

Cancellations in Primary Care in the Veterans Affairs Health Care System

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Unused medical appointments are detrimental to both staff and other patients and place undue burden on a clinic or health care system.^{1,2} This is particularly true in health systems that are statutorily barred from imposing fees on patients to discourage missed appointments, such as the UK's National Health Service, Brazil's Sistema Único de Saúde, and the US Veterans Affairs Health Care System (VA), part of the US Department of Veterans Affairs. Previous studies of the VA have examined medical appointments missed by patients (no-shows) and the patient-level factors associated with no-shows.³⁻⁶ Equally important, however, are appointments that are canceled by providers, due to either scheduling conflicts, poor management, staffing shortages, or, more recently, safety protocols related to the COVID-19 pandemic. Issues with scheduling and rescheduling appointments are consistently among the top 5 most common complaints to the VA patient advocate, and same-day cancellations are a frequent complaint of VA enrollees on social media websites.^{7,8} Despite the VA providing more than 20 million primary care visits per year, the only public data about primary care visits come from a random sample of just 600 visits in 2008.² In this study, we sought to show the prevalence of primary care same-day cancellations and no-shows in the VA. Additionally, this study compares the proportion of cancellations attributed to patient reasons with the proportion canceled for clinic reasons.

METHODS

Using VA administrative appointment records, we gathered all in-person and virtual primary care appointments from October 1, 2018, to April 1, 2024. These data included information on whether the appointment occurred, was canceled by the patient, was canceled by the clinic, or was a no-show. The appointment was recorded as a cancellation if it was canceled on the same calendar day.

We aggregated the number and proportion of same-day cancellations in each time period. We show results from each calendar year, as well as from the initial wave of the pandemic (March 1, 2020-May 31, 2020) to examine how the pandemic may have affected same-day cancellations. To compare cancellations for patient and

ABSTRACT

OBJECTIVES: Unused medical appointments affect both patient care and clinic operations, and the frequency of cancellations due to clinic reasons is underreported. The prevalence of these unused appointments in primary care in the Veterans Affairs Health Care System (VA) is unknown. This study examined the prevalence of unused primary care appointments and compared the relative frequency of cancellations and no-shows for patient and clinic reasons.

STUDY DESIGN: In this retrospective, observational study, we collected all in-person and virtual VA primary care appointments from October 1, 2018, to April 1, 2024.

METHODS: We examined the proportion of appointments canceled on the same day as the appointment and classified these into canceled by patient, canceled by clinic, and no-show.

RESULTS: Of more than 90 million in-person and nearly 24 million virtual primary care appointments, 11.9 million (10.87%) were canceled on the day of the appointment. For in-person care cancellations, the most common reasons were canceled by the patient (3.92%; n=3,531,016), no-show (3.87%; n=3,487,944), and clinic cancellation (3.08%; n=2,780,259).

CONCLUSIONS: Although this study shows that same-day cancellations of primary care appointments in the VA are common, comparisons with other providers and health care systems indicate similar or lower levels of unused appointments in the VA.

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TAKEAWAY POINTS

- ▶ In the Veterans Affairs Health Care System, 10.87% of primary care appointments were either missed or canceled on the day of the appointment.
- ▶ Cancellations by the clinic accounted for 3% of these cancellations.
- ▶ Compared with previous studies, data from this study showed a similar or lower rate of appointments missed by patients in the Veterans Affairs Health Care System; clinic-initiated cancellations had not been previously documented.

clinic reasons, no-shows and patient cancellations were combined. For each time period, we used a simple ordinary least squares regression to estimate the difference in proportion of same-day cancellations that were patient or clinic driven. This exercise was completed separately for virtual and in-person appointments.

RESULTS

Of 90,131,643 in-person and 23,902,631 virtual primary care appointments in the sample, 11.9 million (10.87%) were canceled on the day

of the appointment (Table 1). The most common reasons for in-person appointment cancellations were canceled by the patient (3.92%; n = 3,531,016), no-show (3.87%; n = 3,487,944), and clinic cancellation (3.08%; n = 2,780,259). The proportion of same-day cancellations of in-person appointments increased by 13.5% in 2020 compared with 2019 (12.07% vs 10.63%), but it was nearly the same in 2023 as in 2019 (10.76% vs 10.63%). For virtual appointments, 3.40% (n = 827,535) were canceled by the clinic, 2.09% (n = 500,645) were canceled by the patient, and 3.29% (n = 785,993) were no-shows.

Figure 1 shows that cancellations for in-person appointments spiked during the initial COVID-19 wave for in-person appointments, with a smaller peak during later stages of the pandemic. Both were driven primarily by increases in clinic cancellations. Virtual appointment cancellations increased drastically along with the increased use of this modality, but the proportion of visits with same-day cancellations remained relatively stable. Before the pandemic in 2019, same-day cancellations were 4.6 percentage

TABLE 1. Volume and Proportion of Same-Day Primary Care Appointment Cancellations*

Appointment metrics	2019	2020	2021	2022	2023	Initial COVID-19 ^b	Total ^c
Total in-person appointments, n	18,488,304	12,776,314	17,319,147	16,283,102	16,633,438	2,804,072	90,131,643
Total in-person appointments same-day canceled, n (%)	1,965,432 (10.63%)	1,542,601 (12.07%)	1,751,654 (10.11%)	1,788,853 (10.99%)	1,789,967 (10.76%)	396,929 (14.16%)	9,799,347 (10.87%)
Total in-person appointments same-day canceled by clinic, n (%)	466,582 (2.52%)	594,899 (4.66%)	492,407 (2.84%)	506,698 (3.11%)	479,937 (2.89%)	179,671 (6.41%)	2,780,259 (3.08%)
Total in-person appointments same-day canceled by patient, n (%)	750,696 (4.06%)	411,791 (4.19%)	628,178 (3.63%)	626,584 (3.85%)	626,281 (3.77%)	151,169 (5.39%)	3,531,016 (3.92%)
Total in-person appointment no-shows, n (%)	748,129 (4.05%)	411,732 (3.22%)	631,056 (3.64%)	655,552 (4.03%)	683,718 (4.11%)	66,076 (2.36%)	3,487,944 (3.87%)
Total virtual appointments, n	1,946,784	8,086,291	5,432,326	3,755,800	3,328,157	2,286,312	23,902,631
Total virtual appointments same-day canceled, n (%)	166,715 (8.56%)	689,903 (8.53%)	490,295 (9.03%)	344,965 (9.18%)	302,187 (9.08%)	172,970 (7.56%)	2,114,244 (8.85%)
Total virtual appointments same-day canceled by clinic, n (%)	77,520 (3.98%)	266,429 (3.29%)	186,875 (3.44%)	133,624 (3.56%)	112,977 (3.39%)	68,861 (3.01%)	827,535 (3.46%)
Total virtual appointments same-day canceled by patient, n (%)	41,270 (2.12%)	161,249 (1.99%)	117,112 (2.16%)	80,077 (2.13%)	72,070 (2.17%)	39,768 (1.74%)	500,645 (2.09%)
Total virtual appointment no-shows, n (%)	47,924 (2.46%)	262,211 (3.24%)	186,282 (3.43%)	131,247 (3.49%)	117,129 (3.52%)	64,339 (2.81%)	785,993 (3.29%)
Difference between proportions patient-canceled and clinic-canceled, in-person ^d	0.047 (0.042-0.051)	0.026 (0.021-0.031)	0.027 (0.023-0.031)	0.034 (0.030-0.038)	0.036 (0.032-0.041)	0.027 (0.020-0.033)	0.035 (0.032-0.038)
Difference between proportions patient-canceled and clinic-canceled, virtual ^d	0.004 (-0.0004 to 0.008)	0.032 (0.023-0.042)	0.016 (0.010-0.021)	0.011 (0.007-0.015)	0.015 (0.010-0.019)	0.011 (0.003-0.019)	0.014 (0.010-0.018)

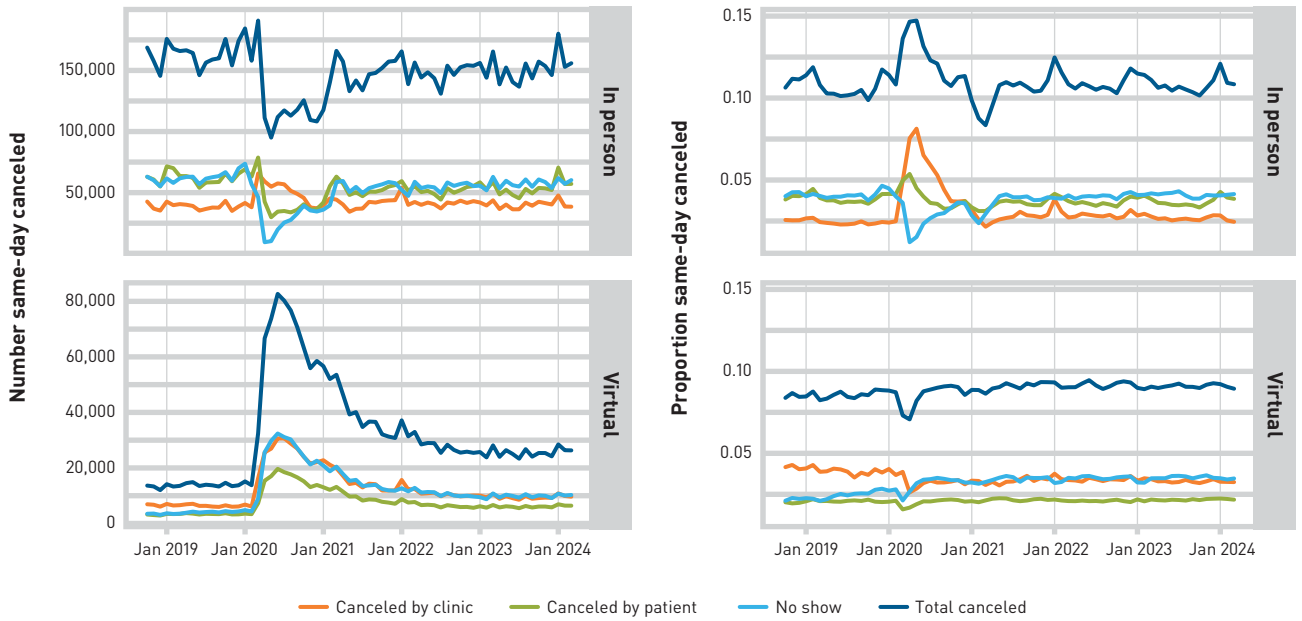
*By in-person/virtual appointments and reason for cancellation.

^bRefers to the initial wave of the COVID-19 pandemic and is defined as March 1, 2020, to May 31, 2020.

^cOctober 1, 2018, to April 1, 2024.

^dThe bottom 2 rows show estimates of the difference in proportion of same-day cancellations that were for patient or clinic reasons, with 95% CIs shown in parentheses. For these estimates, *patient-canceled* is "canceled by patient" and "no-shows" combined.

FIGURE 1. Number (Left) and Proportion (Right) of VA Primary Care Appointments Canceled on the Same Day as the Appointment From October 2018 Through March 2024^a



VA, Veterans Affairs Health Care System.

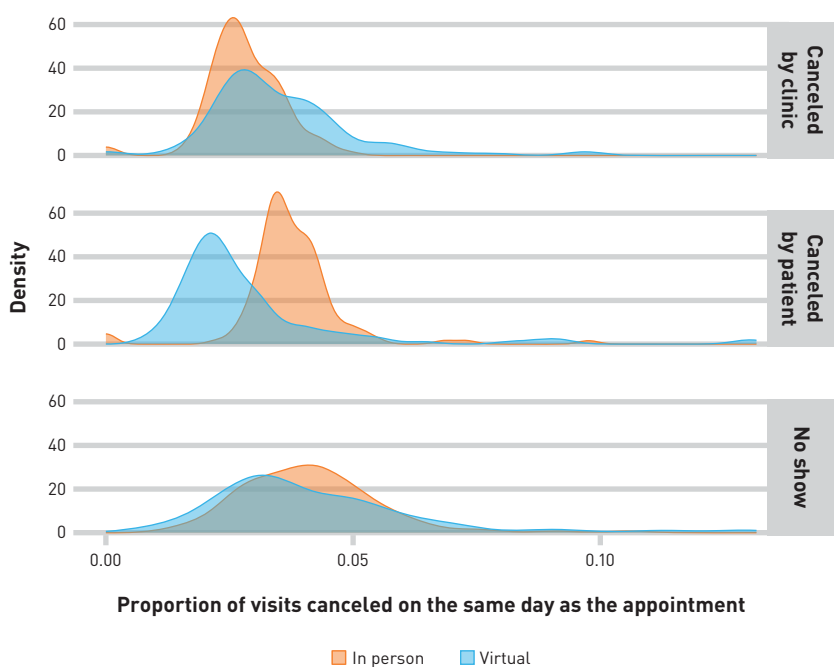
^aThe top panels represent in-person visits, and the bottom panels represent virtual visits.

points more likely to be due to patient reasons (95% CI, 4.1-5.1) for in-person visits. This was lower in 2020 at 2.6 percentage points (95% CI, 2.1-3.1), with the difference widening to 3.6 percentage points in 2023 (95% CI, 3.2-4.2) (Table 1). For virtual appointments, same-day cancellations were similarly more likely to be due to patient reasons in 2020 (3.2 percentage points; 95% CI, 2.3-4.2), with the gap narrowing to 1.5 percentage points in 2023 (95% CI, 1.0-1.9).

The range of virtual care clinic-initiated cancellations varied across VA medical centers, as shown in Figure 2. This figure shows the distribution of the proportion of same-day canceled or no-show visits by VA medical center for both virtual and in-person visits. The variation between centers was wider for no-shows than clinic or patient same-day cancellations. Full proportions by VA medical center for the entire sample period are shown in the eAppendix (available at ajmc.com).

Finally, sample characteristics are presented in Table 2. Patients who experienced same-day clinic cancellations, same-day patient cancellations, and no-shows were similar to all

FIGURE 2. Density Plot of Variation in Same-Day Cancellation and No-Show Rates Among VA Medical Centers



VA, Veterans Affairs Health Care System.

TABLE 2. Demographic Characteristics of Patients With Completed and Same-Day Canceled Appointments in 2023*

Characteristics	Overall (N = 5,550,957)	Canceled by clinic (n = 513,740)	Canceled by patient (n = 564,964)	No-show (n = 840,293)
Gender, n (%)				
Female	531,699 (9.6%)	50,603 (9.9%)	64,606 (11.4%)	81,456 (9.7%)
Male	5,019,256 (90.4%)	463,137 (90.2%)	500,358 (88.6%)	758,835 (90.3%)
Missing	2 (0.0%)	—	—	2 (0.0%)
Age in years				
Mean (SD)	61.0 (17.0)	62.2 (16.1)	59.1 (16.8)	57.9 (17.0)
Median (range)	64.0 (0-139)	65.0 (0-122)	62.0 (17.0-106)	61.0 (1.00-127)
Priority group, n (%)				
1	2,696,790 (48.6%)	263,907 (51.4%)	297,754 (52.7%)	421,273 (50.1%)
2	386,811 (7.0%)	33,018 (6.4%)	34,210 (6.1%)	51,504 (6.1%)
3	660,571 (11.9%)	56,831 (11.1%)	57,094 (10.1%)	85,510 (10.2%)
4	85,650 (1.5%)	11,177 (2.2%)	13,284 (2.4%)	21,235 (2.5%)
5	714,690 (12.9%)	73,779 (14.4%)	87,208 (15.4%)	142,968 (17.0%)
6	217,305 (3.9%)	14,325 (2.8%)	13,153 (2.3%)	20,205 (2.4%)
7	179,691 (3.2%)	14,979 (2.9%)	16,581 (2.9%)	26,835 (3.2%)
8	560,140 (10.1%)	42,900 (8.4%)	43,009 (7.6%)	66,992 (8.0%)
Missing	49,309 (0.9%)	2824 (0.5%)	2671 (0.5%)	3771 (0.4%)
Area of patient's address, n (%)				
Highly rural	207,135 (3.7%)	18,380 (3.6%)	19,213 (3.4%)	22,173 (2.6%)
Island	6271 (0.1%)	498 (0.1%)	374 (0.1%)	1323 (0.2%)
Rural	1,722,264 (31.0%)	155,579 (30.3%)	163,194 (28.9%)	219,997 (26.2%)
Urban	3,563,378 (64.2%)	336,240 (65.4%)	379,294 (67.1%)	592,572 (70.5%)
Missing	49,309 (0.9%)	2824 (0.5%)	2671 (0.5%)	3771 (0.4%)
Elixhauser score				
Mean (SD)	2.70 (1.78)	3.26 (2.21)	3.15 (2.10)	3.11 (2.10)
Median (range)	2 (0-22)	3 (1-22)	3 (1-19)	3 (1-19)
Missing, n (%)	1,152,788 (20.8%)	70,897 (13.8%)	89,416 (15.8%)	158,944 (18.9%)
Time to next visit				
Mean days	29.6	23.2	25.3	40.8

VA, Veterans Affairs Health Care System.

*Demographic characteristics for individuals with primary care appointments in 2023. *Priority group* is the patient's VA priority group in 2023. *Elixhauser score* is the patient's Elixhauser Comorbidity Index score calculated from VA records in 2023. *Time to next visit* is the number of days from the completed or incomplete visit to the patient's next completed visit. Categories are not mutually exclusive.

patients with primary care VA visits in 2023. Patients with no-shows had longer times to their next visit (40.8 days) than patients with clinic cancellations (23.2 days) and patient cancellations (25.3 days).

DISCUSSION

Our findings indicate that more than 10% of primary care appointments in the VA are canceled on the day of the appointment, with 5% to 7% attributed to no-shows and patient cancellations. To our knowledge, no other health system or study has reported on provider-initiated cancellations. These numbers remained relatively stable over the sample period from 2018 to 2024, except for the initial wave of the COVID-19 pandemic from March to May 2020, which saw a large number of cancellations by clinics.

The rate of missed primary care appointments is a quality measure in the VA used to establish and monitor performance target levels, ensuring that appointment adherence remains a priority across VA facilities.⁹ Although localized efforts have attempted to reduce the rate of no-shows,⁹ there are no national protocols specifically in place to reduce missed and canceled appointments. VA clinics are required to have contingency plans for cancellations due to provider leave, weather, and other factors, but these plans vary considerably and can be challenging to enforce and monitor consistently.

Same-day cancellations are problematic because they result in unused appointments within the VA system. Surprisingly, compared with other settings, VA cancellations are relatively low.^{3,9-14} This is particularly true before also considering clinic cancellations, which are generally not included in studies of other systems. This

is notable, given that prior research findings have identified various factors contributing to missed appointments, including differences in service-era experiences, mental health issues, transportation challenges, and lack of familial support.^{3,15}

Same-day services, including in-person, virtual, and messaging options, are mandated to be available at every VA medical center, although the types of services vary by location. Previous research findings have shown that staff and veterans often have differing understandings and expectations of same-day access.¹⁵ Theoretically, clinics could reschedule other patients into slots canceled by patients on the same day, particularly if the cancellations occur early in the day. However, this practice is not explicitly captured in available VA data, and primary care leaders report many barriers preventing this from being implemented effectively.

Limitations

Additional limitations are that this study is limited to same-day cancellations. Patient or provider cancellations in the days leading up to an appointment may be just as impactful as same-day cancellations if clinics are unable to fill available slots, and thus our results present a lower bound of unused appointments.

CONCLUSIONS

This study provides a comprehensive overview of same-day cancellations of primary care appointments in the VA. Future work should focus on other health care systems to gain a better understanding of unused appointments due to both patient and clinic reasons. ■

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eAppendix Table: Proportion of visits cancelled or no-show on the day of the visit by VA medical center (Sta3n)

Sta3n	Cancelled by Clinic_In-Person	Cancelled by Clinic_Virtual	Cancelled by Patient_In-Person	Cancelled by Patient_Virtual	No Show_In-Person	No Show_Virtual
402	0.024	0.036	0.035	0.021	0.024	0.032
405	0.024	0.035	0.037	0.028	0.033	0.033
436	0.035	0.039	0.032	0.021	0.023	0.025
437	0.028	0.030	0.035	0.008	0.026	0.019
438	0.027	0.044	0.040	0.020	0.027	0.028
442	0.043	0.027	0.042	0.034	0.043	0.046
459	0.023	0.031	0.026	0.018	0.028	0.023
460	0.025	0.041	0.038	0.022	0.059	0.051
463	0.029	0.046	0.032	0.022	0.027	0.021
501	0.029	0.031	0.030	0.021	0.041	0.039
502	0.034	0.030	0.029	0.020	0.031	0.032
503	0.025	0.031	0.028	0.020	0.033	0.047
504	0.024	0.053	0.037	0.036	0.029	0.054
506	0.026	0.041	0.038	0.031	0.031	0.042
508	0.027	0.029	0.034	0.021	0.042	0.046
509	0.030	0.014	0.033	0.054	0.041	0.063
512	0.023	0.022	0.039	0.019	0.044	0.033
515	0.049	0.038	0.042	0.028	0.027	0.033
516	0.030	0.036	0.029	0.025	0.049	0.053
517	0.037	0.043	0.033	0.025	0.044	0.065
518	0.039	0.061	0.034	0.053	0.035	0.050
519	0.027	0.055	0.041	0.040	0.043	0.050
520	0.033	0.041	0.023	0.027	0.029	0.070
521	0.021	0.022	0.034	0.031	0.045	0.040
523	0.023	0.034	0.043	0.023	0.052	0.025
526	0.023	0.097	0.068	0.132	0.091	0.130
528	0.026	0.032	0.036	0.018	0.038	0.027
529	0.021	0.025	0.042	0.029	0.028	0.058
531	0.042	0.038	0.033	0.048	0.015	0.024
534	0.026	0.030	0.034	0.013	0.053	0.027
537	0.027	0.037	0.073	0.044	0.075	0.047
538	0.027	0.026	0.055	0.037	0.037	0.048
539	0.023	0.025	0.048	0.047	0.049	0.052
540	0.027	0.026	0.032	0.018	0.037	0.050
541	0.022	0.025	0.042	0.026	0.053	0.049

542	0.032	0.041	0.042	0.024	0.056	0.021
544	0.027	0.017	0.038	0.031	0.049	0.045
546	0.022	0.028	0.046	0.010	0.058	0.006
548	0.031	0.027	0.034	0.032	0.065	0.038
549	0.034	0.042	0.041	0.022	0.059	0.051
550	0.037	0.020	0.043	0.029	0.053	0.029
552	0.030	0.059	0.036	0.064	0.043	0.128
553	0.026	0.031	0.052	0.031	0.064	0.059
554	0.036	0.039	0.035	0.019	0.037	0.030
556	0.036	0.025	0.042	0.034	0.042	0.043
557	0.026	0.025	0.044	0.022	0.049	0.032
558	0.022	0.022	0.040	0.023	0.042	0.050
561	0.020	0.056	0.050	0.129	0.055	0.089
562	0.025	0.096	0.036	0.042	0.032	0.025
564	0.029	0.071	0.033	0.012	0.029	0.016
565	0.035	0.031	0.035	0.026	0.030	0.033
568	0.034	0.044	0.036	0.010	0.024	0.011
570	0.043	0.038	0.036	0.023	0.035	0.024
573	0.027	0.036	0.033	0.030	0.042	0.054
575	0.033	0.040	0.026	0.026	0.016	0.017
578	0.023	0.021	0.052	0.017	0.050	0.017
580	0.019	0.059	0.040	0.022	0.043	0.031
581	0.023	0.033	0.035	0.041	0.061	0.070
583	0.025	0.027	0.038	0.017	0.057	0.069
585	0.026	0.046	0.035	0.023	0.024	0.064
586	0.044	0.047	0.030	0.022	0.040	0.061
589	0.023	0.050	0.037	0.018	0.035	0.039
590	0.035	0.024	0.042	0.020	0.052	0.048
593	0.034	0.027	0.030	0.014	0.037	0.029
595	0.022	0.032	0.037	0.030	0.043	0.042
596	0.025	0.018	0.041	0.016	0.042	0.011
598	0.032	0.030	0.040	0.025	0.037	0.022
600	0.031	0.032	0.042	0.041	0.058	0.037
603	0.022	0.024	0.039	0.022	0.047	0.035
605	0.030	0.039	0.040	0.025	0.053	0.040
607	0.027	0.026	0.041	0.017	0.019	0.027
608	0.029	0.026	0.030	0.046	0.042	0.033
610	0.028	0.028	0.034	0.022	0.037	0.026

612	0.039	0.046	0.034	0.021	0.076	0.033
613	0.023	0.034	0.035	0.029	0.027	0.056
614	0.034	0.041	0.045	0.016	0.047	0.012
618	0.037	0.039	0.033	0.017	0.026	0.028
619	0.025	0.022	0.035	0.019	0.036	0.051
620	0.021	0.044	0.050	0.082	0.034	0.088
621	0.032	0.042	0.029	0.021	0.034	0.022
623	0.032	0.030	0.046	0.020	0.049	0.035
626	0.021	0.025	0.034	0.015	0.051	0.036
629	0.021	0.028	0.039	0.017	0.065	0.052
630	0.017	0.058	0.098	0.090	0.106	0.115
631	0.031	0.045	0.034	0.087	0.039	0.095
632	0.027	0.079	0.047	0.093	0.045	0.110
635	0.028	0.045	0.049	0.027	0.041	0.032
636	0.027	0.025	0.034	0.016	0.033	0.033
637	0.022	0.025	0.036	0.025	0.037	0.044
640	0.021	0.029	0.041	0.024	0.042	0.032
642	0.036	0.039	0.041	0.021	0.059	0.062
644	0.024	0.025	0.033	0.021	0.029	0.035
646	0.028	0.027	0.037	0.032	0.038	0.027
648	0.046	0.047	0.035	0.016	0.023	0.025
649	0.026	0.041	0.030	0.015	0.032	0.025
650	0.024	0.031	0.033	0.050	0.015	0.034
652	0.023	0.018	0.039	0.057	0.049	0.072
654	0.035	0.027	0.042	0.024	0.048	0.041
655	0.020	0.038	0.033	0.024	0.028	0.036
656	0.034	0.041	0.032	0.016	0.021	0.026
657	0.026	0.032	0.041	0.030	0.051	0.041
658	0.024	0.031	0.031	0.029	0.043	0.048
659	0.027	0.028	0.034	0.020	0.041	0.026
660	0.031	0.038	0.034	0.019	0.048	0.034
662	0.040	0.024	0.037	0.022	0.043	0.034
663	0.032	0.031	0.028	0.014	0.027	0.032
664	0.033	0.014	0.040	0.025	0.035	0.031
666	0.037	0.047	0.032	0.031	0.026	0.036
667	0.021	0.030	0.043	0.038	0.049	0.058
671	0.027	0.028	0.036	0.025	0.049	0.057
672	0.042	0.066	0.038	0.021	0.045	0.030

673	0.017	0.036	0.035	0.014	0.049	0.033
674	0.027	0.030	0.035	0.023	0.044	0.038
675	0.030	0.054	0.035	0.024	0.038	0.041
676	0.032	0.023	0.038	0.018	0.028	0.035
678	0.029	0.031	0.032	0.019	0.037	0.044
679	0.026	0.044	0.044	0.039	0.041	0.049
688	0.026	0.026	0.039	0.019	0.047	0.032
689	0.025	0.033	0.045	0.026	0.031	0.023
691	0.036	0.024	0.037	0.034	0.043	0.034
693	0.034	0.023	0.043	0.029	0.039	0.073
695	0.027	0.037	0.044	0.016	0.032	0.019
740	0.033	0.023	0.038	0.031	0.037	0.057
756	0.032	0.028	0.036	0.020	0.035	0.024