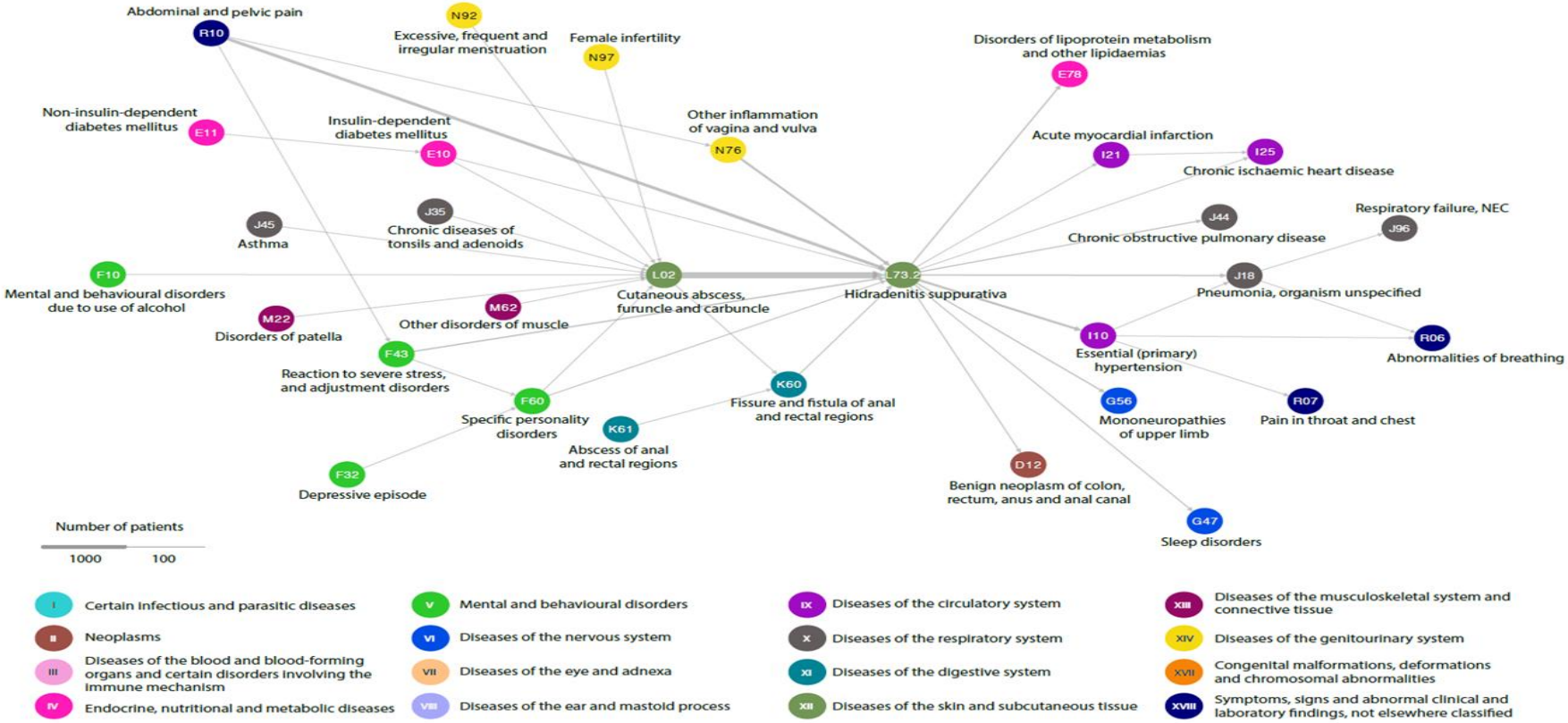
LEGEND: The temporal relationship of diseases experienced by patients with HS. All diseases that are part of the trajectory network are represented as orbs with the arrows connecting them representing the temporal manifestation and arrow width the number of patients following the trajectory.

eFigure 2. Disease Trajectory Network Experienced by the Proxy HS Group Identified Through the Algorithm



LEGEND: The temporal relationship of diseases experienced by patients with HS. All diseases that are part of the trajectory network are represented as orbs with the arrows connecting them representing the temporal manifestation and arrow width the number of patients following the trajectory.

eFigure 3. *ICD10* HS Group Where the Diagnosis of HS Were Artificially Delayed by 6 Months



LEGEND: The temporal relationship of diseases experienced by patients with HS. The eFigure is similar to eFigure 1 but the time of HS diagnosis have been delayed 6 months to make comparison with the trajectories found in eFigure 2 easier.