

2022 NPCR MARYLAND SUCCESS STORY

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Monitoring, Accountability, and Workflow: Improving Cancer Registry Processes Using Power BI

National Program of Cancer Registries SUCCESS STORY

SUMMARY

The Maryland Cancer Registry (MCR) utilized Microsoft Power BI to generate new, interactive reports that connect data from tables in multiple databases to give current, up-to-date information on the status of case processing. These HIPAA compliant reports can be shared widely and are easily tailored to meet the registry needs.

CHALLENGE

Central cancer registries receive data from multiple sources in various forms. Tracking and accounting for all case data is a tedious task that was previously done manually, using spreadsheets. Data processing requires the use of several software tools and databases, so tracking files can be a challenge. We identified a better way to track a file all the way through processing, from Web Plus to Prep Plus to CRS Plus.

SOLUTION

Utilizing Microsoft BI, the following reports were developed:

- The Facilities Report shows abstracts processed based on the diagnosis year and compares them to previous years to help track the progress towards completion. This report can be further filtered by facility type and status. The pending case report is useful for work assignments. (Table 1)
- The Facilities Quarterly Report compares quarterly submissions by facility and gives a visual display of their status compared to previous years.

- The Monthly Facilities Report shows the counts of abstracts that were received in the last six months, by facility. This report also includes the same filters as the Facilities Report and a bar graph that visualizes the number of abstracts received versus the average monthly count from 2021. This report is a good way to determine if the registry has received all the expected abstracts from a given facility in a month.
- The WebPlus Submission Status Report tracks all files that were uploaded to WebPlus. It is filterable by File Date, File Type, Bundle ID, Facility ID, Status, version, and import status. This report displays the count of all files uploaded to Web Plus, how many records were imported into Prep Plus, and subsequently, CRS Plus. Any count differences are highlighted in red for easy review.
- The Web Plus Export Status Report tracks bundles that were exported from Web Plus and records counts for each database and highlights any differences. This report also lists any missing case files in CRS Plus for review to ensure all cases are accounted for.
- The HL7 & MU Submission Files Report tracks all HL7 and Meaningful Uses cases that were uploaded to the SFTP server and Web Plus. This is useful in creating monthly reports and for tracking if a given facility is behind in submitting files. Before generating this report, HL7 and Meaningful Use cases were counted manually at the end of each month.

RESULTS

Power BI is a useful tool that has allowed the MCR to:

- Track facility submissions dynamically and better assess their status.
- Better manage resources by planning work assignments based on caseload.
- Increase efficiency by eliminating labor-intensive manual tracking.
- Improve tracking and monitoring of the progression of files during processing.
- Quickly identify, review, and address any missed cases and/or files.
- Have greater accountability of all files submitted to the MCR.

SUSTAINING SUCCESS

We continue to improve the Power BI dashboard with new features and reports as needs arise. For example, the WebPlus Submission Status Report was recently updated to include filters for version and whether a file has already been reviewed using the Myriddian Quality Assessment Tool (MQAT). Recently, we added the top 10 primary site counts to the display to visualize the fluctuation and progress during the COVID-19 pandemic. This can be further filtered by type and facility. Another recently added feature is patient lookup, where staff can identify a group of patients based on selected criteria that can be used to do quality assurance reviews.

TABLE 1. FACILITIES REPORT

Reporting Facility ID	Reporting Facility Name	2017	2018	2019	Average 2017-2019	Max Value 2017-2019	2020	Counts Change 2020-Average 2017-2019	Percent Change 2020-Average 2017-2019	2021
0006320020	Baltimore Harbor Medical Center	1922	1927	2095	1981	2095	1786	-195	-9.86%	1479
0006320050	Baltimore Harbor Medical Center	1253	1239	1235	1242	1253	969	-273	-22.00%	24
0006320090	Baltimore Harbor Medical Center	87	86	50	74	87	14	-60	-81.17%	5
0006320120	Baltimore Harbor Medical Center	1508	1614	1354	1492	1614	1483	-9	-0.60%	476
0006320125	Baltimore Harbor Medical Center	2181	2072	1593	1949	2181	668	-1281	-65.72%	126
0006320127	Baltimore Harbor Medical Center	378	495	508	460	508	382	-78	-17.02%	107
0006320180	Baltimore Harbor Medical Center	6924	6767	7141	6944	7141	4998	-1946	-28.02%	163
0006320200	University of MD Medical Center (Baltimore)	161	150	159	157	161	104	-53	-33.62%	1
0006320220	MedStar Baltimore	1894	1780	2001	1892	2001	1980	88	4.67%	1174
0006320250	MedStar Baltimore	849	888	963	900	963	601	-299	-33.22%	46
0006320260	University of Maryland System (Baltimore)	1432	1238	1188	1286	1432	1006	-280	-21.77%	426
0006320280	University of Maryland System (Baltimore)	1384	1366	1378	1376	1384	1231	-145	-10.54%	847
0006320290	MedStar Baltimore	159	121	178	153	178	98	-55	-35.81%	70
0006320310	MedStar Baltimore (Baltimore)	299	233	147	226	299	135	-91	-40.35%	43
0006320330	University of Maryland Medical Center	2850	3286	3473	3203	3473	2799	-404	-12.61%	578
0006320350	Baltimore Harbor Medical Center	1169	1272	1256	1232	1272	822	-410	-33.30%	4
0006320416	MedStar Baltimore (Baltimore)	503	410	484	466	503	345	-121	-25.91%	38
0006320420	Baltimore Harbor Medical Center	83	71	60	71	83	57	-14	-20.09%	2
0006320440	MedStar Baltimore	9	3	4	4	9	4	-4	-100.00%	
0006320460	University of Maryland Medical Center (Baltimore)	583	622	576	594	622	477	-117	-19.65%	7
0006320500	Baltimore Harbor Medical Center	373	318	327	339	373	247	-92	-27.21%	52
0006320540	MedStar Baltimore (Baltimore)	1031	949	1036	1005	1036	963	-42	-4.21%	613
0006320569	University of Maryland System (Baltimore)	997	1057	1143	1066	1143	1112	46	4.35%	935
0006320580	MedStar Baltimore	977	942	949	956	977	791	-165	-17.26%	290
0006320590	University of Maryland System (Baltimore)	106	97	80	94	106	37	-57	-60.78%	21
0006320610	MedStar Baltimore (Baltimore)	85	92	139	105	139	59	-46	-43.99%	18
0006320640	University of MD Medical Center (Baltimore)	172	102	149	141	172	84	-57	-40.43%	
0006320645	MedStar Baltimore	441	417	392	417	441	172	-245	-58.72%	
0006320655	Baltimore Harbor Medical Center	65	47	5	39	65	4	-35	-89.74%	3
0006320670	Baltimore Harbor Medical Center	373	381	314	356	381	266	-80	-22.47%	3



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