MSSIC Sampling Process

Sampling Guidelines:

- The sampling method should produce a representative sample of all eligible cases at each hospital implementing sampling.
- To avoid any suggestion of bias in sampling or intentional "gaming" of the sampling system it should not be possible to schedule patients so as to have them either be included or not included in MSSIC.
- The sampling method should be "auditable" – that is, it should be possible for an outside auditor to review surgical schedules and/or OR logs and determine whether the sampling method was used as designed.
- The sampling method should be as simple as possible – the fewer rules, conditions, calculations, or decisions, the better.
- The sampling method should be easy for abstractors to implement on an ongoing basis.
- The sampling method should reduce, ideally to zero, the amount of data abstraction and data entry required for cases that will ultimately be not sampled for inclusion in the registry.
- It is the intent of the MSSIC Coordinating Center to work individually with hospitals using tools such as sampling blocks, randomization processes within the registry, and time off/vacation blocks to reduce volume in a way that causes as little disruption to workflow as possible.
- The primary goal of sampling is to reduce the volume of cases entered in the registry by each participating hospital down to the expected volume contracted for in an unbiased manner.
- Participating hospitals contract with Blue Cross Blue Shield of Michigan (BCBSM) to enter a specific number of cases based on the amount of abstractor support the hospital has contracted to provide. Generally speaking, there are 3 levels of abstractor support representing either 1 full-time abstractor (1 FTE), 1.5 full-time abstractors (1.5 FTE), or 2 full-time abstractors (2 FTE). A specific number of cases are assigned to each of these 3 levels of support. The registry is programmed to sample an adequate number of cases to achieve the appropriate volume of abstracted cases for the calendar year. It is desired that the sampling process accommodate the goal of maintaining a steady workflow for the abstractors while reaching the appropriate volume using a randomized process.

Current Sampling Process:

Beginning in 2018, a list of Procedure Codes has been created by the MSSIC Coordinating Center which represent the types of cases that MSSIC is interested in reviewing. This list is used by participating hospitals to search for cases to upload into the registry. All cases assigned these codes are collected into an upload document consisting of 1 week's cases referred to as a block. Blocks are uploaded sequentially 90 days after the surgeries occur. Once uploaded the hospital's abstractor triggers the registry's automated sampling process which samples out excess cases, keeping the volume as contracted for at: 1 FTE, 1.5 FTE or 2 FTE. The program may also be set to sample a specific number of cases depending on circumstances with the goal always of assisting hospitals in achieving the specific volume of cases for the given calendar year. The registry program selects cases randomly except that previously sampled cases which were excluded are not selected because it is presumed that they would once again be excluded. This prevents wasted effort on the part of the abstractor.

Once the program has selected the appropriate volume of sampled cases abstractors review the cases looking for diagnosis codes assigned by the surgeon at the time of consult/decision to go to surgery. It is with these codes that MSSIC makes the decision as to whether the case is included for full chart abstraction or not (excluded). On occasion this review may reveal that a case which was uploaded is not within the scope of MSSIC. Those case are then deleted. Since exclusions and out of scope cases could reduce the number of cases abstracted, blocks are sampled at a higher percentage than what is ultimately needed. Adherence to case upload processes is audited on official yearly audits.

Hospitals with more than enough cases to meet their yearly volume goal are allowed up to 5 “off” or “vacation” weeks when cases are uploaded but not sampled. This aligns with the BCBSM description of abstractor support as being completed cases produced during a 47-week work year.

Sampling History:

The above process was implemented beginning with second quarter 2018 cases. Prior to that, 2 additional sampling processes were used. From 2015 through 2016 a randomized SAS program was run to select the appropriate percentage of days to sample for any hospital expected to be over their required volume. For example, if a hospital’s volume revealed that they only need enter approximately 40% of their cases then the program would select 40% of the calendar days and surgeries from those dates were entered in the registry. This sampling scheduled was not to be shared by the abstractor for scheduling purposes. This process did not allow for targeting volume in a precise way.

Beginning in 2017 the year was broken into 6-day blocks. Abstractors were instructed to review the cases sequentially as they occurred in the block and once the appropriate volume of included cases had been entered, they discontinued entering cases for that block. This process was audited on formal audit for any deviation from the instructions. A 6-day block was chosen to prevent oversampling the beginning of the week. This block schedule was not to be shared by the abstractor for scheduling purposes. This process was also audited on formal audit for any deviation from the instructions. This later process continued until the workflow was overhauled and implemented with 2nd quarter 2018 cases, at which point the current process was implemented.