

### Codebook: Clinical Decision Support Randomized Controlled Trial

This codebook lists all of the publicly available data on scan orders, encounters, and provider demographic variables that are necessary to replicate the results presented in "Clinical Decision Support for High-Cost Imaging: A Randomized Clinical Trial" by Doyle et al. (2019). For data sources, please see the User Guide. The codebook has two sections. In the first section, variable name, label, and number of non-missing values are given. Where applicable, notes on variable construction are given immediately following the variable. The second section contains variable names, labels, and descriptive statistics.

#### Dataset: prov\_all\_stats\_sp.dta

#	Variable Name	Variable Label	
1	provider_key	Encrypted provider identifier	3511
2	Iquit_qp	Provider left health system in the quiet period	3511
3	Iquit_qtr1	Provider left health system in study quarter 1	3511
	This variable is equal to 1 if the provider left health system during the first quarter of the study period. It is otherwise equal to zero.		
4	Iquit_qtr2	Provider left health system in study quarter 2	3511
	This variable is equal to 1 if the provider left health system during the second quarter of the study period. It is otherwise equal to zero.		
5	Iquit_qtr3	Provider left health system in study quarter 3	3511
	This variable is equal to 1 if the provider left health system during the third quarter of the study period. It is otherwise equal to zero.		
6	Iquit_qtr4	Provider left health system in study quarter 4	3511
	This variable is equal to 1 if the provider left health system during the fourth quarter of the study period. It is otherwise equal to zero.		
7	Iquit_sp	Provider left health system in the study period	3511
	This variable is equal to 1 if the provider left health system during any quarter of the study period. It is otherwise equal to zero.		
8	consent	Provider consented to randomization	3511
	This variable is equal to 1 if the provider consented to participation in the study and was thus randomized. It is equal to 1 for all 3511 providers in the study sample.		
9	control	Provider is in control group	3511
	This variable is equal to 1 if the provider was randomized into the control group. It is otherwise equal to zero. There were 1,756 providers in the control group and 1,755 in the treatment group.		
10	eligible	Provider was eligible for randomization	3511
	This variable is equal to 1 if the provider was eligible for participation in the study and was thus contacted. It is equal to 1 for all 3511 providers in the study sample.		
11	encounter	Number encounters	3511
	This variable contains the total number of in-person encounters that the provider is associated with during the study period. It is the sum of hospital non-ED, ED, and outpatient in-person encounters. If a provider was not		

associated with any encounters in the study period, the value is 0.

12	encounter_ed	Number encounters in the ED	3511
This variable contains the total number of in-person ED encounters that the provider is associated with during the study period. If a provider was not associated with any encounters in the study period, the value is 0.			
13	encounter_ed_q	QP number encounters in the ED	3511
This variable contains the total number of in-person ED encounters that the provider is associated with during the quiet period. If a provider was not associated with any encounters in the quiet period, the value is 0.			
14	encounter_ip_non_ed	Number encounters in the hospital, non-ED	3511
This variable contains the total number of in-person hospital non-ED encounters that the provider is associated with during the study period. If a provider was not associated with any encounters in the study period, the value is			
15	encounter_ip_non_ed_q	QP number encounters in the hospital, non-ED	3511
This variable contains the total number of in-person hospital non-ED encounters that the provider is associated with during the quiet period. If a provider was not associated with any encounters in the quiet period, the value is			
16	encounter_op	Number encounters in an outpatient setting, non-ED	3511
This variable contains the total number of in-person outpatient encounters that the provider is associated with during the study period. If a provider was not associated with any encounters in the study period, the value is 0.			
17	encounter_op_q	QP number encounters in an outpatient setting	3511
This variable contains the total number of in-person outpatient encounters that the provider is associated with during the quiet period. If a provider was not associated with any encounters in the quiet period, the value is 0.			
18	encounter_q	QP number encounters	3511
This variable contains the total number of in-person encounters that the provider is associated with during the quiet period. It is the sum of hospital non-ED, ED, and outpatient in-person encounters. If a provider was not associated with any encounters in the quiet period, the value is 0.			
19	handoff_strategic_all	Number handoffs to non-randomized and control providers	3511
This variable contains the number of study period scan orders that were handed-off to a non-randomized individual or control provider to place on behalf of the provider responsible for the order. Even if the provider responsible for the order was in the treatment group, he/she would not interact with CDS.			
20	handoff_strategic_all_q	QP number handoffs to non-randomized and control providers	3511
This variable contains the number of quiet period scan orders that were handed-off to a non-randomized individual or control provider to place on behalf of the provider responsible for the order.			
21	handoff_strategic_con	Number handoffs to control providers	3511
This variable contains the number of study period scan orders that were handed-off to a control provider to place on behalf of the provider responsible for the order. Even if the provider responsible for the order was in the treatment group, he/she would not interact with CDS.			
22	handoff_strategic_con_q	QP number handoffs to control providers	3511
This variable contains the number of quiet period scan orders that were handed-off to a control provider to place on behalf of the provider responsible for the order.			
23	handoff_strategic_not_rand	Number handoffs to non-randomized providers	3511
This variable contains the number of study period scan orders that were handed-off to a non-randomized individual to place on behalf of the provider responsible for the order. Even if the provider responsible for the order was in the treatment group, he/she would not interact with CDS.			
24	handoff_strategic_not_rand_q	QP number handoffs to non-randomized providers	3511
This variable contains the number of quiet period scan orders that were handed-off to a non-randomized individual to place on behalf of the provider responsible for the order.			
25	most_enc_ed_q	Provider had most QP encounters in the ED	3511

This variable is 1 if the largest share of the provider's quiet period in-person encounters were in the ED. It is otherwise equal to zero.

26	most_enc_ip_non_ed_q	Provider had most QP encounters in the hospital, non-ED	3511
	This variable is 1 if the largest share of the provider's quiet period in-person encounters were in the hospital, non-ED. It is otherwise equal to zero.		
27	most_enc_op_q	Provider had most QP encounters in an outpatient setting	3511
	This variable is 1 if the largest share of the provider's quiet period in-person encounters were in an outpatient setting or the provider was not associated with any quiet period in-person encounters. It is otherwise equal to zero.		
28	optout	Provider opted-out of randomization	3511
	This variable is equal to 1 if the provider decided to opt-out of the study. It is otherwise equal to zero. Thus, the value is zero for all providers in the study sample.		
29	prov_age_23_27_q	Provider age is in range 23-27	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 23-27, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
30	prov_age_28_32_q	Provider age is in range 28-32	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 28-32, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
31	prov_age_33_37_q	Provider age is in range 33-37	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 33-37, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
32	prov_age_38_42_q	Provider age is in range 38-42	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 38-42, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
33	prov_age_43_47_q	Provider age is in range 43-47	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 43-47, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
34	prov_age_48_52_q	Provider age is in range 48-52	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 48-52, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
35	prov_age_53_57_q	Provider age is in range 53-57	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 53-57, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
36	prov_age_58_62_q	Provider age is in range 58-62	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 58-62, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
37	prov_age_63_67_q	Provider age is in range 63-67	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 63-67, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
38	prov_age_68_85_q	Provider age is in range 68-85	3511
	This variable is equal to 1 if the provider's age at the start of the study period is in the range 68-85, inclusive. Age was missing for one provider, and the value of this variable is equal to -9999. It is otherwise equal to 0.		
39	prov_age_med_below	Provider age is below the median age	3511
	This variable is equal to 1 if the provider's age at the start of the study period is below the median age. It is otherwise equal to 0.		
40	prov_age_med_eq_above	Provider age is equal to or above the median age	3511

This variable is equal to 1 if the provider's age at the start of the study period is equal to or above the median age. It is otherwise equal to 0.

41	provider_age	Provider age at start of study	3510
	This variable contains the provider's age at the start of the study period. It is missing for one provider.		
42	provider_age_miss_q	Missing provider age	3511
	This variable is equal to 1 if the provider's age (variable provider_age) is missing. It is otherwise equal to 0.		
43	provider_degree_CNM_q	Provider degree is CNM	3511
	This variable is equal to 1 if the provider has a Certified Nurse Midwife (CNM) degree. It is otherwise equal to 0.		
44	provider_degree_DO_q	Provider degree is DO	3511
	This variable is equal to 1 if the provider has a Doctor of Osteopathic Medicine (DO) degree. It is otherwise equal to 0.		
45	provider_degree_DPM_q	Provider degree is DPM	3511
	This variable is equal to 1 if the provider has a Doctor of Podiatric Medicine (DPM) degree. It is otherwise equal to 0.		
46	provider_degree_MD_q	Provider degree is MD	3511
	This variable is equal to 1 if the provider has a Doctor of Medicine (MD) degree. It is otherwise equal to 0.		
47	provider_degree_NP_q	Provider degree is NP	3511
	This variable is equal to 1 if the provider has a Nurse Practitioner (NP) degree. It is otherwise equal to 0.		
48	provider_degree_PA_q	Provider degree is PA	3511
	This variable is equal to 1 if the provider has a Physician Assistant (PA) degree. It is otherwise equal to 0.		
49	provider_degree_oth_q	Provider degree is CNM or DPM	3511
	This variable is equal to 1 if the provider has either a Certified Nurse Midwife (CNM) or Doctor of Podiatric Medicine (DPM) degree. It is otherwise equal to 0.		
50	provider_graduation_miss_q	Missing provider graduation year	3511
	This variable is equal to 1 if the provider is missing years since graduation (provider_graduation_q). It is otherwise equal to 0. Years since graduation is mostly non-missing for providers with degrees MD, DO, and DPM. It is mostly missing for providers with degrees CNM, NP, and PA.		
51	provider_graduation_q	Years since provider graduation	3511
	This variable contains the number of years between the provider's graduation year and 2016, the year in which most of the study was conducted. If the provider's graduation year was missing, this variable has the value -9999.		
52	provider_male_miss_q	Missing provider gender	3511
	This variable is equal to 1 if the provider's gender is missing. It is equal to zero otherwise. Gender is non-missing for all study participants and is therefore equal to zero for all 3,511 study participants.		
53	provider_male_q	Provider gender is male	3511
	This variable is equal to 1 if the provider is male. It is equal to zero otherwise.		
54	provider_specialty_assistant_q	Provider is a physicians assistant	3511
	This variable is equal to 1 if the provider's speciality is physician assistant. It is equal to zero otherwise.		
55	provider_specialty_gen_med_q	Provider practices general medicine	3511
	This variable is equal to 1 if the provider's speciality is general medicine. It is equal to zero otherwise.		
56	provider_specialty_nurse_q	Provider is a nurse	3511
	This variable is equal to 1 if the provider's speciality is nurse. It is equal to zero otherwise.		
57	provider_specialty_specialist_q	Provider has other specialty	3511
	This variable is equal to 1 if the provider's speciality is not defined by the other categories. It is equal to zero otherwise.		
58	provider_specialty_student_q	Provider is a resident	3511
	This variable is equal to 1 if the provider is a resident. It is equal to zero otherwise.		
59	quit_qtr	Qtr in which provider left health system, zeroed at start of study period	571

This variable contains the quarter in which the provider left health system. Study period quarters are positive while quiet period quarters are negative. The variable is missing if the provider did not leave health system.

60	scan	Number scans	3511
	Number of scans ordered by the provider in the study period.		
61	scan_bd	Number bone densitometry scans	3511
	Number of bone densitometry scans ordered by the provider in the study period.		
62	scan_bd_q	QP number bone densitometry scans	3511
	Number of bone densitometry scans ordered by the provider in the quiet period.		
63	scan_bpa_new	Number targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered during the entire study period.		
64	scan_bpa_new1	Q1 number targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered during quarter 1 of the study period.		
65	scan_bpa_new2	Q2 number targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered during quarter 2 of the study period.		
66	scan_bpa_new3	Q3 number targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered during quarter 3 of the study period.		
67	scan_bpa_new4	Q4 number targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered during quarter 4 of the study period.		
68	scan_bpa_new_1_3	Number targeted scans scored 1-3	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 1-3 that the provider ordered during the entire study period.		
69	scan_bpa_new_1_31	Q1 number targeted scans scored 1-3	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 1-3 that the provider ordered during quarter 1 of the study period.		
70	scan_bpa_new_1_32	Q2 number targeted scans scored 1-3	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 1-3 that the provider ordered during quarter 2 of the study period.		
71	scan_bpa_new_1_33	Q3 number targeted scans scored 1-3	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 1-3 that the provider ordered during quarter 3 of the study period.		
72	scan_bpa_new_1_34	Q4 number targeted scans scored 1-3	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number		

of targeted scans scored 1-3 that the provider ordered during quarter 4 of the study period.

73	scan_bpa_new_1_3_q	QP number targeted scans scored 1-3	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 1-3 that the provider ordered during the quiet period.			
74	scan_bpa_new_4_6	Number targeted scans scored 4-6	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during the entire study period.			
75	scan_bpa_new_4_61	Q1 number targeted scans scored 4-6	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during quarter 1 of the study period.			
76	scan_bpa_new_4_62	Q2 number targeted scans scored 4-6	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during quarter 2 of the study period.			
77	scan_bpa_new_4_63	Q3 number targeted scans scored 4-6	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during quarter 3 of the study period.			
78	scan_bpa_new_4_64	Q4 number targeted scans scored 4-6	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during quarter 4 of the study period.			
79	scan_bpa_new_4_6_q	QP number targeted scans scored 4-6	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during the quiet period.			
80	scan_bpa_new_ct	Number targeted CT scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans that the provider ordered during the entire study period.			
81	scan_bpa_new_ct1	Q1 number targeted CT scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans that the provider ordered during quarter 1 of the study period.			
82	scan_bpa_new_ct2	Q2 number targeted CT scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans that the provider ordered during quarter 2 of the study period.			
83	scan_bpa_new_ct3	Q3 number targeted CT scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans that the provider ordered during quarter 3 of the study period.			
84	scan_bpa_new_ct4	Q4 number targeted CT scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These			



scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans scored that the provider ordered during quarter 4 of the study period.

85	scan_bpa_new_ct_q	QP number targeted CT scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans that the provider ordered during the quiet period.			
86	scan_bpa_new_mr	Number targeted MR scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during the entire study period.			
87	scan_bpa_new_mr1	Q1 number targeted MR scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during quarter 1 of the study period.			
88	scan_bpa_new_mr2	Q2 number targeted MR scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during quarter 2 of the study period.			
89	scan_bpa_new_mr3	Q3 number targeted MR scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during quarter 3 of the study period.			
90	scan_bpa_new_mr4	Q4 number targeted MR scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during quarter 4 of the study period.			
91	scan_bpa_new_mr_q	QP number targeted MR scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during the quiet period.			
92	scan_bpa_new_performed	Number performed targeted scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. Most study outcomes are defined using ordered scans because cancellations are not necessarily due to clinical conditions; these scans may be performed outside of the health system. We analyze scans performed at health system as a robustness check. This variable contains the number of targeted scans that the provider ordered during the entire study period that were also performed at health system.			
93	scan_bpa_new_performed_q	QP number performed targeted scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. Most study outcomes are defined using ordered scans because cancellations are not necessarily due to clinical conditions; these scans may be performed outside of the health system. We analyze scans performed at health system as a robustness check. This variable contains the number of targeted scans that the provider ordered during the quiet period that were also performed at health system.			
94	scan_bpa_new_q	QP number targeted scans	3511
"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number			

of targeted scans the provider ordered during the quiet period.

95	scan_bpa_old	Number targeted scans under the original firing logic	3511
	This variable contains the number of targeted scans ordered by the provider during the entire study period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.		
96	scan_bpa_old1	Q1 number targeted scans under the original firing logic	3511
	This variable contains the number of targeted scans ordered by the provider during quarter 1 of the study period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.		
97	scan_bpa_old2	Q2 number targeted scans under the original firing logic	3511
	This variable contains the number of targeted scans ordered by the provider during quarter 2 of the study period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.		
98	scan_bpa_old3	Q3 number targeted scans under the original firing logic	3511
	This variable contains the number of targeted scans ordered by the provider during quarter 3 of the study period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.		
99	scan_bpa_old4	Q4 number targeted scans under the original firing logic	3511
	This variable contains the number of targeted scans ordered by the provider during quarter 4 of the study period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.		
100	scan_bpa_old_q	QP number targeted scans under the original firing logic	3511
	This variable contains the number of targeted scans ordered by the provider during the quiet period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.		
101	scan_bpa_shut_off	Number scans that would trigger BPA under original but not new logic	3511
	This variable contains the number of scans ordered by the provider during the study period that would trigger the BPA under the logic in place for the first four months of the trial but not subsequent months. These scans are either scored 1-6 without a strictly higher-scoring alternative or are scored 7-9 with a strictly higher-scoring		
102	scan_bpa_shut_off_q	QP number scans that would trigger BPA under original but not new logic	3511
	This variable contains the number of scans ordered by the provider during the quiet period that would trigger the BPA under the logic in place for the first four months of the trial but not subsequent months. These scans are either scored 1-6 without a strictly higher-scoring alternative or are scored 7-9 with a strictly higher-scoring		
103	scan_cl	Number canceled scans	3511
	Number of scans ordered by the provider in the study period that were canceled.		
104	scan_cl1	Q1 number canceled scans	3511
	Number of scans ordered by the provider in quarter 1 of the study period that were canceled.		
105	scan_cl2	Q2 number canceled scans	3511
	Number of scans ordered by the provider in quarter 2 of the study period that were canceled.		
106	scan_cl3	Q3 number canceled scans	3511
	Number of scans ordered by the provider in quarter 3 of the study period that were canceled.		



107	scan_cl4	Q4 number canceled scans	3511
	Number of scans ordered by the provider in quarter 4 of the study period that were canceled.		
108	scan_cl_q	QP number canceled scans	3511
	Number of scans ordered by the provider in the quiet period that were canceled.		
109	scan_ct	Number CT scans	3511
	Number CT scans ordered by the provider in the study period.		
110	scan_ct1	Q1 number CT scans	3511
	Number CT scans ordered by the provider in quarter 1 of the study period.		
111	scan_ct2	Q2 number CT scans	3511
	Number CT scans ordered by the provider in quarter 2 of the study period.		
112	scan_ct3	Q3 number CT scans	3511
	Number CT scans ordered by the provider in quarter 3 of the study period.		
113	scan_ct4	Q4 number CT scans	3511
	Number CT scans ordered by the provider in quarter 4 of the study period.		
114	scan_ct_cl	Number canceled CT scans	3511
	Number of CT scans ordered by the provider in the study period that were canceled.		
115	scan_ct_cl1	Q1 number canceled CT scans	3511
	Number of CT scans ordered by the provider in quarter 1 of the study period that were canceled.		
116	scan_ct_cl2	Q2 number canceled CT scans	3511
	Number of CT scans ordered by the provider in quarter 2 of the study period that were canceled.		
117	scan_ct_cl3	Q3 number canceled CT scans	3511
	Number of CT scans ordered by the provider in quarter 3 of the study period that were canceled.		
118	scan_ct_cl4	Q4 number canceled CT scans	3511
	Number of CT scans ordered by the provider in quarter 4 of the study period that were canceled.		
119	scan_ct_cl_q	QP number canceled CT scans	3511
	Number of CT scans ordered by the provider in the quiet period that were canceled.		
120	scan_ct_q	QP number CT scans	3511
	Number of CT scans ordered by the provider in the quiet period.		
121	scan_fl	Number fluoroscopies	3511
	Number fluoroscopies ordered by the provider in the study period.		
122	scan_fl_q	QP number fluoroscopies	3511
	Number fluoroscopies ordered by the provider in the quiet period.		
123	scan_hc	Number high-cost scans	3511
	Number high-cost scans ordered by the provider in the study period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
124	scan_hc1	Q1 number high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 1 of the study period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
125	scan_hc2	Q2 number high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 2 of the study period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
126	scan_hc3	Q3 number high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 3 of the study period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and		

nuclear medicine (NM).

127	scan_hc4	Q4 number high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 4 of the study period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
128	scan_hc_cl	Number canceled high-cost scans	3511
	Number high-cost scans ordered by the provider in the study period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
129	scan_hc_cl1	Q1 number canceled high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 1 of the study period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
130	scan_hc_cl2	Q2 number canceled high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 2 of the study period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
131	scan_hc_cl3	Q3 number canceled high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 3 of the study period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
132	scan_hc_cl4	Q4 number canceled high-cost scans	3511
	Number high-cost scans ordered by the provider in quarter 4 of the study period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
133	scan_hc_cl_q	QP number canceled high-cost scans	3511
	Number high-cost scans ordered by the provider in the quiet period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
134	scan_hc_q	QP number high-cost scans	3511
	Number high-cost scans ordered by the provider in the quiet period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).		
135	scan_hc_scored_1_3	Number high-cost scans scored 1-3	3511
	Number high-cost scans scored 1-3 ordered by the provider in the study period.		
136	scan_hc_scored_1_31	Q1 number high-cost scans scored 1-3	3511
	Number high-cost scans scored 1-3 ordered by the provider in quarter 1 of the study period.		
137	scan_hc_scored_1_32	Q2 number high-cost scans scored 1-3	3511
	Number high-cost scans scored 1-3 ordered by the provider in quarter 2 of the study period.		
138	scan_hc_scored_1_33	Q3 number high-cost scans scored 1-3	3511
	Number high-cost scans scored 1-3 ordered by the provider in quarter 3 of the study period.		
139	scan_hc_scored_1_34	Q4 number high-cost scans scored 1-3	3511
	Number high-cost scans scored 1-3 ordered by the provider in quarter 4 of the study period.		
140	scan_hc_scored_1_3_ct	Number CT scans scored 1-3	3511
	Number CT scans scored 1-3 ordered by the provider in the study period.		
141	scan_hc_scored_1_3_ct1	Q1 number CT scans scored 1-3	3511
	Number CT scans scored 1-3 ordered by the provider in quarter 1 of the study period.		

142	scan_hc_scored_1_3_ct2	Q2 number CT scans scored 1-3	3511
	Number CT scans scored 1-3 ordered by the provider in quarter 2 of the study period.		
143	scan_hc_scored_1_3_ct3	Q3 number CT scans scored 1-3	3511
	Number CT scans scored 1-3 ordered by the provider in quarter 3 of the study period.		
144	scan_hc_scored_1_3_ct4	Q4 number CT scans scored 1-3	3511
	Number CT scans scored 1-3 ordered by the provider in quarter 4 of the study period.		
145	scan_hc_scored_1_3_ct_q	QP number CT scans scored 1-3	3511
	Number CT scans scored 1-3 ordered by the provider in the quiet period.		
146	scan_hc_scored_1_3_mr	Number MR scans scored 1-3	3511
	Number MRI scored 1-3 ordered by the provider in the study period.		
147	scan_hc_scored_1_3_mr1	Q1 number MR scans scored 1-3	3511
	Number MRI scored 1-3 ordered by the provider in quarter 1 of the study period.		
148	scan_hc_scored_1_3_mr2	Q2 number MR scans scored 1-3	3511
	Number MRI scored 1-3 ordered by the provider in quarter 2 of the study period.		
149	scan_hc_scored_1_3_mr3	Q3 number MR scans scored 1-3	3511
	Number MRI scored 1-3 ordered by the provider in quarter 3 of the study period.		
150	scan_hc_scored_1_3_mr4	Q4 number MR scans scored 1-3	3511
	Number MRI scored 1-3 ordered by the provider in quarter 4 of the study period.		
151	scan_hc_scored_1_3_mr_q	QP number MR scans scored 1-3	3511
	Number MRI scored 1-3 ordered by the provider in the quiet period.		
152	scan_hc_scored_1_3_q	QP number high-cost scans scored 1-3	3511
	Number high-cost scans scored 1-3 ordered by the provider in the quiet period.		
153	scan_hc_scored_1_9	Number high-cost scans scored 1-9	3511
	Number high-cost scans scored 1-9 ordered by the provider in the study period.		
154	scan_hc_scored_1_91	Q1 number high-cost scans scored 1-9	3511
	Number high-cost scans scored 1-9 ordered by the provider in quarter 1 of the study period.		
155	scan_hc_scored_1_92	Q2 number high-cost scans scored 1-9	3511
	Number high-cost scans scored 1-9 ordered by the provider in quarter 2 of the study period.		
156	scan_hc_scored_1_93	Q3 number high-cost scans scored 1-9	3511
	Number high-cost scans scored 1-9 ordered by the provider in quarter 3 of the study period.		
157	scan_hc_scored_1_94	Q4 number high-cost scans scored 1-9	3511
	Number high-cost scans scored 1-9 ordered by the provider in quarter 4 of the study period.		
158	scan_hc_scored_1_9_ct	Number CT scans scored 1-9	3511
	Number CT scans scored 1-9 ordered by the provider in the study period.		
159	scan_hc_scored_1_9_ct1	Q1 number CT scans scored 1-9	3511
	Number CT scans scored 1-9 ordered by the provider in quarter 1 of the study period.		
160	scan_hc_scored_1_9_ct2	Q2 number CT scans scored 1-9	3511
	Number CT scans scored 1-9 ordered by the provider in quarter 2 of the study period.		
161	scan_hc_scored_1_9_ct3	Q3 number CT scans scored 1-9	3511
	Number CT scans scored 1-9 ordered by the provider in quarter 3 of the study period.		
162	scan_hc_scored_1_9_ct4	Q4 number CT scans scored 1-9	3511
	Number CT scans scored 1-9 ordered by the provider in quarter 4 of the study period.		
163	scan_hc_scored_1_9_ct_q	QP number CT scans scored 1-9	3511
	Number CT scans scored 1-9 ordered by the provider in the quiet period.		
164	scan_hc_scored_1_9_mr	Number MR scans scored 1-9	3511
	Number MRI scored 1-9 ordered by the provider in the study period.		
165	scan_hc_scored_1_9_mr1	Q1 number MR scans scored 1-9	3511

Number MRI scored 1-9 ordered by the provider in quarter 1 of the study period.

166	scan_hc_scored_1_9_mr2	Q2 number MR scans scored 1-9	3511
Number MRI scored 1-9 ordered by the provider in quarter 2 of the study period.			
167	scan_hc_scored_1_9_mr3	Q3 number MR scans scored 1-9	3511
Number MRI scored 1-9 ordered by the provider in quarter 3 of the study period.			
168	scan_hc_scored_1_9_mr4	Q4 number MR scans scored 1-9	3511
Number MRI scored 1-9 ordered by the provider in quarter 4 of the study period.			
169	scan_hc_scored_1_9_mr_q	QP number MR scans scored 1-9	3511
Number MRI scored 1-9 ordered by the provider in the quiet period.			
170	scan_hc_scored_1_9_q	QP number high-cost scans scored 1-9	3511
Number high-cost scans scored 1-9 ordered by the provider in the quiet period.			
171	scan_hc_scored_4_6	Number high-cost scans scored 4-6	3511
Number high-cost scans scored 4-6 ordered by the provider in the study period.			
172	scan_hc_scored_4_61	Q1 number high-cost scans scored 4-6	3511
Number high-cost scans scored 4-6 ordered by the provider in quarter 1 of the study period.			
173	scan_hc_scored_4_62	Q2 number high-cost scans scored 4-6	3511
Number high-cost scans scored 4-6 ordered by the provider in quarter 2 of the study period.			
174	scan_hc_scored_4_63	Q3 number high-cost scans scored 4-6	3511
Number high-cost scans scored 4-6 ordered by the provider in quarter 3 of the study period.			
175	scan_hc_scored_4_64	Q4 number high-cost scans scored 4-6	3511
Number high-cost scans scored 4-6 ordered by the provider in quarter 4 of the study period.			
176	scan_hc_scored_4_6_ct	Number CT scans scored 4-6	3511
Number CT scans scored 4-6 ordered by the provider in the study period.			
177	scan_hc_scored_4_6_ct1	Q1 number CT scans scored 4-6	3511
Number CT scans scored 4-6 ordered by the provider in quarter 1 of the study period.			
178	scan_hc_scored_4_6_ct2	Q2 number CT scans scored 4-6	3511
Number CT scans scored 4-6 ordered by the provider in quarter 2 of the study period.			
179	scan_hc_scored_4_6_ct3	Q3 number CT scans scored 4-6	3511
Number CT scans scored 4-6 ordered by the provider in quarter 3 of the study period.			
180	scan_hc_scored_4_6_ct4	Q4 number CT scans scored 4-6	3511
Number CT scans scored 4-6 ordered by the provider in quarter 4 of the study period.			
181	scan_hc_scored_4_6_ct_q	QP number CT scans scored 4-6	3511
Number CT scans scored 4-6 ordered by the provider in the quiet period.			
182	scan_hc_scored_4_6_mr	Number MR scans scored 4-6	3511
Number MRI scored 4-6 ordered by the provider in the study period.			
183	scan_hc_scored_4_6_mr1	Q1 number MR scans scored 4-6	3511
Number MRI scored 4-6 ordered by the provider in quarter 1 of the study period.			
184	scan_hc_scored_4_6_mr2	Q2 number MR scans scored 4-6	3511
Number MRI scored 4-6 ordered by the provider in quarter 2 of the study period.			
185	scan_hc_scored_4_6_mr3	Q3 number MR scans scored 4-6	3511
Number MRI scored 4-6 ordered by the provider in quarter 3 of the study period.			
186	scan_hc_scored_4_6_mr4	Q4 number MR scans scored 4-6	3511
Number MRI scored 4-6 ordered by the provider in quarter 4 of the study period.			
187	scan_hc_scored_4_6_mr_q	QP number MR scans scored 4-6	3511
Number MRI scored 4-6 ordered by the provider in the quiet period.			
188	scan_hc_scored_4_6_q	QP number high-cost scans scored 4-6	3511
Number high-cost scans scored 4-6 ordered by the provider in the quiet period.			

189	scan_hc_scored_7_9	Number high-cost scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in the study period.		
190	scan_hc_scored_7_91	Q1 number high-cost scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in quarter 1 of the study period.		
191	scan_hc_scored_7_92	Q2 number high-cost scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in quarter 2 of the study period.		
192	scan_hc_scored_7_93	Q3 number high-cost scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in quarter 3 of the study period.		
193	scan_hc_scored_7_94	Q4 number high-cost scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in quarter 4 of the study period.		
194	scan_hc_scored_7_9_ct	Number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in the study period.		
195	scan_hc_scored_7_9_ct1	Q1 number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in quarter 1 of the study period.		
196	scan_hc_scored_7_9_ct2	Q2 number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in quarter 2 of the study period.		
197	scan_hc_scored_7_9_ct3	Q3 number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in quarter 3 of the study period.		
198	scan_hc_scored_7_9_ct4	Q4 number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in quarter 4 of the study period.		
199	scan_hc_scored_7_9_ct_q	QP number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in the quiet period.		
200	scan_hc_scored_7_9_mr	Number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in the study period.		
201	scan_hc_scored_7_9_mr1	Q1 number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in quarter 1 of the study period.		
202	scan_hc_scored_7_9_mr2	Q2 number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in quarter 2 of the study period.		
203	scan_hc_scored_7_9_mr3	Q3 number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in quarter 3 of the study period.		
204	scan_hc_scored_7_9_mr4	Q4 number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in quarter 4 of the study period.		
205	scan_hc_scored_7_9_mr_q	QP number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in the quiet period.		
206	scan_hc_scored_7_9_q	QP number HC scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in the quiet period.		
207	scan_lowcost	Number low-cost scans	3511
	Number low-cost scans ordered by the provider in the study period. Low-cost scans consist of x-rays (XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).		
208	scan_lowcost1	Q1 number low-cost scans	3511
	Number low-cost scans ordered by the provider in quarter 1 of the study period. Low-cost scans consist of x-rays (XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).		
209	scan_lowcost2	Q2 number low-cost scans	3511
	Number low-cost scans ordered by the provider in quarter 2 of the study period. Low-cost scans consist of x-rays (XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).		
210	scan_lowcost3	Q3 number low-cost scans	3511
	Number low-cost scans ordered by the provider in quarter 3 of the study period. Low-cost scans consist of x-rays		

(XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).

211	scan_lowcost4	Q4 number low-cost scans	3511
	Number low-cost scans ordered by the provider in quarter 4 of the study period. Low-cost scans consist of x-rays (XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).		
212	scan_lowcost_q	QP number low-cost scans	3511
	Number low-cost scans ordered by the provider in the quiet period. Low-cost scans consist of x-rays (XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).		
213	scan_mm	Number mammograms	3511
	Number mammograms ordered by the provider in the study period.		
214	scan_mm_q	QP number mammograms	3511
	Number mammograms ordered by the provider in the quiet period.		
215	scan_mr	Number MR scans	3511
	Number MRI ordered by the provider in the study period.		
216	scan_mr1	Q1 number MR scans	3511
	Number MRI ordered by the provider in quarter 1 of the study period.		
217	scan_mr2	Q2 number MR scans	3511
	Number MRI ordered by the provider in quarter 2 of the study period.		
218	scan_mr3	Q3 number MR scans	3511
	Number MRI ordered by the provider in quarter 3 of the study period.		
219	scan_mr4	Q4 number MR scans	3511
	Number MRI ordered by the provider in quarter 4 of the study period.		
220	scan_mr_cl	Number canceled MR scans	3511
	Number MRI ordered by the provider in the study period that were canceled.		
221	scan_mr_cl1	Q1 number canceled MR scans	3511
	Number MRI ordered by the provider in quarter 1 of the study period that were canceled.		
222	scan_mr_cl2	Q2 number canceled MR scans	3511
	Number MRI ordered by the provider in quarter 2 of the study period that were canceled.		
223	scan_mr_cl3	Q3 number canceled MR scans	3511
	Number MRI ordered by the provider in quarter 3 of the study period that were canceled.		
224	scan_mr_cl4	Q4 number canceled MR scans	3511
	Number MRI ordered by the provider in quarter 4 of the study period that were canceled.		
225	scan_mr_cl_q	QP number canceled MR scans	3511
	Number MRI ordered by the provider in the quiet period that were canceled.		
226	scan_mr_q	QP number MR scans	3511
	Number MRI ordered by the provider in the quiet period.		
227	scan_nm	Number NM scans	3511
	Number nuclear medicine scans ordered by the provider in the study period.		
228	scan_nm_q	QP number NM scans	3511
	Number nuclear medicine scans ordered by the provider in the quiet period.		
229	scan_order_enc_loc_ed	Number scans ordered in the ED	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in the ED during the study period.		
230	scan_order_enc_loc_ed_q	QP number scans ordered in the ED	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in the ED during the quiet period.		



231	scan_order_enc_loc_hosp	Number scans ordered in the hospital, non-ED	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in the hospital, non-ED, during the study period.		
232	scan_order_enc_loc_hosp_q	QP number scans ordered in the hospital, non-ED	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in the hospital, non-ED, during the quiet period.		
233	scan_order_enc_loc_op	Number scans ordered in an outpatient setting	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in an outpatient setting during the study period.		
234	scan_order_enc_loc_op_q	QP number scans ordered in an outpatient setting	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in an outpatient setting during the quiet period.		
235	scan_order_enc_loc_oth	Number scans not ordered in person	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered, but not in-person, during the study period.		
236	scan_order_enc_loc_oth_q	QP number scans not ordered in person	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered, but not in-person, during the quiet period.		
237	scan_other	Number other scans (not high- or low-cost)	3511
	Number other scans (not high- or low-cost) ordered by the provider in the study period.		
238	scan_other_q	QP number other scans (not high- or low-cost)	3511
	Number other scans (not high- or low-cost) ordered by the provider in the quiet period.		
239	scan_performed	Number performed scans	3511
	Most study outcomes are defined using ordered scans because cancellations are not necessarily due to clinical conditions; these scans may be performed outside of the health system. We analyze scans performed at health system as a robustness check. This variable contains the number of scans that the provider ordered during the study period that were also performed at health system.		
240	scan_performed_q	QP number performed scans	3511
	Most study outcomes are defined using ordered scans because cancellations are not necessarily due to clinical conditions; these scans may be performed outside of the health system. We analyze scans performed at health system as a robustness check. This variable contains the number of scans that the provider ordered during the quiet period that were also performed at health system.		
241	scan_pet	Number PET scans	3511
	Number PET scans ordered by the provider in the study period.		
242	scan_pet_nm	Number PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in the study period.		
243	scan_pet_nm1	Q1 number PET and NM scans	3511
	Number PET scans ordered by the provider in quarter 1 of the study period.		
244	scan_pet_nm2	Q2 number PET and NM scans	3511
	Number PET scans ordered by the provider in quarter 2 of the study period.		
245	scan_pet_nm3	Q3 number PET and NM scans	3511

Number PET scans ordered by the provider in quarter 3 of the study period.

246	scan_pet_nm4	Q4 number PET and NM scans	3511
	Number PET scans ordered by the provider in quarter 4 of the study period.		
247	scan_pet_nm_cl	Number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in the study period that were canceled.		
248	scan_pet_nm_cl1	Q1 number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in quarter 1 of the study period that were canceled.		
249	scan_pet_nm_cl2	Q2 number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in quarter 2 of the study period that were canceled.		
250	scan_pet_nm_cl3	Q3 number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in quarter 3 of the study period that were canceled.		
251	scan_pet_nm_cl4	Q4 number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in quarter 4 of the study period that were canceled.		
252	scan_pet_nm_cl_q	QP number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in the quiet period that were canceled.		
253	scan_pet_nm_q	QP number PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in the quiet period.		
254	scan_pet_q	QP number PET scans	3511
	Number PET scans ordered by the provider in the quiet period.		
255	scan_q	QP number scans	3511
	Number scans ordered by the provider in the quiet period.		
256	scan_scored_cds	Number of high-cost scans scored by CDS	3511
	Number high-cost scans ordered by the provider in the study period that were directly scored by CDS.		
257	scan_scored_cds_q	QP number of high-cost scans scored by CDS	3511
	Number high-cost scans ordered by the provider in the quiet period that were directly scored by CDS.		
258	scan_scored_imp	Number of high-cost scans with imputed score	3511
	Number high-cost scans ordered by the provider in the study period that were not directly scored by CDS. In order determine the appropriateness of these scan orders, we used health system's version of the ACR ruleset to calculate an appropriateness score and alternative scans. Because CDS did not directly score these scans, the BPA would not appear even if the scan was scored 1-6 and a higher-scoring alternative was available.		
259	scan_scored_imp_q	QP number of high-cost scans with imputed score	3511
	Number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS. In order determine the appropriateness of these scan orders, we used health system's version of the ACR ruleset to calculate an appropriateness score and alternative scans.		
260	scan_unscored_all	Number unscored HC scans	3511
	Number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans. The BPA would never appear for these		
261	scan_unscored_all_ct	Number unscored CT scans	3511
	Number CT scans ordered by the provider in the study period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans. The BPA would never appear for these		
262	scan_unscored_all_ct_q	QP number unscored CT scans	3511
	Number CT scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.		
263	scan_unscored_all_mr	Number unscored MR scans	3511

Number MRI ordered by the provider in the study period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.

264	scan_unscored_all_mr_q	QP number unscored MR scans	3511
Number MRI ordered by the provider in the quiet period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.			
265	scan_unscored_all_q	QP number unscored HC scans	3511
Number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.			
266	scan_unscored_custom_ind	Number of HC scans unscored, health system custom indications	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Because these scans were paired with a custom indication that health system chose not to score, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			
267	scan_unscored_fldr	Number of HC scans unscored, age-gender filters	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Because of a filter that precluded the assignment of scores for the patients' ages and genders in conjunction with these selected scans and clinical indications, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			
268	scan_unscored_fldr_q	QP number of HC scans unscored, age-gender filters	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Because of a filter that precluded the assignment of scores for the patients' ages and genders in conjunction with these selected scans and clinical indications, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.			
269	scan_unscored_nonc	Number of HC scans unscored, non-oncology indications ACR chose not to score	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. While ACR chose not to score most scans paired with oncology indications in health system's version of the ACR ruleset, there are a few non-oncology indications that ACR also chose not to score. As these scans were paired with non-oncology indications that ACR chose not to score in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			
270	scan_unscored_nonc_q	QP number of HC scans unscored, non-oncology indications ACR chose not to score	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. While ACR chose not to score most scans paired with oncology indications in health system's version of the ACR ruleset, there are a few non-oncology indications that ACR also chose not to score. As these scans were paired with non-oncology indications that ACR chose not to score in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans.			
271	scan_unscored_onc	Number of HC scans unscored, oncology indications ACR chose not to score	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. As these scans were paired with oncology indications that ACR chose not to score in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			

272	scan_unscored_onc_q	QP number of HC scans unscored, oncology indications ACR chose not to score	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. As these scans were paired with oncology indications that ACR chose not to score in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans.			
273	scan_unscored_custom_ind_q	QP number of HC scans unscored, health system custom indications	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Because these scans were paired with a custom indication that health system chose not to score, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.			
274	scan_unscored_rlst	Number of HC scans unscored, procedures not in ruleset	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Because these scans were not in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			
275	scan_unscored_rlst_q	QP number of HC scans unscored, procedures not in ruleset	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Because these scans were not in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans.			
276	scan_unscored_external	Number HC scans unscored, order placed at external facility	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Because these scans were ordered at an external facility that did not require that structured clinical indications be paired with the scans, we could not calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			
277	scan_unscored_external_q	QP number HC scans unscored, order placed at external facility	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Because these scans were ordered at an external facility that did not require that structured clinical indications be paired with the scans, we could not calculate appropriateness scores and alternative scans.			
278	scan_unscored_handoff_worker	Number of HC scans unscored, handed off to a clerical worker or technician	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Clerical workers and technicians are not required to submit structured clinical indications with scan orders. Because these scan orders were placed on behalf of providers by clerical workers and technicians who decided not to pair these scans with structured clinical indications, we could not calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.			
279	scan_unscored_handoff_worker_q	QP number of HC scans unscored, handed off to a clerical worker or technician	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Clerical workers and technicians are not required to submit structured clinical indications with scan orders. Because these scan orders were placed on behalf of providers by clerical workers and technicians who decided not to pair these scans with structured clinical indications, we could not calculate appropriateness scores and alternative scans.			
280	scan_unscored_medi	Number of HC scans unscored, Medicalis scans	3511

Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. There are four scan types that were subject to a separate best practices alert at health system based on Medicalis criteria instead of ACR Select for most of the study period. Health system decided to preclude the BPA from firing based on its version of the ACR ruleset for these four scan types, so we do not calculate appropriateness scores and alternative scans.

281	scan_unscored_medi_q	QP number of HC scans unscored, Medicalis scans	3511
	Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. There are four scan types that were subject to a separate best practices alert at health system based on Medicalis criteria instead of ACR Select for most of the study period. Health system decided to preclude the BPA from firing based on its version of the ACR ruleset for these four scan types, so we do not calculate appropriateness scores and alternative scans.		
282	scan_unscored_other	Number HC scans unscored, other reasons	3511
	Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. These scans were not scored for different reasons than those covered by the other subsets.		
283	scan_unscored_other_q	QP number HC scans unscored, other reasons	3511
	Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. These scans were not scored for different reasons than those covered by the other subsets.		
284	scan_unscored_smartset	Number HC scans unscored, ordered in SmartSets	3511
	Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. SmartSets are groups of procedures organized by diagnosis that providers can order as a bundle. Before May 4, 2017, targeted scans ordered within SmartSets would not interact with CDS and thus would never trigger the BPA. Some were not paired with structured indications, and so we could not calculate appropriateness scores and alternative scans.		
285	scan_unscored_smartset_q	QP number HC scans unscored, ordered in SmartSets	3511
	Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. SmartSets are groups of procedures organized by diagnosis that providers can order as a bundle. Before May 4, 2017, targeted scans ordered within SmartSets would not interact with CDS. Some were not paired with structured indications, and so we could not calculate appropriateness scores and alternative scans.		
286	scan_unscored_sys	Number of HC scans unscored, changes to electronic system build	3511
	Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Due to changes in the electronic system build, we could not calculate appropriateness scores and alternative scans. The BPA would never appear for these scans.		
287	scan_unscored_sys_q	QP number of HC scans unscored, changes to electronic system build	3511
	Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Due to changes in the electronic system build, we could not calculate appropriateness scores and alternative scans.		
288	scan_us	Number ultrasounds	3511
	Number ultrasounds ordered by the provider in the study period.		
289	scan_us_q	QP number ultrasounds	3511
	Number ultrasounds ordered by the provider in the quiet period.		
290	scan_xr	Number x-rays	3511
	Number x-rays ordered by the provider in the study period.		
291	scan_xr_q	QP number x-rays	3511
	Number x-rays ordered by the provider in the quiet period.		
292	treated	Provider is in treated group	3511

This variable is equal to 1 if the provider was randomized into the treatment group. It is otherwise equal to zero. There were 1,755 providers in the treatment group and 1,756 in the control group.

293	primary_location_id	Primary location ID	3511
This is the ID of the location at which the provider had the highest number of in-person encounters during the study period. 413 providers with no study period in-person encounter are assigned to an arbitrary ID of 999999.			

#### Dataset: prov\_all\_stats\_qp.dta

#	Variable Name	Variable Label	
1	provider_key	Encrypted provider identifier	3511
2	consent	Provider consented to randomization	3511
This variable is equal to 1 if the provider consented to participation in the study and was thus randomized. It is equal to 1 for all 3511 providers in the study sample.			
3	control	Provider is in control group	3511
This variable is equal to 1 if the provider was randomized into the control group. It is otherwise equal to zero. There were 1,756 providers in the control group and 1,755 in the treatment group.			
4	eligible	Provider was eligible for randomization	3511
This variable is equal to 1 if the provider was eligible for participation in the study and was thus contacted. It is equal to 1 for all 3511 providers in the study sample.			
5	encounter	QP number encounters	3511
This variable contains the total number of in-person encounters that the provider is associated with during the quiet period. It is the sum of hospital non-ED, ED, and outpatient in-person encounters. If a provider was not associated with any encounters in the quiet period, the value is 0.			
6	encounter_ed	QP number encounters in the ED	3423
This variable contains the total number of in-person ED encounters that the provider is associated with during the quiet period. If a provider was not associated with any encounters in the quiet period, the value is 0.			
7	encounter_ip_non_ed	QP number encounters in the hospital, non-ED	3423
This variable contains the total number of in-person hospital non-ED encounters that the provider is associated with during the quiet period. If a provider was not associated with any encounters in the quiet period, the value is 0.			
8	encounter_op	QP number encounters in an outpatient setting	3423
This variable contains the total number of in-person outpatient encounters that the provider is associated with during the quiet period. If a provider was not associated with any encounters in the quiet period, the value is 0.			
9	handoff_strategic_all	QP number handoffs to non-randomized and control providers	3511
This variable contains the number of quiet period scan orders that were handed-off to a non-randomized individual or control provider to place on behalf of the provider responsible for the order.			
10	handoff_strategic_con	QP number handoffs to control providers	3511
This variable contains the number of quiet period scan orders that were handed-off to a control provider to place on behalf of the provider responsible for the order.			
11	handoff_strategic_not_rand	QP number handoffs to non-randomized providers	3511
This variable contains the number of quiet period scan orders that were handed-off to a non-randomized individual to place on behalf of the provider responsible for the order.			
12	most_enc_ed	Provider had most QP encounters in the ED	3511
This variable is 1 if the largest share of the provider's quiet period in-person encounters were in the ED. It is			



otherwise equal to zero.

13	most_enc_ip_non_ed	Provider had most QP encounters in the hospital, non-ED	3511
This variable is 1 if the largest share of the provider's quiet period in-person encounters were in the hospital, non-ED. It is otherwise equal to zero.			
14	most_enc_op	Provider had most QP encounters in an outpatient setting	3511
This variable is 1 if the largest share of the provider's quiet period in-person encounters were in an outpatient setting or the provider was not associated with any quiet period in-person encounters. It is otherwise equal to zero.			
15	optout	Provider opted-out of randomization	3511
This variable is equal to 1 if the provider decided to opt-out of the study. It is otherwise equal to zero. Thus, the value is zero for all providers in the study sample.			
16	pat_table_age	QP average age of patients for whom provider had an in-person encounter	3141
17	pat_table_male	QP share of patients for whom provider had an in-person encounter who are male	3141
18	pat_table_white	QP share of patients for whom provider had an in-person encounter who are white	3137
19	provider_age	Provider age at start of study	3510
This variable contains the provider's age at the start of the study period. It is missing for one provider.			
20	provider_age_miss	Missing provider age	3511
This variable is equal to 1 if the provider's age (variable provider_age) is missing. It is otherwise equal to 0.			
21	provider_degree_CNM	Provider degree is CNM	3511
This variable is equal to 1 if the provider has a Certified Nurse Midwife (CNM) degree. It is otherwise equal to 0.			
22	provider_degree_DO	Provider degree is DO	3511
This variable is equal to 1 if the provider has a Doctor of Osteopathic Medicine (DO) degree. It is otherwise equal to 0.			
23	provider_degree_DPM	Provider degree is DPM	3511
This variable is equal to 1 if the provider has a Doctor of Podiatric Medicine (DPM) degree. It is otherwise equal to 0.			
24	provider_degree_MD	Provider degree is MD	3511
This variable is equal to 1 if the provider has a Doctor of Medicine (MD) degree. It is otherwise equal to 0.			
25	provider_degree_NP	Provider degree is NP	3511
This variable is equal to 1 if the provider has a Nurse Practitioner (NP) degree. It is otherwise equal to 0.			
26	provider_degree_PA	Provider degree is PA	3511
This variable is equal to 1 if the provider has a Physician Assistant (PA) degree. It is otherwise equal to 0.			
27	provider_graduation	Years since provider graduation	2432
This variable contains the number of years between the provider's graduation year and 2016, the year in which most of the study was conducted. If the provider's graduation year was missing, this variable has the value -9999.			
28	provider_graduation_miss	Missing provider graduation year	3511
This variable is equal to 1 if the provider is missing years since graduation (provider_graduation_q). It is otherwise equal to 0. Years since graduation is mostly non-missing for providers with degrees MD, DO, and DPM. It is mostly missing for providers with degrees CNM, NP, and PA.			
29	provider_male	Provider gender is male	3511

This variable is equal to 1 if the provider is male. It is equal to zero otherwise.

30	provider_male_miss	Missing provider gender	3511
	This variable is equal to 1 if the provider's gender is missing. It is equal to zero otherwise. Gender is non-missing for all study participants and is therefore equal to zero for all 3,511 study participants.		
31	provider_specialty_assistant	Provider is a physicians assistant	3511
	This variable is equal to 1 if the provider's speciality is physician assistant. It is equal to zero otherwise.		
32	provider_specialty_gen_med	Provider practices general medicine	3511
	This variable is equal to 1 if the provider's speciality is general medicine. It is equal to zero otherwise.		
33	provider_specialty_nurse	Provider is a nurse	3511
	This variable is equal to 1 if the provider's speciality is nurse. It is equal to zero otherwise.		
34	provider_specialty_specialist	Provider has other specialty	3511
	This variable is equal to 1 if the provider's speciality is not defined by the other categories. It is equal to zero otherwise.		
35	provider_specialty_student	Provider is a resident	3511
	This variable is equal to 1 if the provider is a resident. It is equal to zero otherwise.		
36	scan	QP number scans	3511
	Number of scans ordered by the provider in the quiet period.		
37	scan_bd	QP number bone densitometry scans	3511
	Number of bone densitometry scans ordered by the provider in the quiet period.		
38	scan_bpa_eligible_annualized	QP number targeted scans, annualized	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the annualized number of targeted scans the provider ordered during the quiet period.		
39	scan_bpa_new	QP number targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered during the quiet period.		
40	scan_bpa_new_1_3	QP number targeted scans scored 1-3	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 1-3 that the provider ordered during the quiet period.		
41	scan_bpa_new_4_6	QP number targeted scans scored 4-6	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans scored 4-6 that the provider ordered during the quiet period.		
42	scan_bpa_new_ct	QP number targeted CT scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted CT scans that the provider ordered during the quiet period.		
43	scan_bpa_new_mr	QP number targeted MR scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted MRI that the provider ordered during the quiet period.		
44	scan_bpa_new_performed	QP number performed targeted scans	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. Most study outcomes are defined using ordered scans because cancellations are not necessarily due to clinical conditions; these scans may be		

performed outside of the health system. We analyze scans performed at health system as a robustness check. This variable contains the number of targeted scans that the provider ordered during the quiet period that were also performed at health system.

45	scan_bpa_old	QP number targeted scans under the original firing logic	3511
This variable contains the number of targeted scans ordered by the provider during the quiet period defined under the BPA logic in place for the first four months of the trial. Under this logic, scans would have triggered the BPA if scored 1-6 or a strictly-higher scoring alternative was available.			
46	scan_bpa_shut_off	QP number scans that would trigger BPA under original but not new logic	3511
This variable contains the number of scans ordered by the provider during the quiet period that would trigger the BPA under the logic in place for the first four months of the trial but not subsequent months. These scans are either scored 1-6 without a strictly higher-scoring alternative or are scored 7-9 with a strictly higher-scoring			
47	scan_cl	QP number canceled scans	3511
Number of scans ordered by the provider in the quiet period that were canceled.			
48	scan_ct	QP number CT scans	3511
Number of CT scans ordered by the provider in the quiet period.			
49	scan_ct_cl	QP number canceled CT scans	3511
Number of CT scans ordered by the provider in the quiet period that were canceled.			
50	scan_fl	QP number fluoroscopies	3511
Number fluoroscopies ordered by the provider in the quiet period.			
51	scan_hc	QP number high-cost scans	3511
Number high-cost scans ordered by the provider in the quiet period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).			
52	scan_hc_annualized	QP number high-cost scans, annualized	3511
Annualized number high-cost scans ordered by the provider in the quiet period. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).			
53	scan_hc_cl	QP number canceled high-cost scans	3511
Number high-cost scans ordered by the provider in the quiet period that were canceled. High-cost scans consist of computed tomography (CT), magnetic resonance imaging (MRI), positron emission tomography (PET), and nuclear medicine (NM).			
54	scan_hc_scored_1_3	QP number high-cost scans scored 1-3	3511
Number high-cost scans scored 1-3 ordered by the provider in the quiet period.			
55	scan_hc_scored_1_3_ct	QP number CT scans scored 1-3	3511
Number CT scans scored 1-3 ordered by the provider in the quiet period.			
56	scan_hc_scored_1_3_mr	QP number MR scans scored 1-3	3511
Number MRI scored 1-3 ordered by the provider in the quiet period.			
57	scan_hc_scored_1_9	QP number high-cost scans scored 1-9	3511
Number high-cost scans scored 1-9 ordered by the provider in the quiet period.			
58	scan_hc_scored_1_9_ct	QP number CT scans scored 1-9	3511
Number CT scans scored 1-9 ordered by the provider in the quiet period.			
59	scan_hc_scored_1_9_mr	QP number MR scans scored 1-9	3511
Number MRI scored 1-9 ordered by the provider in the quiet period.			

60	scan_hc_scored_4_6	QP number high-cost scans scored 4-6	3511
	Number high-cost scans scored 4-6 ordered by the provider in the quiet period.		
61	scan_hc_scored_4_6_ct	QP number CT scans scored 4-6	3511
	Number CT scans scored 4-6 ordered by the provider in the quiet period.		
62	scan_hc_scored_4_6_mr	QP number MR scans scored 4-6	3511
	Number MRI scored 4-6 ordered by the provider in the quiet period.		
63	scan_hc_scored_7_9	QP number high-cost scans scored 7-9	3511
	Number high-cost scans scored 7-9 ordered by the provider in the quiet period.		
64	scan_hc_scored_7_9_ct	QP number CT scans scored 7-9	3511
	Number CT scans scored 7-9 ordered by the provider in the quiet period.		
65	scan_hc_scored_7_9_mr	QP number MR scans scored 7-9	3511
	Number MRI scored 7-9 ordered by the provider in the quiet period.		
66	scan_lowcost	QP number low-cost scans	3511
	Number low-cost scans ordered by the provider in the quiet period. Low-cost scans consist of x-rays (XR), mammograms (MM), ultrasounds (US), fluoroscopies (FL), and bone densitometry (BD).		
67	scan_mm	QP number mammograms	3511
	Number mammograms ordered by the provider in the quiet period.		
68	scan_mr	QP number MR scans	3511
	Number MRI ordered by the provider in the quiet period.		
69	scan_mr_cl	QP number canceled MR scans	3511
	Number MRI ordered by the provider in the quiet period that were canceled.		
70	scan_nm	QP number NM scans	3511
	Number nuclear medicine scans ordered by the provider in the quiet period.		
71	scan_order_enc_loc_ed	QP number targeted scans ordered in the ED	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in the ED during the quiet period.		
72	scan_order_enc_loc_hosp	QP number targeted scans ordered in the hospital, non-ED	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in the hospital, non-ED, during the quiet period.		
73	scan_order_enc_loc_op	QP number targeted scans ordered in an outpatient setting	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered in an outpatient setting during the quiet period.		
74	scan_order_enc_loc_oth	QP number targeted scans not ordered in person	3511
	"Targeted scans" are high-cost scans that would have triggered the BPA during the entire study period. These scans are scored less than 7 and have a strictly higher-scoring alternative scan. This variable contains the number of targeted scans the provider ordered, but not in-person, during the quiet period.		
75	scan_other	QP number other scans (not high- or low-cost)	3511
	Number other scans (not high- or low-cost) ordered by the provider in the quiet period.		
76	scan_performed	QP number performed scans	3511
	Most study outcomes are defined using ordered scans because cancellations are not necessarily due to clinical conditions; these scans may be performed outside of the health system. We analyze scans performed at health		

system as a robustness check. This variable contains the number of scans that the provider ordered during the quiet period that were also performed at health system.

77	scan_pet	QP number PET scans	3511
	Number PET scans ordered by the provider in the quiet period.		
78	scan_pet_nm	QP number PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in the quiet period.		
79	scan_pet_nm_cl	QP number canceled PET and NM scans	3511
	Number PET and nuclear medicine scans ordered by the provider in the quiet period that were canceled.		
80	scan_scored_cds	QP number of high-cost scans scored by CDS	3511
	Number high-cost scans ordered by the provider in the quiet period that were directly scored by CDS.		
81	scan_scored_imp	QP number of high-cost scans with imputed score	3511
	Number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS. In order to determine the appropriateness of these scan orders, we used health system's version of the ACR ruleset to calculate an appropriateness score and alternative scans.		
82	scan_unscored_all	QP number unscored HC scans	3511
	Number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.		
83	scan_unscored_all_ct	QP number unscored CT scans	3511
	Number CT scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.		
84	scan_unscored_all_mr	QP number unscored MR scans	3511
	Number MRI ordered by the provider in the quiet period that were not directly scored by CDS or our team. Due to the procedure, clinical indication, patient age or gender, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.		
85	scan_unscored_custom_ind	QP number of HC scans unscored, health system custom indications	3511
	Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Because these scans were paired with a custom indication that health system chose not to score, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.		
86	scan_unscored_fldr	QP number of HC scans unscored, age-gender filters	3511
	Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Because of a filter that precluded the assignment of scores for the patients' ages and genders in conjunction with these selected scans and clinical indications, we could not use health system's version of the ACR ruleset to calculate appropriateness scores and alternative scans.		
87	scan_unscored_nonc	QP number of HC scans unscored, non-oncology indications ACR chose not to score	3511
	Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. While ACR chose not to score most scans paired with oncology indications in health system's version of the ACR ruleset, there are a few non-oncology indications that ACR also chose not to score. As these scans were paired with non-oncology indications that ACR chose not to score in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans.		

88	scan_unscored_onec	QP number of HC scans unscored, oncology indications ACR chose not to score	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. As these scans were paired with oncology indications that ACR chose not to score in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans.			
89	scan_unscored_rlst	QP number of HC scans unscored, procedures not in ruleset	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Because these scans were not in health system's version of the ACR ruleset, we could not calculate appropriateness scores and alternative scans.			
90	scan_unscored_external	QP number HC scans unscored, order placed at external facility	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Because these scans were ordered at an external facility that did not require that structured clinical indications be paired with the scans, we could not calculate appropriateness scores and alternative scans.			
91	scan_unscored_handoff_worker	QP number of HC scans unscored, handed off to a clerical worker or technician	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. Clerical workers and technicians are not required to submit structured clinical indications with scan orders. Because these scan orders were placed on behalf of providers by clerical workers and technicians who decided not to pair these scans with structured clinical indications, we could not calculate appropriateness scores and alternative scans.			
92	scan_unscored_medi	QP number of HC scans unscored, Medicalis scans	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. There are four scan types that were subject to a separate best practices alert at health system based on Medicalis criteria instead of ACR Select for most of the study period. Health system decided to preclude the BPA from firing based on its version of the ACR ruleset for these four scan types, so we do not calculate appropriateness scores and alternative scans.			
93	scan_unscored_other	QP number HC scans unscored, other reasons	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. These scans were not scored for different reasons than those covered by the other subsets.			
94	scan_unscored_smartset	QP number HC scans unscored, ordered in SmartSets	3511
Subset of number high-cost scans ordered by the provider in the quiet period that were not directly scored by CDS or our team. SmartSets are groups of procedures organized by diagnosis that providers can order as a bundle. Before May 4, 2017, targeted scans ordered within SmartSets would not interact with CDS. Some were not paired with structured indications, and so we could not calculate appropriateness scores and alternative scans.			
95	scan_unscored_sys	QP number of HC scans unscored, changes to electronic system build	3511
Subset of number high-cost scans ordered by the provider in the study period that were not directly scored by CDS or our team. Due to changes in the electronic system build, we could not calculate appropriateness scores			
96	scan_us	QP number ultrasounds	3511
Number ultrasounds ordered by the provider in the quiet period.			
97	scan_xr	QP number x-rays	3511
Number x-rays ordered by the provider in the quiet period.			



98	treated	Provider is in treated group	3511
This variable is equal to 1 if the provider was randomized into the treatment group. It is otherwise equal to zero. There were 1,755 providers in the treatment group and 1,756 in the control group.			

#### Dataset: prov\_ind\_gaming\_sp.dta

#	Variable Name	Variable Label	
1	provider_key	Encrypted provider identifier	3511
2	consent	Provider consented to randomization	3511
This variable is equal to 1 if the provider consented to participation in the study and was thus randomized. It is equal to 1 for all 3511 providers in the study sample.			
3	control	Provider is in control group	3511
This variable is equal to 1 if the provider was randomized into the control group. It is otherwise equal to zero. There were 1,756 providers in the control group and 1,755 in the treatment group.			
4	ind_abd_pain	# scored HC scans w/ ind 'Abdominal pain'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Abdominal pain'.			
5	ind_abd_rlq	# scored HC scans w/ ind 'Abdominal pain, RLQ'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Abdominal pain, RLQ'.			
6	ind_ams	# scored HC scans w/ ind 'Altered mental status'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Altered mental status'.			
7	ind_chest_pain	# scored HC scans w/ ind 'Chest pain, acute, PE suspected'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Chest pain, acute, PE suspected'.			
8	ind_confusion	# scored HC scans w/ ind 'Confusion/delirium, altered LOC, unexplained'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Confusion/delirium, altered LOC, unexplained'.			
9	ind_cspine_high	# scored HC scans w/ ind 'C-spine trauma, NEXUS/CCR positive, +risk factor(s)'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'C-spine trauma, NEXUS/CCR positive, +risk factor(s)'.			
10	ind_cspine_low	# scored HC scans w/ ind 'C-spine trauma, NEXUS/CCR negative, low risk'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'C-spine trauma, NEXUS/CCR negative, low risk'.			
11	ind_dizziness	# scored HC scans w/ ind 'Dizziness'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Dizziness'.			
12	ind_el_ddimer	# scored HC scans w/ ind 'Elevated D-dimer, mod-high risk'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication			

'Elevated D-dimer, mod-high risk'.

13	ind_flank_stone	# scored HC scans w/ ind 'Flank pain, stone known or suspected'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Flank pain, stone known or suspected'.			
14	ind_head_new	# scored HC scans w/ ind 'Headache, chronic, new features or neuro deficit'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, chronic, new features or neuro deficit'.			
15	ind_head_norm	# scored HC scans w/ ind 'Headache, chronic, no new features, norm neuro exam'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, chronic, no new features, norm neuro exam'.			
16	ind_head_thund	# scored HC scans w/ ind 'Headache, acute, severe, thunderclap, worst HA of..'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, acute, severe, thunderclap, worst HA of life'.			
17	ind_hematuria	# scored HC scans w/ ind 'Hematuria'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Hematuria'.			
18	ind_kidney_stone	# scored HC scans w/ ind 'Kidney stone'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Kidney stone'.			
19	ind_knee_pain	# scored HC scans w/ ind 'Knee pain, persistent, >=6wks'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Knee pain, persistent, >=6wks'.			
20	ind_lower_back	# scored HC scans w/ ind 'Low back pain, <6 wks or red flag(s) or radiculopathy'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Low back pain, <6 wks or red flag(s) or radiculopathy'.			
21	ind_lung_geq_1	# scored HC scans w/ ind 'Lung nodule, >=1cm'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Lung nodule, >=1cm'.			
22	ind_lung_less_1	# scored HC scans w/ ind 'Lung nodule, <1cm'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Lung nodule, <1cm'.			
23	ind_mild_head	# scored HC scans w/ ind 'Head injury mild or moderate acute, no neurological..'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Head injury mild or moderate acute, no neurological deficit'.			
24	ind_mod_head	# scored HC scans w/ ind 'Head trauma, closed, mod-severe'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Head trauma, closed, mod-severe'.			
25	ind_neck_pain	# scored HC scans w/ ind 'Neck pain, first study'	3511
Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication			

'Neck pain, first study'.

26	ind_other	# scored HC scans w/ other indications	3511
	Number scored high-cost scans ordered by the provider in the study period paired with other clinical indications.		
27	ind_post_trauma	# scored HC scans w/ ind 'Headache, post trauma'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, post trauma'.		
28	ind_radiculopathy	# scored HC scans w/ ind 'RADICULOPATHY'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'RADICULOPATHY'.		
29	ind_short_breath	# scored HC scans w/ ind 'Shortness of breath'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Shortness of breath'.		
30	ind_shoulder_pers	# scored HC scans w/ ind 'Shoulder pain, prior xray, persistent'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Shoulder pain, prior xray, persistent'.		
31	ind_shoulder_rotator	# scored HC scans w/ ind 'Shoulder pain, prior xray, suspect rotator...'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Shoulder pain, prior xray, suspect rotator cuff tear / impingement'.		
32	ind_sinusitis	# scored HC scans w/ ind 'Sinusitis, recurring, possible surgery'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Sinusitis, recurring, possible surgery'.		
33	ind_stroke	# scored HC scans w/ ind 'Stroke'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Stroke'.		
34	ind_tobacco	# scored HC scans w/ ind 'Tobacco use - asymptomatic'	3511
	Number scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Tobacco use - asymptomatic'.		
35	sh_ind_abd_pain	Share scored HC scans w/ ind 'Abdominal pain'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Abdominal pain' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
36	sh_ind_abd_rlq	Share scored HC scans w/ ind 'Abdominal pain, RLQ'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Abdominal pain, RLQ' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
37	sh_ind_ams	Share scored HC scans w/ ind 'Altered mental status'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Altered mental status' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
38	sh_ind_chest_pain	Share scored HC scans w/ ind 'Chest pain, acute, PE suspected'	2607

Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Chest pain, acute, PE suspected' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.

39	sh_ind_confusion	Share scored HC scans w/ ind 'Confusion/delirium, altered LOC, unexplained'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Confusion/delirium, altered LOC, unexplained' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
40	sh_ind_cspine_high	Share scored HC scans w/ ind 'C-spine trauma, NEXUS/CCR positive, +risk fact...'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'C-spine trauma, NEXUS/CCR positive, +risk factor(s)' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
41	sh_ind_cspine_low	Share scored HC scans w/ ind 'C-spine trauma, NEXUS/CCR negative, low risk'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'C-spine trauma, NEXUS/CCR negative, low risk' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
42	sh_ind_dizziness	Share scored HC scans w/ ind 'Dizziness'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Dizziness' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
43	sh_ind_el_ddimer	Share scored HC scans w/ ind 'Elevated D-dimer, mod-high risk'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Elevated D-dimer, mod-high risk' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
44	sh_ind_flank_stone	Share scored HC scans w/ ind 'Flank pain, stone known or suspected'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Flank pain, stone known or suspected' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
45	sh_ind_head_new	Share scored HC scans w/ ind 'Headache, chronic, new features or neuro deficit'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, chronic, new features or neuro deficit' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
46	sh_ind_head_norm	Share scored HC scans w/ ind 'Headache, chronic, no new features, norm neuro...'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, chronic, no new features, norm neuro exam' out of all scored high-cost scans. Missing if the provider			

did not order any scored high-cost scans in the study period.

47	sh_ind_head_thund	Share scored HC scans w/ ind 'Headache, acute, severe, thunderclap, worst HA...'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, acute, severe, thunderclap, worst HA of life' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
48	sh_ind_hematuria	Share scored HC scans w/ ind 'Hematuria'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Hematuria' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
49	sh_ind_kidney_stone	Share scored HC scans w/ ind 'Kidney stone'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Kidney stone' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
50	sh_ind_knee_pain	Share scored HC scans w/ ind 'Knee pain, persistent, >=6wks'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Knee pain, persistent, >=6wks' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
51	sh_ind_lower_back	Share scored HC scans w/ ind 'Low back pain, <6 wks or red flag(s) or radicu...'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Low back pain, <6 wks or red flag(s) or radiculopathy' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
52	sh_ind_lung_geq_1	Share scored HC scans w/ ind 'Lung nodule, >=1cm'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Lung nodule, >=1cm' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
53	sh_ind_lung_less_1	Share scored HC scans w/ ind 'Lung nodule, <1cm'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Lung nodule, <1cm' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
54	sh_ind_mild_head	Share scored HC scans w/ ind 'Head injury mild or moderate acute, no neurolo...'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Head injury mild or moderate acute, no neurological deficit' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
55	sh_ind_mod_head	Share scored HC scans w/ ind 'Head trauma, closed, mod-severe'	2607
Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Head trauma, closed, mod-severe' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.			
56	sh_ind_neck_pain	Share scored HC scans w/ ind 'Neck pain, first study'	2607

Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Neck pain, first study' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.

57	sh_ind_other	Share scored HC scans w/ other indications	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with other clinical indications out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study		
58	sh_ind_post_trauma	Share scored HC scans w/ ind 'Headache, post trauma'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Headache, post trauma' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
59	sh_ind_radiculopathy	Share scored HC scans w/ ind 'RADICULOPATHY'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'RADICULOPATHY' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
60	sh_ind_short_breath	Share scored HC scans w/ ind 'Shortness of breath'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Shortness of breath' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
61	sh_ind_shoulder_pers	Share scored HC scans w/ ind 'Shoulder pain, prior xray, persistent'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Shoulder pain, prior xray, persistent' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
62	sh_ind_shoulder_rotator	Share scored HC scans w/ ind 'Shoulder pain, prior xray, suspect rotator...'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Shoulder pain, prior xray, suspect rotator cuff tear / impingement' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
63	sh_ind_sinusitis	Share scored HC scans w/ ind 'Sinusitis, recurring, possible surgery'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Sinusitis, recurring, possible surgery' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
64	sh_ind_stroke	Share scored HC scans w/ ind 'Stroke'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Stroke' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
65	sh_ind_tobacco	Share scored HC scans w/ ind 'Tobacco use - asymptomatic'	2607
	Share of scored high-cost scans ordered by the provider in the study period paired with the clinical indication 'Tobacco use - asymptomatic' out of all scored high-cost scans. Missing if the provider did not order any scored high-cost scans in the study period.		
66	total_ind	# scored HC scans, missing if 0	2607



Number of scored high-cost scans ordered by the provider in the study period. Missing if 0.

67	treated	Provider is in treated group	3511
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This variable is equal to 1 if the provider was randomized into the treatment group. It is otherwise equal to zero. There were 1,755 providers in the treatment group and 1,756 in the control group.