SUPPLEMENTAL MATERIAL

Table S1. Dutch Lipid Clinic Network diagnostic criteria for familial hypercholesterolemia*.

Supplementary Table S1 : Dutch Lipid Clinic Network diagnostic criteria for familial hypercholesterolemia*		
Criteria		Points
Family history	First-degree relative with known premature (men: <55 years; women: <60 years) coronary and vascular disease, or First-degree relative with known LDLC† above the 95th percentile	1
	First-degree relative with tendinous xanthomata and/or arcus cornealis, or Children aged less than 18 years with LDLC above the 95th percentile	2
Clinical history	Patient with premature (men: <55 years; women: <60 years) coronary artery disease	2
	Patient with premature (men: <55 years; women: <60 years) cerebral or peripheral vascular disease	1
Physical examination	Tendinous xanthomata	6
	Arcus cornealis prior to age 45 years	4
Cholesterol levels (mmol/liter)	LDLC, ≥8.5	8
	LDLC, 6.5–8.4	5
	LDLC, 5.0–6.4	3
	LDLC, 4.0–4.9	1
DNA analysis	Functional mutation in the *LDLR* gene	8
Diagnosis (diagnosis is based on the total number of points obtained)		
A "definite" FH† diagnosis requires more than 8 points		
A "probable" FH diagnosis requires 6–8 points		
A "possible" FH diagnosis requires 3–5 points		
* World Health Organization. Familial hypercholesterolemia—report of a second WHO Consultation. Geneva, Switzerland: World Health Organization, 1999. (WHO publication no. WHO/HGN/FH/CONS/99.2). (15).		
† LDLC, low density lipoprotein cholesterol; FH, familial hypercholesterolemia.		

Table S2. EHR based algorithm based on Dutch Lipid Clinic Network criteria to identify familial hypercholesterolemia.

Dutch Lipid Clinic Network Criteria	Implementation
First-degree relative with premature coronary and/or vascular disease (men ≤ 55 years, women ≤ 60 years)	- Searched for 'Heart Disease' in family history (not limited to first-degree relatives as this information was not always available)
	- Searched for 'Family history of premature heart disease' in problem list
First-degree relative with known LDL-C ≥ 95th percentile for age and sex	- Searched for 'Family history of hyperlipidemia in problem list
First-degree relative with tendon xanthomata and/or arcus cornealis,	- Data unavailable
Children aged ≤ 18 years with known LDL-C ≥ 95th percentile for age and sex	Used known mother/child links (available since 2010) to search for children with LDL ≥ 95th percentile (LOINC: 13457-7, 18262-6, 2089-1, 55440-2 and lab result value between 230 and 90000.
Clinical History	
Patient with premature coronary artery disease (men ≤ 55 years, women ≤ 60 years)	Used electronic phenotyping to identify patients with premature coronary artery disease. Used P004 to pull these patients. A previously validated algorithm.
Patient with premature cerebral or peripheral vascular disease (men ≤ 55 years, women ≤ 60 years)	Searched for ICD9 diagnosis codes in encounters and problem list (PVD: 249.7, 249.70, 249.71, 250.70, 250.71, 250.73, 440.20, 440.21, 440.22, 440.23, 440.24, 443, 443.0, 443.1, 443.2, 443.21, 443.22, 443.23, 443.24, 443.29, 443.8, 443.81, 443.82, 443.89, 443.9, V12.59 CVD: 199.1, 436, 437, 437.0, 437.1, 437.8, 437.9, 438, 438.0, 438.1, 438.10, 438.11, 438.12, 438.13, 438.14, 438.19, 438.2, 438.20, 438.21, 438.22, 438.3, 438.30, 438.31, 438.32, 438.4, 438.40, 438.41, 438.42, 438.5, 438.50, 438.51, 438.52, 438.53, 438.6, 438.7, 438.8, 438.81, 438.82, 438.83, 438.84, 438.85, 438.89, 438.9, 674.0, 674.00, 674.02, V12.59) Patients had to have two or more diagnoses in their EHR.
Physical Examination	
Tendon xanthomata	

	Searched for ICD9 diagnosis codes in encounters and problem list (272.7). Patients had to have two or more diagnoses in their EHR.
Arcus cornealis at age ≤ 45 years	Searched for ICD9 diagnosis codes in encounters and problem list (371.41)
LDL-C (mg/dl)	
	- Used maximum lifetime outpatient LDL-C level
LDL-C < 155	
155 ≥ LDL-C < 189	
190 ≥ LDL-C < 249	
250 ≥ LDL-C < 329	
LDL-C ≥ 330	
DNA Analysis – functional variant in *LDLR*, *APOB* or *PCSK9* gene	
LDLR	
APOB	
PCSK9	

Table S3. Count of Patients Meeting Each Definition.

Dutch Lipid Clinic Network Criteria	Points	Meeting criteria in EHR, N (%)	Not meeting criteria in EHR, N (%)	Implemented using Modified criteria (below)
First-degree relative with premature coronary and/or vascular disease (men ≤ 55 years, women ≤ 60 years)	1	108,742 (45.70%)	129,161 (54.29%)	Searched for 'Heart Disease' in family history (not limited to first-degree relatives as this information was not always available) Searched for 'Family history of premature heart disease' in problem list
First-degree relative with known LDL-C ≥ 95th percentile for age and sex	1	15 (0.00%)*	237,888 (99.99%)	Searched for 'Family history of hyperlipidemia in problem list
First-degree relative with tendon xanthomata and/or arcus cornealis	2	N/A	N/A	Data unavailable
Children aged ≤ 18 years with known LDL-C ≥ 95th percentile for age and sex	2	0 (0.00%)*	237,903 (100.00%)	Used known mother/child links (available since 2010) to search for children with LDL ≥ 95th percentile (LOINC: 13457-7, 18262-6, 2089-1, 55440-2 where lab value between 230 AND 90000)

Clinical History				
Patient with premature coronary artery disease (men ≤ 55 years, women ≤ 60 years)	2	9,809 (4.12%)	228,094 (95.87%)	Used electronic phenotyping to identify patients with premature coronary artery disease. Used P004 to pull these patients
Patient with premature cerebral or peripheral vascular disease (men ≤ 55 years, women ≤ 60 years)	1	2,722 (1.14%)	235,181 (98.85%)	Searched for ICD9 diagnosis codes in encounters and problem list (PVD: 249.7, 249.70, 249.71, 250.70, 250.71, 250.73, 440.20, 440.21, 440.22, 440.23, 440.24, 443, 443.0, 443.1, 443.2, 443.21, 443.22, 443.23, 443.24, 443.29, 443.8, 443.81, 443.82, 443.89, 443.9, V12.59 CVD: 199.1, 436, 437, 437.0, 437.1, 437.8, 437.9, 438, 438.0, 438.1, 438.10, 438.11, 438.12, 438.13, 438.14, 438.19, 438.2, 438.20, 438.21, 438.22, 438.3, 438.30, 438.31, 438.32, 438.4, 438.40, 438.41, 438.42, 438.5, 438.50, 438.51, 438.52, 438.53, 438.6, 438.7, 438.8, 438.81, 438.82, 438.83, 438.84, 438.85, 438.89, 438.9, 674.0, 674.00, 674.02, V12.59) Patients had to have two or more diagnoses in their EHR.

Physical Examination				
Tendon xanthomata	6	27 (0.00%)*	237,876 (99.99%)	Searched for ICD9 diagnosis codes in encounters and problem list (272.7). Patients had to have two or more diagnoses in their EHR.
Arcus cornealis at age ≤ 45 years	4	1 (0.00%)*	237,902 (99.99%)	Searched for ICD9 diagnosis codes in encounters and problem list (371.41). Patients had to have two or more diagnoses in their EHR.
LDL-C (mg/dl)				
None recorded	-	9,573 (4.02%)	-	Used maximum lifetime outpatient LDL-C level (LOINC 13457-7, 18262-6, 2089-1, 55440-2)
LDL-C < 155	0	138,351 (58.12%)	-	
155 ≥ LDL-C < 189	1	61,955(26.04%)	-	
190 ≥ LDL-C < 249	3	25,494 (10.72%)	-	
250 ≥ LDL-C < 329	5	2,178 (0.92%)	-	

LDL-C ≥ 330	8	352 (0.15%)	-	
DNA Analysis – functional variant in *LDLR*, *APOB* or *PCSK9* gene (variant data was not available for the entire cohort so %s are not presented).				
LDLR	8	85	-	
APOB	8	76	-	
PCSK9	8	19	-	

Table S4. PPV, NPV, Sensitivity and Specificity to Definitions.

Definition 1	Family history of heart disease			Sensitivity	92.37%
	Def1+	**Def1-**		Specificity	98.32%
Def1+	121	2		PPV	98.37%
Def1-	10	117		NPV	92.13%
	131	119	250	Accuracy	95.20%

Definition 2*	First-degree relative with known LDL-C ≥ 95th percentile for age and sex			Sensitivity	0.00%
	Def2+	**Def2-**		Specificity	100.00%
Def2+	0	0		PPV	N/A
Def2-	2	248		NPV	99.20%
	2	248	250	Accuracy	99.20%

Definition 5	Patient with premature coronary artery disease (men ≤ 55 years, women ≤ 60 years)			Sensitivity	93.94%
	Def5+	**Def5-**		Specificity	99.54%
Def5+	31	1		PPV	96.88%
Def5-	2	216		NPV	99.08%
	33	217	250	Accuracy	98.80%

Definition 6	Patient with premature cerebral or peripheral vascular disease (men ≤ 55 years, women ≤ 60 years)			Sensitivity	92.86%
	Def6+	**Def6-**		Specificity	100.00%
Def6+	13	0		PPV	100.00%
Def6-	1	236		NPV	99.58%
	14	236	250	Accuracy	99.60%

*analysis affected by unavailable data in the EHR for this field so modified criteria (Definition 1) was used

Table S5. PPV, NPV, Sensitivity and Specificity by FH Category.

Broken Down by Groups and Over All					
				Sensitivity	95.16%
	Unlikely+	**Unlikely-**		Specificity	100.00%
Unlikely+	118	0		PPV	100.00%
Unlikely-	6	126		NPV	95.45%
	124	126	250	Accuracy	97.60%
				Sensitivity	100.00%
	Possible+	**Possible-**		Specificity	99.29%
Possible+	110	1		PPV	99.10%
Possible-	0	139		NPV	100.00%
	110	140	250	Accuracy	99.60%
				Sensitivity	100.00%
	Probable+	**Probable-**		Specificity	100.00%
Probable+	13	0		PPV	100.00%
Probable-	0	237		NPV	100.00%
	13	237	250	Accuracy	100.00%
				Sensitivity	100.00%
	Definitive+	**Definitive-**		Specificity	100.00%
Definitive+	2	0		PPV	100.00%
Definitive-	0	248		NPV	100.00%
	2	248	250	Accuracy	100.00%
				Sensitivity	95.42%
	FH All+	**FH All-**		Specificity	99.16%
FH All+	125	1		PPV	99.21%
FH All-	6	118		NPV	95.16%
	131	119	250	Accuracy	97.20%

Table S6. Validation of DLCN-derived EHR FH algorithm by manual chart review.

Ptid	PosNeg	EHR_FH CAT	EHR_FH SCORE	CHART FH_CAT	CHART FH_SCR	DEF1	DEF2	DEF3	DEF4	DEF5	DEF6	DEF7	DEF8	DEF9	DEF10	ValidYN
1	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
2	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
3	0	UNLIKELY	2	POSSIBLE	3	0	0	0	0	1	0	0	0	0	0	0
4	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
5	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
6	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
7	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
8	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
9	1	POSSIBLE	3			1	0	0	0	0	1	0	0	1	0	1
10	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
11	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
12	0	UNLIKELY	2	POSSIBLE	3	0	0	0	0	1	0	0	0	0	0	0
13	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
14	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
15	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
16	0	UNLIKELY	2	POSSIBLE	3	0	0	0	0	1	0	0	0	0	0	0
17	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
18	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
19	1	POSSIBLE	5			0	0	0	0	1	0	0	0	1	0	1
20	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
21	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
22	0	UNLIKELY	2	POSSIBLE	3	0	0	0	0	0	1	0	0	1	0	0
23	0	UNLIKELY	2	POSSIBLE	3	0	0	0	0	1	0	0	0	0	0	0
24	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
25	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
26	0	UNLIKELY	2			0	0	0	0	1	0	0	0	0	0	1
27	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
28	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
29	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
30	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1

31	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
32	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
33	0	UNLIKELY	1	POSSIBLE	3	1	0	0	0	0	0	0	0	0	0	0
34	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
35	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
36	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
37	1	PROBABLE	6			1	0	0	0	0	0	0	0	1	0	1
38	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
39	0	UNLIKELY	2			0	0	0	0	1	0	0	0	0	0	1
40	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
41	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
42	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
43	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
44	1	PROBABLE	6			1	0	0	0	1	1	0	0	1	0	1
45	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
46	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
47	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
48	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
49	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
50	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
51	1	PROBABLE	6			1	0	0	0	1	0	0	0	1	0	1
52	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
53	0	UNLIKELY	2			0	0	0	0	1	0	0	0	0	0	1
54	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
55	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
56	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
57	1	POSSIBLE	4			1	0	0	0	1	1	0	0	1	0	1
58	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
59	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
60	0	UNLIKELY	0	UNLIKELY	1	0	0	0	0	0	0	0	0	0	0	0
61	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
62	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
63	1	POSSIBLE	3			1	0	0	0	0	1	0	0	1	0	1
64	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
65	1	POSSIBLE	5			0	0	0	0	0	0	0	0	1	0	1

66	1	DEFINITIVE	11	DEFINITIVE	9	1	0	0	0	1	0	0	0	1	0	0
67	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
68	0	UNLIKELY	1	UNLIKELY	1	0	0	0	0	0	0	0	0	1	0	0
69	0	UNLIKELY	0	UNLIKELY	1	0	0	0	0	0	0	0	0	0	0	0
70	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
71	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
72	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
73	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
74	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
75	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
76	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
77	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
78	1	POSSIBLE	5			1	0	0	0	0	1	0	0	1	0	1
79	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
80	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
81	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
82	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
83	0	UNLIKELY	1	UNLIKELY	2	1	0	0	0	0	0	0	0	0	0	0
84	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
85	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
86	1	POSSIBLE	4			1	0	0	0	1	0	0	0	1	0	1
87	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
88	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
89	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
90	0	UNLIKELY	1			0	0	0	0	0	0	0	0	1	0	1
91	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
92	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
93	0	UNLIKELY	2			1	0	0	0	0	1	0	0	0	0	1
94	0	UNLIKELY	2			0	0	0	0	1	0	0	0	0	0	1
95	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
96	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
97	0	UNLIKELY	0	UNLIKELY	1	0	0	0	0	0	0	0	0	0	0	0
98	1	PROBABLE	6			1	0	0	0	1	0	0	0	1	0	1
99	0	UNLIKELY	1	UNLIKELY	0	1	0	0	0	0	0	0	0	0	0	0

100	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
101	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
102	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
103	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
104	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
105	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
106	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
107	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
108	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
109	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
110	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
111	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
112	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
113	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
114	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
115	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
116	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
117	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
118	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
119	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
120	0	UNLIKELY	2			0	0	0	0	1	0	0	0	0	0	1
121	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
122	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
123	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
124	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
125	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
126	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
127	0	UNLIKELY	2			1	0	0	0	0	0	0	0	1	0	1
128	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
129	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
130	0	UNLIKELY	0	UNLIKELY	1	0	0	0	0	0	0	0	0	0	0	0
131	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
132	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1
133	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	1
134	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	1

135	0	UNLIKELY	1	UNLIKELY	2	0	0	0	0	0	1	0	0	0	0	0	0
136	0	UNLIKELY	0	UNLIKELY	1	0	0	0	0	0	0	0	0	0	0	0	0
137	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
138	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
139	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
140	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
141	0	UNLIKELY	2			1	0	0	0	0	0	0	0	0	1	0	1
142	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
143	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	0	1
144	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	0	1
145	0	UNLIKELY	2			1	0	0	0	0	0	0	0	0	1	0	1
146	0	UNLIKELY	2			0	0	0	0	0	1	0	0	0	0	0	1
147	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
148	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
149	0	UNLIKELY	0			0	0	0	0	0	0	0	0	0	0	0	1
150	0	UNLIKELY	1			1	0	0	0	0	0	0	0	0	0	0	1
151	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
152	1	PROBABLE	6			1	0	0	0	0	0	0	0	0	1	0	1
153	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
154	1	POSSIBLE	3	UNLIKELY	2	1	0	0	0	0	1	0	0	0	1	0	0
155	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
156	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1
157	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
158	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1
159	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1
160	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1
161	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
162	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1
163	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1
164	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
165	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
166	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
167	1	PROBABLE	6			1	0	0	0	0	0	0	0	0	1	0	1
168	1	POSSIBLE	4			1	0	0	0	0	0	0	0	0	1	0	1
169	1	POSSIBLE	3			0	0	0	0	0	0	0	0	0	1	0	1

170	1	PROBABLE	6			1	0	0	0	0	0	0	0	1	0	1
171	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
172	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
173	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
174	1	POSSIBLE	5			0	0	0	0	0	0	0	0	1	0	1
175	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
176	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
177	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
178	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
179	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
180	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
181	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
182	1	POSSIBLE	3			1	0	0	0	1	1	0	0	0	0	1
183	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
184	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
185	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
186	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
187	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
188	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
189	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
190	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
191	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
192	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
193	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
194	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
195	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
196	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
197	1	POSSIBLE	3			1	0	0	0	1	1	0	0	0	0	1
198	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
199	1	PROBABLE	6			1	0	0	0	1	0	0	0	1	0	1
200	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
201	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
202	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
203	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
204	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1

205	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
206	1	PROBABLE	6			1	0	0	0	0	0	0	0	1	0	1
207	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
208	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
209	1	PROBABLE	7			1	0	0	0	0	1	0	0	1	0	1
210	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
211	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
212	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
213	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
214	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
215	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
216	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
217	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
218	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
219	1	POSSIBLE	5			1	0	0	0	0	1	0	0	1	0	1
220	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
221	1	PROBABLE	8			0	0	0	0	0	0	0	0	1	0	1
222	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
223	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
224	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
225	1	PROBABLE	6			1	0	0	0	0	0	0	0	1	0	1
226	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
227	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
228	1	DEFINITIVE	9			1	0	0	0	0	0	0	0	1	0	1
229	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
230	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
231	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
232	1	POSSIBLE	3			0	0	0	0	1	0	0	0	1	0	1
233	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
234	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
235	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
236	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
237	1	POSSIBLE	3			1	0	0	0	1	0	0	0	0	0	1
238	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1

239	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
240	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
241	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
242	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
243	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
244	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
245	1	PROBABLE	8			0	0	0	0	0	0	0	0	1	0	1
246	1	POSSIBLE	4			1	0	0	0	0	0	0	0	1	0	1
247	1	POSSIBLE	5			0	0	0	0	0	0	0	0	1	0	1
248	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1
249	1	POSSIBLE	4			1	0	0	0	1	0	0	0	1	0	1
250	1	POSSIBLE	3			0	0	0	0	0	0	0	0	1	0	1

Table S7. International Classification of Disease-9 codes used to identify the outcomes.

Diagnosis	ICD 9 Codes
Myocardial Infarction	410.00, 410.0, 410.01, 410.02, 410.1, 410.10, 410.11, 410.12, 410.20, 410.2, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.4, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.7, 410.70, 410.71, 410.72, 410.8, 410.80, 410.81, 410.82, 410.9, 410.90, 410.91, 410.92, 411.0, 412, 429.7, 429.71, 429.79
Heart Failure	398.91, 428.0, 428, 428.1, 428.20, 428.2, 428.21, 428.22, 428.23, 428.3, 428.30, 428.31, 428.32, 428.33, 428.40, 428.4, 428.41, 428.42, 428.43, 428.9
Ischemic Stroke	433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91
PCI	00.66, 17.55, 36.02, 36.03, 36.04, 36.05, 36.06, 36.07, 36.09, 36.01, C9600, C9601, C9602, C9604, C9605, C9606, C9607, G0290
CABG	36.10, 36.11, 36.12, 36.13, 36.14, 36.15, 36.16, 36.19
ICD	89.49, 37.94, 37.95, 37.96, 37.97, 37.98, C1721, C1722, C1777, C1882, C1895, C1896

Table S8. Cost Analysis -DEFINITIVE and PROBABLE categories combined as FH and compared to UNLIKELY (POSSIBLE excluded).

	FH		Non-FH		P-value
	Median	IQR	Median	IQR	
Total adjusted Revenue (2005-2015)	16425	41595	11153	30844	<0.0001
	FH		Non-FH		
Med Net Revenue	Median	IQR	Median	IQR	p-value
2014	1007	2586	860	2152	<0.0001
2015	1065	2709	850	2123	<0.0001

Table S9. Cost Analysis - DEFINITIVE and PROBABLE combined as FH and compared to UNLIKELY and POSSIBLE (combined as Non-FH).

	FH		Non-FH		P-value
	Median	IQR	Median	IQR	
Total adjusted Revenue (2005-2015)	16425	41595	11252	31198	<0.0001
	FH		Non-FH		
Med Net Revenue	Median	IQR	Median	IQR	p-value
2014	1007	2586	864	2171	<0.0001
2015	1065	2709	854	2141	<0.0001