A Summary of Interactive Best Practices Workshops Findings and Tools to Guide Registries to Improve Data Reporting and Registry Operations

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Interactive Workshops Designed to Identify Tools and Best Practices to Improve and Support Central Cancer Registries' Operations

Overview and Background

Based on the recommendations for next steps from the first year of the project, *Identifying and Implementing Best Practices for Cancer Registry Operations*, the North American Association of Central Cancer Registries (NAACCR) planned and implemented a series of virtual interactive workshops aimed at identifying best practices and tools to improve and support registry reporting and operations. Although the workshops all focused on different challenges within central registry operations, a common purpose focused on allowing registry staff to share experiences and knowledge around these topics and compare different registry operational approaches to learn which methods were the most effective in diverse settings. Workshops were virtual due to COVID 19 constraints, but they were developed to allow maximum engagement among participants. All National Program of Cancer Registries (NPCR)-supported registry staff were invited to participate in any and all of the workshops.

The purpose of this project was to plan and implement interactive workshops to facilitate discussion around best practices and tools for the following:

1. Developing and monitoring data management reports
2. Establishing strong communications and relationships with hospitals
3. Improving reporting from nonhospital sources
4. Managing best practices around the COVID-19 response

Because of COVID-19 and other time constraints, fully developed and vetted best practices could not be developed within the framework of this project. In NAACCR's experience, the development of best practices guidelines requires extended discussion and negotiation among a broad constituency. Consensus on best practices is often difficult to reach and not attainable within the framework of a brief virtual workshop. Nonetheless, these workshops produced substantial information on current and successful best practices used across NPCR registries. This information is summarized below, and tip sheets are offered containing ideas from registry directors. The summaries provided will serve as an excellent base to further develop these topics in the future.

A top salient benefit of these workshops was allowing the registries to exchange ideas freely on a selected topic. (See Appendix C, Workshop Evaluations.) Registries are always eager to share experiences, explain their approach to problems, and learn from others. In every breakout and workshop session creative ideas were shared, and registry directors heard about methods tried in other environments that might be useful in their own situation. We strongly recommend that the Centers for Disease Control and Prevention (CDC) continue to facilitate such opportunities for exchange of ideas among the registries.

Workshop I: Developing and Evaluating Management Reports

The first workshop addressed *Developing and Evaluating Management Reports* and was conducted during three sessions. During the first two sessions, participants were divided into three breakouts. Sessions One and Two addressed facility and central registry reporting, respectively, and Session Three focused on reaching consensus (Table 1). Participants were asked to attend all three sessions.

Table 1. Structure of Workshop I

Workshop Structure		
Session One - 8/13/2020	**Session Two - 8/13/2020**	**Session Three - 8/25/2020**
Breakout 1: Timeliness of Facility Reporting	Breakout 1: Timeliness of Central Registry Reporting	Polling for consensus of variables, benchmarks, and metrics for management reports
Breakout 2: Completeness of Facility Reporting	Breakout 2: Completeness of Central Registry Reporting	
Breakout 3: Quality of Facility Reporting	Breakout 3: Quality of Central Registry Reporting	

Workshop Objectives

5. Identify and assess the most important data management reports required to monitor completeness, timeliness, and quality of reporting facilities and central registries.

6. Establish metrics and benchmarks for the management reporting of facilities and central registries around completeness, timeliness, and quality.

7. Suggest new or improved management reporting practices that would enhance central registries' ability to meet completeness, timeliness, and quality goals.

Each breakout session identified the types of data management reports required to monitor and improve completeness, timeliness, and quality at both the central registry and facility level. The third session of this workshop was designed to reach consensus from all participants on what should be included in the recommended management reports. Polling through Zoom was used to achieve consensus. The most important data needs, benchmarks, and metrics were identified. Sample reports were also collected from the participating states and are provided in Appendix E

Registries in 28 states and Washington, D.C., participated (Table 2)

Table 2. Registries participating in Workshop I

Alaska	Louisiana	New Jersey	Tennessee
Arizona	Maine	New York	Texas
Arkansas	Maryland	North Carolina	Utah
Colorado	Massachusetts	North Dakota	Washington, D.C.

Florida	Minnesota	Ohio	West Virginia
Hawaii	Missouri	Oregon	
Idaho	Montana	Rhode Island	
Kentucky	Nevada	South Carolina	

Workshop Recommendations

Based on the results of the workshop, the following recommendations are made to CDC and to central registries for using management reports to monitor completeness, timeliness, and quality. Please refer to the full report for more details concerning these recommendations.

Recommendations for CDC

- Develop a dashboard and/or semiautomated on-demand reports within the central registry software that display the registry's progress toward 12- and 24-month submission benchmarks, including—
    - Completeness
    - Percent of cases missing age, sex, race, and county
    - Percent of cases from death certificates only
    - Percent of cases passing CDC-prescribed set of standards edits
- Develop a dashboard and/or semiautomated on-demand reports within the central registry software that display the following measures for each reporting hospital:
    - Timeliness of submissions—percent of cases that are received within the required time frame, with the ability for registries to choose the starting point (date of diagnosis or date of first contact) and time frame (in days or months)
    - Completeness of reporting—the number of cases received for the current reporting year as a proportion of the average of the number of cases reported in prior years
    - Percent of cases missing age, sex, race, and county
    - Percent of cases passing standard edits

Recommendations for central registries are threaded throughout this report. Please see Monitoring Timeliness, Completeness, and Quality Tip Sheets for specific registry-based recommendations.

Workshop Summary

Breakout 1: Timeliness

The participants reported that limited staff, increased workloads, and a lack of familiarity with or access to software packages were all barriers to generating reports to monitor timeliness.

Recommendation**:** The group reported that a real-time dashboard with the ability to provide timeliness metrics on demand would greatly reduce this burden. The metrics described below represent the final consensus of the group based on recommendations from the breakout participants.

Timeliness Monitoring of Reporting Facilities

Participants identified the need for metrics for two types of facility timeliness:

1. Timeliness of submission: Submission of cases according to a required or agreed-on schedule (monthly, quarterly, etc.)

    - Measure the proportion of cases that are reported to the central registry within the required time frame.

    - The required time frame varies somewhat between central registries, but in general it is 180 days or 6 months from the date of diagnosis or the date of first contact with the reporting facility.

    - Central registries that currently monitor timeliness of reporting are doing so using tools created outside of their registry software. This places a burden on staff that could be reduced or eliminated by building such reports into the cancer registry management software.

    - This report does not exist within CRS Plus.

    The full group consensus of workshop participants determined that a semiautomated, on-demand report should be built into central registry software programs and should include the following measures:

    - The percent of abstracts (source records) from each facility received within *X* days of [Start Date], where—

        - *X* is a user-selected number of days as determined by the registry.

        - Start Date is user-selected from either the Date of Diagnosis or the Date of First Contact.

    - The program should allow the user to select from the following parameters:

        - Diagnosis/Accession Year

        - Facility ID

        - Primary Site

        - NPCR Reportable Status

        - Address at DX State

        - Class of Case

        - Type of Reporting Source

2. Timeliness of Reporting: The time from initiation of a case (date of diagnosis or first contact) to its submission to the central registry

   - CRS Plus includes Cases Received by Facility but it does not have the level of detail outlined in the recommended data fields listed below.
   - Monitor reporting facility adherence to required or agreed-on submission schedule.
   - Monitor missed submissions in real time to help to identify facilities at risk of falling behind in reporting and take steps to avoid delinquency.
   - All central registries indicated they track facility submissions, but for most registries this is a manual procedure that is done external to their registry software.

   During the consensus gathering session the attendees voted and approved the recommended the following automated report specifications:

   - Include the following fields:
     - Facility ID/Name
     - Date file Received.
     - File Name
     - Number of records in the file
       - Number in NAACCR Record type A (full case abstract)
       - Number in NAACCR Record Type M (modified record)
     - Number of Rejected files/cases
   - Include nonhospital sources (physician offices, radiation therapy centers, cancer treatment center, ambulatory surgery centers, private pathology laboratories).
   - Track by month (number of cases reported by each facility each month).
   - Identify and flag facilities that did not report during the month (generate a report that lists all facilities that did not submit a report during a particular month).
   - Provide comparisons to previous years (generate a report for each facility that compares what is being reported this year versus previous years; recommend comparing data from at least the previous 5 years).

Timeliness Monitoring of the Central Registry

The group discussed the degree to which timeliness and completeness are intertwined at the central registry level. Timeliness goals for central registries are meeting the 24- and 12-month call for data submission deadlines.

To that end, the group determined the best way to monitor central registry timeliness is to monitor the progress toward Call for Data tasks. The group documented steps necessary to meet Call for Data standards and developed a timeline for completion.

Several examples of Call for Data task lists and timelines are used by individual registries and could form a basis for a master timeline. The group agreed that a management tool containing all the tasks with a method to monitor progress and identify current priorities would be very helpful.

During the consensus-gathering session the attendees voted in favor of developing a process management tool to monitor the status of tasks. The tool should include tasks to be done throughout the year, as well as tasks that should not be started until after the file is 90–95 percent complete. The tool should achieve the following:

- Include each task listed below in the designated categories:
    - Throughout the year
    - When the file is 90–95 percent complete
- Allow the user to add, delete, and customize tasks.
- Allow registries to set due dates.
- Include a method to mark a task with an estimated percent complete, or as completed and the completion date.
- Mark past due tasks with a flag or warning.

The following tasks are to be performed throughout the year (in no particular order):

- Receive, import, process cases.
- Abstract and process paper pathology laboratory and other hard-copy nonhospital cases.
- Follow back for missing information—for example: percent missing follow up, by site.
- Deduplicate patients—run a deduplication report monthly.
- Undertake quality assurance runs; for example, cases with localized behavior but in situ stage, validating unusual site histology combinations, unknown birthdates, etc.
- Run EDITs at least monthly.
- Include geocoding; run a report to identify incorrect codes and missing codes monthly.
- Assess unknown values (race, sex, date of birth, county) monthly.
- Apply linkage to vital record death files; perform monthly or quarterly, as available—rematch the entire year when data are 95 percent complete.
- Run resolution of duplicate tumors quarterly.
- Run interstate data exchange twice a year and process cases.

The following tasks are to be performed when the file is 90–95 percent complete:

- Death Clearance
- IHS Linkage
- NDI Linkage
- SSDI linkage
- Resolution of duplicates should be an ongoing process, but it's not always possible to complete throughout the year; it must be done prior to call for data submission.

Breakout 2: Completeness

The participants again reported that limited staff, increased workloads, and a lack of familiarity with or access to software packages are all barriers to generating their own reports to monitor completeness. The group recommended a real-time dashboard with the ability to provide completeness metrics on demand to greatly reduce this burden. The metrics described below represent the final consensus of the group based on recommendations from the breakout participants.

Completeness Monitoring of Reporting Facilities

The group agreed that monitoring facility completeness is important to ensure complete capture of all cases. Like timeliness, completeness is being monitored in two ways:

- Completeness of case-finding: The facility identifies and abstracts all reportable cases.
- Completeness of submission: The facility transmits all reportable abstracted cases to the central registry.

Most registries reported that they are monitoring facility completeness; however, there is significant variability in the methods and tools employed for measuring completeness. Almost all states were using software applied outside their registry database to perform the assessment (SAS, Excel, Access).

1. Completeness of Case-Finding

   The group agreed that completeness of case-finding involves the number of new cases (duplicates removed) submitted for the current reporting year in comparison to cases submitted in prior reporting years.

   Some states use a visual comparison (without calculation) to prior years, while most states reported calculating completeness by dividing the number of cases submitted for the current year (actual) by an average of the previous years' case counts (expected). States use 2–5 years of data to calculate the number of expected cases, and one state uses a weighted average with more recent years weighted more heavily.

   Some states track completeness by diagnosis year, while others use accession year (based on date of first contact). The difference primarily depended on whether the state collects non-analytic cases, which may be reported months or years after diagnosis, in which case tracking by accession year is more appropriate.

Although some states assess facility completeness annually at the end of the reporting year, they all agreed it would be useful to monitor facility completeness more frequently (monthly or quarterly) to ensure facilities are on track to submit all cases by July 1.

The development of a dashboard or report in the central registry software that provides the deduplicated number of cases submitted by each facility per year (diagnosis or accession), with a calculated completeness expressed as the percent of expected cases, is recommended. Registries should be able to define the number of years used to calculate average caseload. (Note: Although an automated report within the registry software would be useful, registries may choose to override the expected number of cases for a facility based on audit results or other external factors.)

2. Completeness of Submission

   The group recognized that reportable cases abstracted by a facility may not be in the central registry database for several reasons. To identify these missing cases, registries are using a variety of methods, including annual resubmission of all cases by each facility, annual comparison of case listings, and follow-back on gaps in sequentially assigned hospital sequence numbers. The group recommends the following:

   - Develop a report or flag in the central registry software that identifies missing facility accession numbers.
   - Develop a report in the central registry software that shows frequency of submissions/imports and number of cases by facility.

Completeness Monitoring of Central Registries

All participants agreed that the biggest barrier to monitoring central registry completeness and progress toward 12- and 24-month submission completeness goals is the lack of a transparent and consistent number of expected cases to use as the denominator. Although the group acknowledged that CDC and NAACCR are working on revising the methodology for calculating the denominator, they recommended that the number of expected cases used to estimate 12- and 24-month completeness should be the same.

The group recommends developing a dashboard report that shows real-time progress toward the 12- and 24-month completeness benchmark using a consistent denominator and numerator. The report should include the following:

- Expected number of cases for 12- and 24-month submissions based on historical data.
- Number of cases currently in the CCR database that will be counted toward completeness for the 12- and 24-month submissions.

It would be helpful if dashboard showed completeness broken down by the following:

- Primary site
- County (or other geographic region)
- Diagnostic confirmation

Breakout 3: Monitoring Quality

This group suggested an on-demand quality report that includes essential data items, benchmarks, exclusions, and accuracy calculations. Such a report would help provide consistent and timely feedback to reporters and central registry staff.

Quality Monitoring of Reporting Facilities

The group discussed how data quality feedback to reporting facilities is currently provided. Availability of resources and the number of reporting facilities are important factors in the central registries' ability to provide robust and consistent feedback to reporting facilities. There is substantial diversity in the frequency, approach, and methodology of providing feedback as well as the data quality indicators included.

Tools—Most central registries currently use software external to their database management system for generating facility data quality reports.

Frequency—Central registries vary in how frequently they provide data quality feedback to reporting facilities. Commonly, feedback is provided monthly, bimonthly (every 2 months), or quarterly.

Content—The number of data items reviewed and included for feedback also varied by central registries, but most indicated 6–10 data items.

The group reached consensus that registries should regularly evaluate the following data items from reporting facilities for accuracy and data quality control purposes and include them in data quality reports to reporting facilities:

Demographic Data

- Gender
- Race

Tumor Data

- Primary Site
- Histology
- Behavior
- Grade—Clinical (optional: Path and Post Therapy)
- Summary Stage 2018
- EOD—Primary Tumor, Reg Nodes, Mets
- Date of Diagnosis
- Laterality

- Lymph Nodes Pos/Examined
- Diagnostic Confirmation
- Hospital Sequence
- Site Specific Data Items (SSDIs)
- Lymph Vascular Invasion (LVI)

Treatment Data

- All first course of treatment for each treatment modality

To confirm data quality, central registries should strongly recommend that abstracts include text documentation to support codes for all the data items listed above.

Benchmark—The group discussed the accuracy rate for these data items. After much discussion, the group recommended a 95 percent accuracy rate as the benchmark.

Exclusions—Non-analytic cases, out-of-state cases, death certificate–only cases, pathology laboratory–only cases, autopsy-only cases, and nonhospital reporting sources.

Metric—The error rate is calculated by dividing the number of discrepancies by the total number of data items (or maximum possible number of discrepancies), multiplied by the number of abstracts reviewed. The accuracy rate would then be 1-the error rate (100). Each data item listed above is counted as a single item.

Other Issues Discussed

- The impact of the CoC RQRS requirements on central registries: How will the CoC requirement to frequently update a case impact central registries? Can central registries request that hospitals submit only completed cases? On the flipside, will this CoC requirement present an opportunity for central registries to obtain more real-time data as cases are updated more frequently?
- Data quality incentives: Having public recognition, certificates, or awards for achieving a specific data quality threshold based on a “report card” approach is recommended.
- Some hospital registries do not want feedback: A survey was conducted by one state registry to assess providing feedback to hospital registrars; concerns cited include having no time to update and correct the hospital registry database.
- Re-abstracting audits are also implemented by some central registries to evaluate data quality, but this is becoming more difficult to accomplish due to travel restrictions for on-site audits. Alternatively, conducting these audits remotely via access to hospital electronic medical records is often prohibited or a long and cumbersome process.

Quality Monitoring of the Central Registry

All participants agreed that central registries should monitor meeting NPCR National (24-month) and Advanced (12-month) Data Quality Standards. These standards are listed below. Central

registries discussed the variety of tools and resources used to generate reports to monitor their data quality. Most use software external to their database management system. Some database management systems can create a dashboard for specific indicators. External tools used to generate reports include SAS, Crystal reports, Tableau, and Sequel queries. Some expertise is required to run these external programs, so having a standardized generated report that can be filtered as needed is the preferred approach.

It was noted CRS Plus has the *NPCR Incidence Completeness Report* that covers the items noted with an asterisk below.

NPCR National Data Quality Standard (24-month data):

- There are 3 percent or fewer death-certificate-only cases*
- There is a 1 per 1,000 or fewer unresolved duplicate rate.
- The maximum percentage missing for critical data elements are as follows:
    - 2 percent age
    - 2 percent sex
    - 3 percent race
    - 2 percent county
- 99 percent pass CDC-prescribed set of standard edits.

NPCR Advanced National Data Quality Standard (12-month data)

- There is a 2 per 1,000 or fewer unresolved duplicate rate.
- The maximum percentage missing for critical data elements are the following:
    - 3 percent age
    - 3 percent sex
    - 5 percent race
    - 3 percent county
- 97 percent pass CDC-prescribed set of standard edits.

The group also recommends adding the ability to include additional data items, such as the following:

- Unknown Primary Site: ≤10 percent
- Unknown Summary Stage: ≤10 percent

Other Issues Discussed

- Race is becoming more difficult and problematic to obtain, especially from nonhospital reporting sources.

- The number of pathology report–only cases is increasing, with little information to create a complete case, increasing the percentage of unknown values for many data items.

- Validating patient demographic information through investigative software, such as LexisNexis or Clear, is becoming more essential. In addition, having access to other state health information databases, vital records, and hospital discharge data is also important to complete or validate demographic data.

- Reaching out to participate in local physician workgroups, such as the Melanoma Workgroup in Arizona, helped to improve obtaining race information, as well as Clark's level.

- Reaching out to groups of independent oncology (medical and radiation) clinic databases to access their system for patient treatment information is helpful.

- Conducting the data linkages to obtain passive follow up information is important.

- Conducting various focused visual auditing data reviews several times a year can assist in identifying discrepancy trends and early corrective interventions.

Workshop Summary

This workshop provided central registries with a forum to discuss a range of management tools that would support more efficiency in monitoring progress toward timeliness, completeness, and quality in reporting. Cancer registry data management software is the most effective way to achieve these objectives; it is recommended that CDC focus on the development of a seamless software system that would help support this goal. The alternative of relying on registries to develop their own tools external to their data management systems continues the ad hoc approach to operations that results in inconsistencies in reporting procedures across central registries. A suite of tools and dashboards that could be used by all was conceptually defined and is included in the findings delineated above.

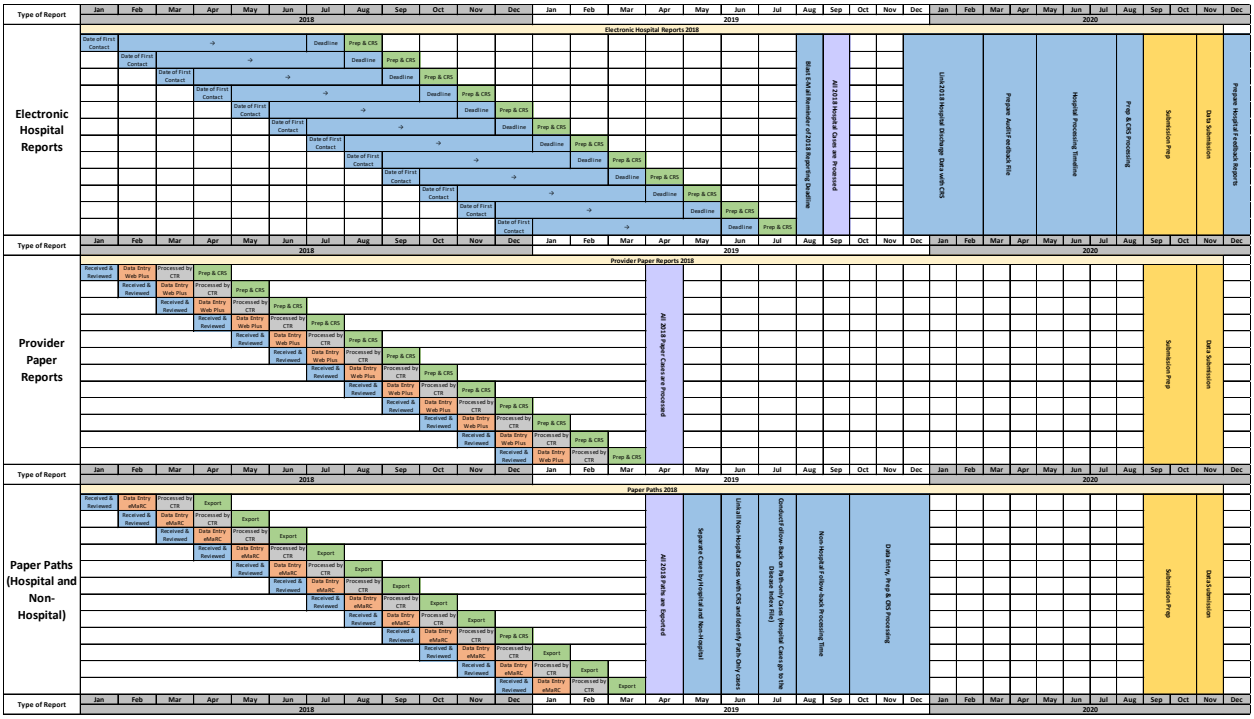
Appendix E: Sample Management Reports Submitted by States

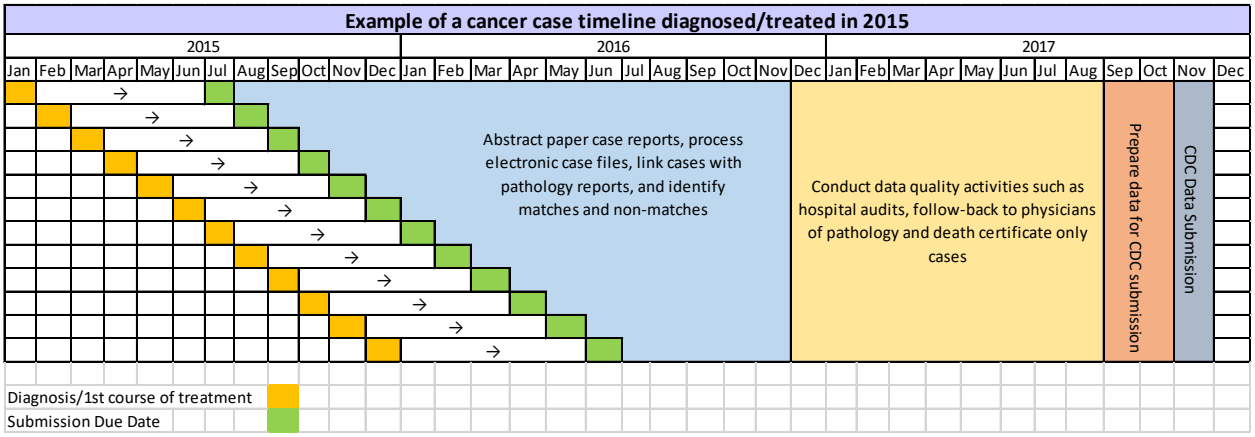
Colorado Sample Central Registry Timeliness Form													
2020 NAACCR / NPCR Submission Summary			**Submission Deadline 12/1/2020**										
Data Quality Completeness:	Total Cases												
2020 Submission: 1995 - 2018			**2018**	**95 %**			**2019**	**90 %**					
2019 Submission: 1995 - 2017	499 500		**2017**	95 %	27537		**2018**	90 %	22249				
Status Update-		7/5/2020		8/5/2020		9/5/2020		10/5/2020		11/5/2020		12/1/2020	
(Run querry on specified dates/ Ck Frequencies)		#	%	#	%	#	%	#	%	#	%	#	%
Total Cases Dx Year 1995-2018													
Completeness 2018													
Completeness 2019													
Data Quality Measures/ Accuracy Rates Tracking	**Goal**	**7/5/2020**		**8/5/2020**		**9/5/2020**		**10/5/2020**		**11/5/2020**		**12/1/2020**	
2018 CASES		#	%	#	%	#	%	#	%	#	%	#	%
Death Cert Only	< 3%												
Unknown Race	< 3%												
Unknown County	< 3%												
Unknown Age	< 2%												

Unknown Gender	< 2%												
Duplicate Case Reports - NAACCR Protocol	< 1%												
% Passing Edits	100 %												
Inter-Record Edits Clear	100 %												

DATA REVIEW TASKS
Review Insitu Breast
Review Insitu Colon
Review Insitu Melanoma
Review Breslow's Depth of Invasion- Invasive tumors
Unknown Age
. Review Odd Ages (>105)
. Review Odd Ages (> = 000)
Unknown Sex
First Name Sex Check
Review Unknown Dx Date
Review Unknown Site (C80.9)
Review Vague Histology (8000-8010)
Review Unknown Stage
Review Dx dates with blank day, 01,15,30

Nevada Sample Central Registry Timeliness Form





Sample Central Registry Calendar from Nevada

CCR Calendar				
PROCESSES	**EMPLOYEE**	**WHEN**	**MONTH STARTED**	**COMMENTS**
Surveillance Activities				
Reportable List	Staff	updated annually		
Data Dictionary	Staff	updated annually		
Standards Revisions				
Determine required data elements	Staff	as needed		
Publish requirements	Staff	as needed		
Monitor compliance	Staff	as needed		
Convert registry data	Staff	as needed		
Casefinding				
Casefinding source reports	Staff	quarterly		
Generate	Staff	quarterly		
Review/monitor	PD/PM	quarterly		
Data Management/Case reporting				
Pathology reports	Staff	ongoing		
Paper (review, followback, abstract)	Staff	ongoing		
Electronic	Staff	ongoing		
Review/Monitor	Staff	ongoing		
Physician reporting	Staff	ongoing		
Paper (review, followback, abstract)	Staff	ongoing		
Electronic	Staff	ongoing		
Monitoring	PD/PM	quarterly		
Health Care Facilities	Staff	ongoing		
Paper	Staff	ongoing		
Electronic	Staff	ongoing		
Monitoring	Staff	ongoing		
Follow-up, correction, deletions	Staff	ongoing		
Data submission reports	Staff	ongoing		
Generate	Staff	monthly		
Review/monitor	PD/PM	monthly		
Delinquent reporting management reports	Staff	monthly		
Generate	Staff	monthly		
Review/monitor	PD/PM	monthly		
Plan to assist delinquent reporting sources	PD/PM	ongoing		
Develop/Revise	PD/PM	annually		

Implement	Staff	monthly		
Process interstate records	Staff	annually		
Receive resident cases	Staff	annually		
Transmit non-resident cases	Staff	annually		
Record consolidation	Staff	ongoing		
Patient linkage	Staff	ongoing		
Tumor linkage	Staff	ongoing		
Follow back to reporters as needed	Staff	ongoing		
Geocoding	Geo-Staff or Co.	ongoing		
Death Clearance	Staff	ongoing		
Linkage	TBD*	annually ?		
Follow Back	TBD*	ongoing		
Linkages with external files	TBD*	as needed		
Rapid reporting management	TBD*	as needed		
Feasibility/IRB approval	TBD*	as needed		
Budget	TBD*	as needed		
Software needs	TBD*	as needed		
Procedures	TBD*	as needed		
Data Quality		annually		
Data quality audit plan	PD/PM	annually		
Develop/Revise	PD/PM	annually		
Implement	Staff	monthly		
Monitor	PD/PM	monthly		
Automated edits	Staff	ongoing		
Visual review/editing	Staff	ongoing		
Data accuracy and completeness	Staff	ongoing		
Compliance with new standards	Staff	ongoing		
Data appears in the correct fields	Staff	ongoing		
Duplicate record check	PD/PM	quarterly		
Data accuracy report to reporters		as required		Reports results of any QC activity and may include comparison reports
Generate/distribute	Staff	TBD		
Review/monitor	PD/PM	quarterly		
Special edit reports	Staff	quarterly		
Communications Activities				
Reporting sources				
Correspond with reporting facilities	TBD*	as needed		
Update reporting facility list	TBD*	as needed		
Reporting facility manual				

Develop/Revise	PD/PM	annually		
Distribute	Staff	annually		
Training				
Review reports to determine needs	PD/PM	quarterly		
Develop/Revise	TBD*	quarterly		
Conduct training sessions	TBD*	TBD		
New reporting requirements	TBD*			
Changes/additions in standards	TBD*			
Funding sources				
Grant proposals	PD/PM	as needed		
Grant activity reports	PD/PM			
Regulatory bodies				
Legislation/rules	PD/PM			
Develop/Revise	PD/PM	as needed		
Monitor	PD/PM	annually		
Interjurisdictional				
Interstate data exchange agreements	PD/PM	annually		
Advisory committee	PD/PM	TBD		
Professional organizations/groups	TDB*	as needed		
Public	TDB*	as needed		
Media	PD/EPI	as needed		
Data Use Activities				
Reports				
Prepare reports	PD/PM	annually		
Prepare articles	PD/PM	as needed		
Prepare newsletters	TBD*	TBD		
Annual Report	PD/EPI	annually		
National Data submission				
Extracting data files	Staff	annually		
Final edits	Staff	annually		
Revising/correcting edits	Staff	annually		
Submission of data	Staff	annually		
Studies				
Cluster evaluation	PD/EPI	as needed		
Screening/intervention programs	PD/EPI	as needed		
Data Requests	PD/EPI	as needed		
General	PD/EPI	as needed		
Special Studies	PD/EPI	as needed		
IRB Processes	PD/EPI	as needed		
Communication with researchers	PD/EPI	as needed		
Technology Management Activities				
Hardware/software requirements	IT Staff	as needed		
Review hardware/software capabilities	IT Staff	annually		
Correspond with IS/vendor	IT Staff	as needed		

System maintenance/programming	IT Staff	as needed		
Web site updates	IT Staff	as needed		
Processing data submissions from facilities	TBD*	as required		
New submissions	TBD*	as required		
Followup	Staff	as needed		
Corrections	Staff	as needed		
Deletions	Staff	as needed		
Backup/security	PD/PM	ongoing		
Administrative/Management Activities				
Financial/Budgeting/Accounting	PD/PM	as needed		
Contract management	PD/PM	as needed		
Resource allocation	PD/PM	as needed		
Policy/procedure manuals	PD/PM	annually		
Privacy policy				
Write privacy policy	PD/PM	as needed		
Conduct staff training	PD/PM	annually		
Maintain signed agreements for staff	PD/PM	annually		
Management reports	PD/PM	monthly		
Review workload status	PD/PM	quarterly	TBD	
Student/intern supervision	TBD*	as needed		
Staff supervision				
Assign job duties	PD/PM	as needed		
Develop/Revise job descriptions	PD/PM	as needed		
Conduct regular staff meetings	PD/PM	as needed		
Review/monitor monthly productivity reports	PD/PM	monthly		
Conduct annual staff performance evaluations	PD/PM	annually		
Interview/recommend hire potential employees	PD/PM	as needed		
Maintain staff contact list with emergency contact numbers	PD/PM	ongoing		
Clerical responsibilities	Staff	ongoing		
Update physician contacts for DC	Staff	ongoing		
PD/PM = Program Director or Program Manager				
PD/EPI = Program Director or Epidemiologist				
Staff = Central Cancer Registry Staff				

TBD = To Be Determined				
TBD* = Processes could be managed by PD/PM/EPI/Staff based on registry size and needs				
Date Revised 12/8/2005				

Ohio Cancer Incidence Surveillance System
HOSPITAL CLOSE OUT REPORT FORM
Diagnosis Year 2018

Part I:

1. Hospital Name, City:

_____

2. OCISS Reporting Source ID: _____

3. List other facilities/physicians for which you did cancer reporting for diagnosis year 2018 under this same Reporting Source ID:

_____

_____

_____

_____

Part II:

1. To the best of my knowledge, we have identified and reported all cancer cases **DIAGNOSED** between January 1, 2018 and December 31, 2018. _____YES
   _____NO

2. Number of cancer cases reported with a **diagnosis date from January 1-December 31, 2018**.

   Total number cases reported:

_____

3. Please explain any increase or decrease in cancer case reports over the previous year:

_____

_____

_____

_____

4. If you have not yet reported all your 2018 cases, when do you anticipate doing so?

   Date when all 2018 data will be reported to OCISS:

_____

SIGNATURE:

_____

NAME:

_____

___

TITLE: _____ DATE:

_____

PLEASE RETURN TO OCISS BY February 28, 2020.

Return by email to OCISS @odh.ohio.gov or by FAX to 614-644-8028

New Jersey Sample Central Registry Completeness Pivot Table Report

2014	2015	2016	2017	2018	2019	(blank)	Grand Total
1180	1237	1083	1235	1161	637		6533
443	547	535	402	418	310		2655
320	359	358	366	364	394		2161
436	414	401	521	480	124		2376
1223	1172	1038	1000	1161	767		6361
1056	1081	1051	1063	973	1037		6261
750	731	849	853	749	506		4438
434	477	445	364	375	184		2279
834	738	622	582	638	2		3416
1590	1491	1623	1564	1612	1678		9558
155	150	141	82	132	14		674
107	96	76	129	140	29		577
1340	1375	1355	1447	1367	1276		8160
			1				1
4177	4477	4786	5119	4867	3332		26758
225	235	279	280	383	180		1582
193	201	197	188	178	64		1021
1012	1157	1088	1262	1194	493		6206
					1		1
63	57	46	24	43	11		244
166	159	191	306	277	127		1226
557	542	565	678	621	289		3252
647	660	731	750	791	355		3934
1047	986	1123	1097	996	700		5949
513	496	586	517	583	537		3232
465	444	429	615	619	544		3116
1443	1528	1649	1913	1601	1772		9906

1018	1003	1049	1026	868	337	5301
1060	1314	1039	1130	1402	1408	7353
3631	4358	4867	4733	4468	1585	23642
1012	1117	1136	1254	1245	1160	6924
140	124	140	137	116	97	754
1299	1249	1271	1210	1121	1093	7243
292	312	304	343	455	449	2155
3602	3938	4504	4776	5136	1435	23391
91	86	104	62	50	11	404
887	850	760	848	829	733	4907
602	579	625	570	615	465	3456
2838	2900	2967	2892	2796	1980	16373
236	273	279	424	276	317	1805
804	704	550	487	507	5	3057
1193	1213	1433	1322	1370	1604	8135
4605	4674	4773	4785	4982	4553	28372
649	608	695	770	728	83	3533
751	722	680	616	586	633	3988
581	554	688	625	564	412	3424
909	949	916	868	818	451	4911
402	438	528	714	597	512	3191
908	952	875	790	720	592	4837
2448	2550	2768	2753	2856	2780	16155
229	234	210	181	115	83	1052
752	851	737	838	245	389	3812
283	288	240	274	260	164	1509
439	367	395	322	364	10	1897
446	433	447	414	379	164	2283
1541	1510	1527	1448	1367	736	8129
565	578	523	531	475	356	3028
1251	1226	1235	1309	1232	659	6912
1028	1318	1313	1180	1143	765	6747
2408	2483	2448	2389	2491	1903	14122
667	650	663	683	614	575	3852
351	320	346	463	382	309	2171
3560	3419	3296	3206	3290	3103	19874
171	177	131	159	66	132	836
64025	**66131**	**67709**	**68890**	**67251**	**47406**	**381412**

	2014	2015	2016	2017	2018	AVG	2019	% Complete	Grand Total
Hospital A	1180	1237	1083	1235	1161	1180	637	54%	6533
Hospital B	443	547	535	402	418	433	310	72%	2655
Hospital C	320	359	358	366	364	362	394	109%	2161
Grand Total	######`	######	######	######	######	######	######	######	######

New Jersey's Unsaved Modification of Completeness Sample Form

display_id	accession_number_hosp	sequence_number_hospital	date_of_1st_contact_yyyy
FAC-11304	201700957	0	2017
FAC-11104	201600034	0	2016
FAC-10301	200701087	3	2016
FAC-12005	201600041	0	2016
FAC-11303	201700388	0	2017
FAC-10402	201504361	0	2015
FAC-12006	201600135	0	2016
FAC-11505	201800833	0	2018
FAC-10301	201800557	0	2018
FAC-11502	200701769	2	2018
FAC-11202	201702402	0	2017
FAC-10211	201701562	2	2017
FAC-11305	201801245	0	2018
FAC-11205	200400893	2	2016
FAC-11104	201700417	0	2017
FAC-10204	201600122	0	2016
FAC-10710	201300877	2	2016
FAC-10710	201700007	2	2017
FAC-11305	201800116	0	2018
FAC-10101	201701494	60	2017
FAC-11605	201500788	0	2015
FAC-11802	201600815	0	2016
FAC-11103	201800159	0	2018
FAC-10303	201900020	0	2019

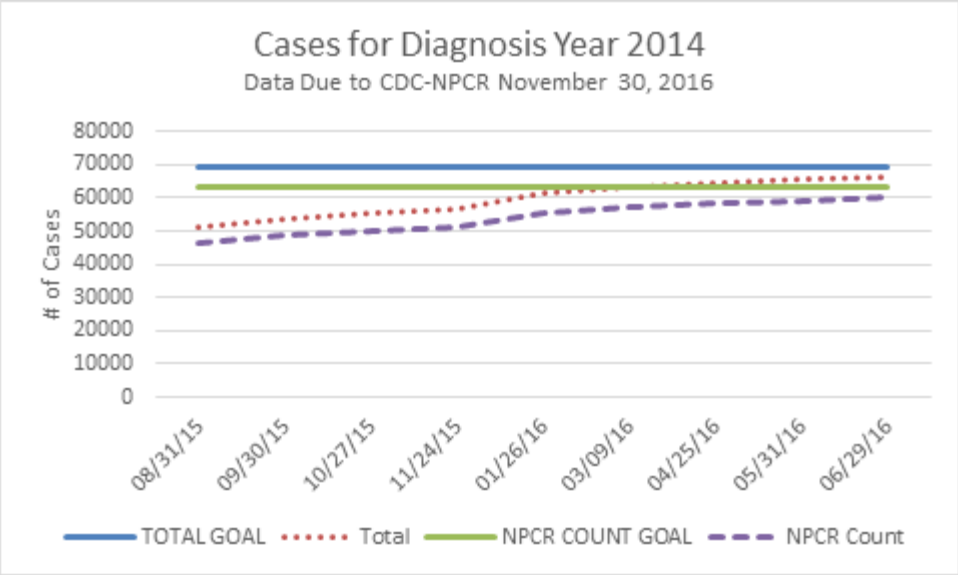
FAC-11301	201800359	0	2018
FAC-10710	201900348	0	2019
FAC-24745	201700274	2	2017
FAC-10204	201802263	0	2018
FAC-10702	201600159	3	2016
FAC-10204	201600695	0	2016
FAC-11201	201400899	60	2014
FAC-11104	201400008	0	2014
FAC-10902	201700019	0	2017
FAC-10204	201600111	0	2016
FAC-10403	201700298	2	2017
FAC-10905	201800175	0	2018
FAC-11203	201500411	2	2015
FAC-10202	201500582	2	2015
FAC-12002	201800001	0	2018

Ohio Central Registry Completeness Sample Form

OCISS Monthly Report, end of June 2016

Ohio Cancer Incidence Surveillance System (OCISS): OCISS is currently working on submission of 2014 data to CDC's National Program of Cancer Registries (NPCR), which are due November 30, 2016. Data are evaluated for completeness and data quality. Data that meet CDC's criteria for completeness and data quality are included in national cancer publications.

The chart below shows the number of incident cancer cases for 2014, by month. NPCR calculates completeness based on an algorithm that compares cancer incidence to cancer mortality. OCISS uses a more simplified approach, comparing incident cancer cases to a numerical goal derived from previous years' data submissions. This allows OCISS to monitor the volume of incident cases and approximate the number not yet reported.



*NPCR Total includes malignant cancers and in situ bladder. Total includes NPCR Total plus in situ cancers other than bladder plus benign brain.

Action Steps and Timelines:

OCISS staff is working with a number of cancer reporters to obtain all 2014 data in order to meet completeness goals. We anticipate an increase of 2000-3000 cancer cases as a result of the following:

- OCISS contacted the Veterans Affair (VA) Central Cancer Registry to obtain reports for 2014. They let OCISS know that a new contract is needed since the current contract was executed 3 years ago. A new contract was developed and sent to the VA for signature in late June. We anticipate 500-1000 additional cancer reports.
- OCISS has not yet received a data file from Department of Defense (DoD). OCISS will contact DoD to learn when data will be submitted. We anticipate 50-100 cases.
- OCISS has not yet processed electronic pathology reports for 2014. This will be started now that the new OCISS Data Administration Manager has been hired. We anticipate 500 additional cancer reports.
- OCISS is working on death clearance for 2014. We identified almost 4000 potential cancer cases and anticipate 2000 will result in new cancer cases after review.
- OCISS is working to resolve missing data issues. Cancer reporters that submitted cases with unknown race were contacted for this information; race was reported to OCISS for 68% of the cases.
- OCISS continues to review cancer cases with an unknown primary site, as they are not counted when completeness is calculated.

Georgia Sample Facilities Completeness Reports

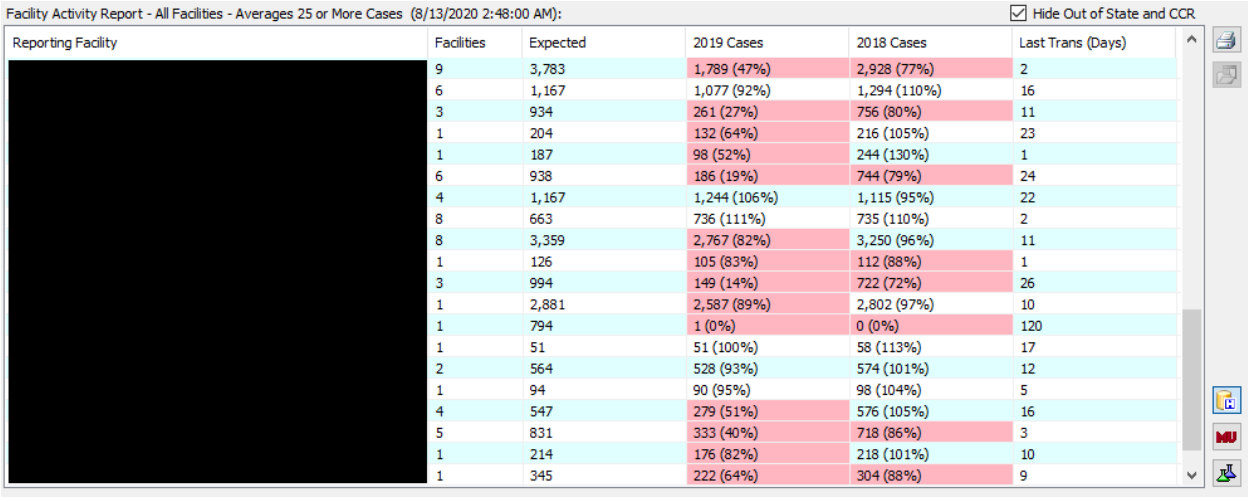
Coordinator	FACILITY	ANALYTIC	NON ANALYTIC	Out of State	PENDING	SUSPENSE	TOTAL
3		24	0	10	0	0	34
3		9	0	0	0	0	9
3		1075	1	577	14	70	1737
3		1	0	0	0	0	1
3		514	0	2	22	21	559
3		37	0	1	0	9	47
3		102	0	2	2	13	119
3		707	2	1330	27	26	2092
3		759	0	154	33	34	980
3		21	0	2	0	0	23
3		0	0	0	0	0	0
3		0	0	0	0	0	0
3		4	0	0	0	0	4
3		0	0	0	0	0	0
3		0	0	0	0	0	0
3		145	0	1	15	12	173
3		8	0	0	0	4	12
3		1545	1	15	53	33	1647
3		23	0	0	1	4	28
3		1	0	0	0	0	1
3		3	0	0	1	0	4
3		225	1	0	8	1	235
3		25	0	0	1	2	28
3		1441	0	11	12	14	1478
3		104	0	1	6	2	113
3		206	0	72	10	2	290
3		1470	0	21	24	57	1572
3		1285	3	17	32	62	1399
3		881	0	69	8	40	998
3		35	0	0	1	13	49
3		1	0	0	0	0	1
3		485	1	147	35	1	669
3		1	0	0	0	0	1
3		0	0	0	0	0	0
3		9	0	0	0	5	14
3		296	0	4	6	0	306

3		699	0	57	6	28	790
3		1255	0	408	19	5	1687
3		140	0	3	4	6	153
3		65	0	1	0	6	72
3		1	0	0	0	0	1
3		343	0	3	10	16	372
3		353	0	56	1	6	416
3		0	0	0	0	0	0
2		1818	437	0	0	143	2398
2		13	0	0	5	1	19
2		58	0	0	0	64	122
2		421	0	17	8	2	448
2		517	2	3	4	8	534
2		1437	0	80	24	41	1582
2		392	0	5	12	31	440
2		926	0	28	27	35	1016
2		2448	0	129	78	69	2724
2		6468	3	555	265	205	7496
2		3817	1	208	94	104	4224
2		1837	827	40	0	144	2848
2		1301	5	23	5	27	1361
2		393	1	3	42	66	505
2		0	0	0	0	0	0
2		0	0	0	0	0	0
2		7	0	0	0	1	8
2		1709	2	8	80	17	1816
2		12708	7	388	163	114	13380
2		0	0	0	0	0	0
2		2956	4	70	17	59	3106
2		100	0	1	3	5	109
2		0	0	0	0	0	0
2		24	0	0	3	0	27
2		39	0	0	0	13	52
2		1	0	0	0	0	1
2		344	0	7	5	20	376
2		151	0	4	1	10	166
2		2	0	0	0	1	3
2		4243	1	93	32	62	4431

Colorado Facility Completeness Sample Form

COLORADO CENTRAL CANCER REGISTRY																
COMPLETENESS REPORT (BY SOURCE TYPE)																
June 5, 2020																Gold Status
								2017		2018		2019				Silver Status
Standard - Statewide Completeness Percentage								100%		100%		100%				Behind in Reporting
Current - Statewide Completeness Percentage								100.3%		92.2%		55.7%				
History - Statewide Completeness Percentage (12 Months Prior)								98.9%		99.0%		XX.X%				
			Case Counts (Date First Seen)													
Hos #	Hos Name	CCCR Tech Staff	2014	2015	2016	2017	2018	2019	15 - 16 Avg # Cases	2017 Comp %	16 - 17 Avg # Cases	2018 Comp %	18 - 19 Avg # Cases	2019 Comp %	Number of cases needed for 100% for 2019	Comments on Hospital Status
Reported by Hospital																
H1	Facility A	T1	3292	3336	3614	4004	3664	3033	3475	115.2%	3809	96.2%	3349	90.6%	316	
H2	Facility B	T2	1385	1364	1434	1473	1660	1595	1399	105.3%	1454	114.2%	1567	101.8%	29	
H3	Facility C	T1	625	581	632	651	629	294	607	107.3%	642	98.1%	640	45.9%	346	Why the drop in cases in 2018?
H4	Facility D	T3	103	99	77	84	152	146	88	95.5%	81	188.8%	118	123.7%	28	
H5	Facility E	T3	531	574	577	553	547	14	576	96.1%	565	96.8%	550	0.0%	536	Requesting 2019 records from hosp
H6	Facility F	T1	996	1041	1097	1122	1224	1130	1069	105.0%	1110	110.3%	1173	96.3%	43	
H7	Facility G	T2	33	49	43	45	41	40	46	97.8%	44	93.2%	43	93.0%	3	
H8	Facility H	T2	227	202	218	265	266	4	210	126.2%	242	110.1%	266	1.5%	262	
H9	Facility I	T4	100	113	119	126	151	141	116	108.6%	123	123.3%	139	101.8%	3	

Arkansas Facility Completeness Sample Form



Facility Activity Report - All Facilities - Averages 25 or More Cases (8/13/2020 2:48:00 AM):

Hide Out of State and CCR

Reporting Facility	Facilities	Expected	2019 Cases	2018 Cases	Last Trans (Days)
[redacted]	9	3,783	1,789 (47%)	2,928 (77%)	2
	6	1,167	1,077 (92%)	1,294 (110%)	16
	3	934	261 (27%)	756 (80%)	11
	1	204	132 (64%)	216 (105%)	23
	1	187	98 (52%)	244 (130%)	1
	6	938	186 (19%)	744 (79%)	24
	4	1,167	1,244 (106%)	1,115 (95%)	22
	8	663	736 (111%)	735 (110%)	2
	8	3,359	2,767 (82%)	3,250 (96%)	11
	1	126	105 (83%)	112 (88%)	1
	3	994	149 (14%)	722 (72%)	26
	1	2,881	2,587 (89%)	2,802 (97%)	10
	1	794	1 (0%)	0 (0%)	120
	1	51	51 (100%)	58 (113%)	17
	2	564	528 (93%)	574 (101%)	12
	1	94	90 (95%)	98 (104%)	5
	4	547	279 (51%)	576 (105%)	16
	5	831	333 (40%)	718 (86%)	3
	1	214	176 (82%)	218 (101%)	10
	1	345	222 (64%)	304 (88%)	9

Georgia Central Registry Quality Sample Form

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in All GCCS Registries

Summary	Count
Cases Considered for 2018	58,315
Cases Considered for All Years	1,104,01

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
For Cases Diagnosed in 2018				
Unknown/Ill-Defined Site	764	58,312	1.31	< 2.5%
Unknown Laterality	760	28,954	2.62	< 6.0%
Unknown/Invalid Census Tract	26	58,315	0.04	< 2.0%
Death Certificate Only	2	58,315	0.00	< 1.5% and > 0.0%
Non-Specific Histology	279	54,606	0.51	< 1.5%
Unknown Derived Summary Stage 2018	3,467	55,446	6.25	< 10.0%
Unknown Race (NAACCR)	342	57,877	0.59	<= 3.0%[+], <= 5%[++] (not scored by SEER)
Linear Regression Completeness Estimate: (Last 10 Dx Yrs used, if available)				
All sites excluding prostate and benign CNS:				
Total	49,004	53,026	92.42	
Invasive	43,977	47,575	92.44	
In situ	5,027	5,451	92.22	
Prostate	7,238	7,298	99.18	
Benign CNS	2,049	2,396	85.52	
All sites excluding benign CNS	56,242	59,627	94.32	
JoinPoint Completeness				
All sites excluding benign CNS	56,266	59,956	93.85	>= 98.0% in November 2020
Failling SEER Edits (1975-2018)	2,095			
For Cases Diagnosed 2000-2018				
Unknown Cause of Death	2,149	339,822	0.63	< 2.5%
For Cases Diagnosed in 2019				
Completeness Estimate (All sites excluding benign CNS)	27,049	61,936	43.67	>= 95.0% in February 2021
Failing Inter-record Edits	3			
Failing SEER Edits	2,471			
One Year Reporting Delay (2017 Cases)		60,684	NA	< 2.5%

[+] NAACCR Gold Standard
[++] NAACCR Silver Standard

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in All GCCS Registries

Summary	Count
Cases Considered for 2018	58,315
Cases Considered for All Years	1,104,01

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
For Cases Diagnosed in 2018				
Unknown/Ill-Defined Site	764	58,312	1.31	< 2.5%
Unknown Laterality	760	28,954	2.62	< 6.0%
Unknown/Invalid Census Tract	26	58,315	0.04	< 2.0%
Death Certificate Only	2	58,315	0.00	< 1.5% and > 0.0%
Non-Specific Histology	279	54,606	0.51	< 1.5%
Unknown Derived Summary Stage 2018	3,467	55,446	6.25	< 10.0%
Unknown Race (NAACCR)	342	57,877	0.59	<= 3.0%[+], <= 5%[++] (not scored by SEER)
Linear Regression Completeness Estimate: (Last 10 Dx Yrs used, if available)				
All sites excluding prostate and benign CNS:				
Total	49,004	53,026	92.42	
Invasive	43,977	47,575	92.44	
In situ	5,027	5,451	92.22	
Prostate	7,238	7,298	99.18	
Benign CNS	2,049	2,396	85.52	
All sites excluding benign CNS	56,242	59,627	94.32	
JoinPoint Completeness				
All sites excluding benign CNS	56,266	59,956	93.85	>= 98.0% in November 2020
Failling SEER Edits (1975-2018)	2,095			
For Cases Diagnosed 2000-2018				
Unknown Cause of Death	2,149	339,822	0.63	< 2.5%
For Cases Diagnosed in 2019				
Completeness Estimate (All sites excluding benign CNS)	27,049	61,936	43.67	>= 95.0% in February 2021
Failing Inter-record Edits	3			
Failing SEER Edits	2,471			
One Year Reporting Delay (2017 Cases)		60,684	NA	< 2.5%

[+] NAACCR Gold Standard
[++] NAACCR Silver Standard

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in the SEER Metropolitan Atlanta Registry

Summary	Count
Cases Considered for 2018	18,910
Cases Considered for All Years	465,312

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
Unknown/Ill-Defined Site	188	18,909	0.99	< 2.5%
Unknown Laterality	182	9,283	1.96	< 6.0%
Unknown/Invalid Census Tract	4	18,910	0.02	< 2.0%
Death Certificate Only	0	18,910	0.00	< 1.5% and > 0.0%
Non-Specific Histology	72	17,679	0.41	< 1.5%
Unknown Derived Summary Stage 2018	919	17,875	5.14	< 10.0%
Unknown Race (NAACCR)	83	18,692	0.44	<= 3.0%+, <= 5%++ (not scored by SEER)
Linear Regression Completeness Estimate: (Last 10 Dx Yrs used, if available)				
All sites excluding prostate and benign CNS:				
Total	15,429	16,617	92.85	
Invasive	13,752	14,771	93.10	
In situ	1,677	1,846	90.85	
Prostate	2,630	2,523	104.24	
Benign CNS	837	937	89.33	
All sites excluding benign CNS	18,059	18,911	95.49	
JoinPoint Completeness				
All sites excluding benign CNS	18,073	19,463	92.86	>= 98.0% in November 2020
Failling SEER Edits (1975-2018)	560			
For Cases Diagnosed 2000-2018				
Unknown Cause of Death	746	90,948	0.82	< 2.5%
For Cases Diagnosed in 2019				
Completeness Estimate (All sites excluding benign CNS)	9,581	20,319	47.15	>= 95.0% in February 2021
Failing Inter-record Edits	2			
Failing SEER Edits	715			
One Year Reporting Delay (2017 Cases)		19,596	NA	< 2.5%

+ NAACCR Gold Standard
++ NAACCR Silver Standard

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in the SEER Metropolitan Atlanta Registry

Summary	Count
Cases Considered for 2018	18,910
Cases Considered for All Years	465,312

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
For Cases Diagnosed 2000-2017 and Followed into 2018				
Percent Followed (Invasive):				
Age < 20	2,675	2,804	95.40	>= 90*, >= 80**
Age 20-64	108,112	112,951	95.72	>= 90*, >= 80**
Age 65+	79,068	80,499	98.22	>= 95*, >= 90**
All Ages	189,855	196,254	96.74	
Percent Followed (In situ)	17,331	17,979	96.40	>= 90*, >= 80**
For Cases Diagnosed 2000-2017 and Followed into 2019				
Percent Followed (Invasive):				
Age < 20	2,588	2,804	92.30	
Age 20-64	105,005	112,951	92.97	
Age 65+	78,334	80,499	97.31	
All Ages	185,927	196,254	94.74	
Percent Followed (In situ)	16,394	17,979	91.18	
For Cases Diagnosed 1975-2017 and Followed into 2018				
Percent Followed (Invasive):				
Age < 20	4,712	4,927	95.64	
Age 20-64	185,820	192,362	96.60	
Age 65+	146,107	147,722	98.91	
All Ages	336,639	345,013	97.57	
Percent Followed (In situ)	24,789	25,660	96.61	
For Cases Diagnosed 1975-2017 and Followed into 2019				
Percent Followed (Invasive):				
Age < 20	4,566	4,927	92.67	
Age 20-64	182,133	192,362	94.68	
Age 65+	145,351	147,722	98.39	
All Ages	332,050	345,013	96.24	
Percent Followed (In situ)	23,717	25,660	92.43	

* Contractual standard
** Minimum acceptable

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in the SEER Rural Georgia Registry

Summary	Count
Cases Considered for 2018	910
Cases Considered for All Years	24,503

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
Unknown/Ill-Defined Site	7	910	0.77	< 2.5%
Unknown Laterality	12	447	2.68	< 6.0%
Unknown/Invalid Census Tract	0	910	0.00	< 2.0%
Death Certificate Only	0	910	0.00	< 1.5% and > 0.0%
Non-Specific Histology	4	837	0.48	< 1.5%
Unknown Derived Summary Stage 2018	55	862	6.38	< 10.0%
Unknown Race (NAACCR)	1	908	0.11	<= 3.0%⁺, <= 5%⁺⁺ (not scored by SEER)
Linear Regression Completeness Estimate: (Last 10 Dx Yrs used, if available)				
All sites excluding prostate and benign CNS:				
Total	776	885	87.68	
Invasive	711	808	88.00	
In situ	65	77	84.42	
Prostate	97	124	78.23	
Benign CNS	37	24	154.17	
All sites excluding benign CNS	873	1,002	87.13	
JoinPoint Completeness				
All sites excluding benign CNS	873	992	88.00	>= 98.0% in November 2020
Failling SEER Edits (1978-2018)	44			
For Cases Diagnosed 2000-2018				
Unknown Cause of Death	32	6,358	0.50	< 2.5%
For Cases Diagnosed in 2019				
Completeness Estimate (All sites excluding benign CNS)	457	1,023	44.67	>= 95.0% in February 2021
Failing Inter-record Edits	0			
Failing SEER Edits	71			
One Year Reporting Delay (2017 Cases)		985	NA	< 2.5%

⁺ NAACCR Gold Standard
⁺⁺ NAACCR Silver Standard

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in the SEER Rural Georgia Registry

Summary	Count
Cases Considered for 2018	910
Cases Considered for All Years	24,503

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
For Cases Diagnosed 2000-2017 and Followed into 2018				
Percent Followed (Invasive):				
Age < 20	81	81	100.00	>= 90*, >= 80**
Age 20-64	5,166	5,298	97.51	>= 90*, >= 80**
Age 65+	5,664	5,704	99.30	>= 95*, >= 90**
All Ages	10,911	11,083	98.45	
Percent Followed (In situ)	661	674	98.07	>= 90*, >= 80**
For Cases Diagnosed 2000-2017 and Followed into 2019				
Percent Followed (Invasive):				
Age < 20	74	81	91.36	
Age 20-64	5,103	5,298	96.32	
Age 65+	5,631	5,704	98.72	
All Ages	10,808	11,083	97.52	
Percent Followed (In situ)	632	674	93.77	
For Cases Diagnosed 1978-2017 and Followed into 2018				
Percent Followed (Invasive):				
Age < 20	161	161	100.00	
Age 20-64	8,342	8,503	98.11	
Age 65+	10,305	10,352	99.55	
All Ages	18,808	19,016	98.91	
Percent Followed (In situ)	845	858	98.48	
For Cases Diagnosed 1978-2017 and Followed into 2019				
Percent Followed (Invasive):				
Age < 20	152	161	94.41	
Age 20-64	8,262	8,503	97.17	
Age 65+	10,272	10,352	99.23	
All Ages	18,686	19,016	98.26	
Percent Followed (In situ)	810	858	94.41	

* Contractual standard
** Minimum acceptable

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in the SEER Rural Georgia Registry

Summary	Count
Cases Considered for 2018	910
Cases Considered for All Years	24,503

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
For Cases Diagnosed 2000-2017 and Followed into 2018				
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For Cases Diagnosed 1978-2017 and Followed into 2019				
Percent Followed (Invasive):				
Age < 20	152	161	94.41	
Age 20-64	8,262	8,503	97.17	
Age 65+	10,272	10,352	99.23	
All Ages	18,686	19,016	98.26	
Percent Followed (In situ)	810	858	94.41	

* Contractual standard
** Minimum acceptable

Georgia Center for Cancer Statistics
SEER Data Quality Report

Calculations based on SEER-Reportable Cases in the SEER Greater Georgia Registry

Summary	Count
Cases Considered for 2018	38,495
Cases Considered for All Years	614,196

Exclusion Criteria	2018	All Years
Cervix In situ	0	0
Site not C000-C809	0	0
Histology ICD-O-3 not 8000-9999	0	0

	Numerator	Denominator	Percent	Goal
For Cases Diagnosed 2000-2017 and Followed into 2018				
Percent Followed (Invasive):				
Age < 20	4,908	5,104	96.16	>= 90*, >= 80**
Age 20-64	209,909	217,256	96.62	>= 90*, >= 80**
Age 65+	210,876	213,122	98.95	>= 95*, >= 90**
All Ages	425,693	435,482	97.75	
Percent Followed (In situ)	30,745	31,960	96.20	>= 90*, >= 80**
For Cases Diagnosed 2000-2017 and Followed into 2019				
Percent Followed (Invasive):				
Age < 20	4,713	5,104	92.34	
Age 20-64	206,314	217,256	94.96	
Age 65+	209,629	213,122	98.36	
All Ages	420,656	435,482	96.60	
Percent Followed (In situ)	29,758	31,960	93.11	

NEW JERSEY STATE CANCER REGISTRY

QUARTERLY HOSPITAL QUALITY AND COMPLETENESS REPORT

FOR

Hospital Name

PREPARED ON Date

The New Jersey State Cancer Registry (NJSCR) is dedicated to compiling complete, current, and high quality data on cancer in the State of NJ. The Registry is an important source of information for health care providers, public health officials, and administrators. This information is widely used by clinicians, scientists, and researchers. Data on cancer patterns in the population can be very useful for preventing and controlling cancer

and improving treatment and patient care. The data are used to respond to New Jersey residents on cancer issues and concerns. Also, the incidence rates in New Jersey are shared and compared with other states and the nation. The data collected by the NJSCR can be useful for describing cancer patterns in the population, discovering causes of cancer, planning programs for people affected with cancer, and other related research. Early detection programs, such as for cervical, breast, and colon cancers, use these data to plan screening services. Early detection is more likely to improve survival. Health care providers use these data for planning, and researchers use these data for studying ways to increase survival and identify risk factors.

Beginning with accession year 2014, the New Jersey State Cancer Registry has developed new criteria for the Award for Excellence in Timely and Complete Cancer Reporting. Only hospitals that meet these criteria will be eligible for the Award. There will be three levels of awards: Gold, Silver and Bronze. Each level requires that the facility meet the benchmark for each of the three criteria categories: completeness, timeliness, and quality. The benchmarks are:

	Completeness	Timeliness	Quality
Bronze	90%	90%	**
Silver	95%	95%	**
Gold	98%	98%	**

**See page 3 for quality benchmarks for bronze, silver, and gold awards.

Awards will be given in October of each year. Recipients will be recognized at the annual meeting of the Oncology Registrars Association of New Jersey. In order to assist each facility in assessing its progress toward the benchmarks, NJSCR will provide each facility with a quarterly report of its completeness, timeliness and quality.

This report represents the final analysis of the 2017 accession year. It includes all cases and updates submitted prior to July 1, 2018.

For details on how these measures are calculated, please see the Data Dictionary on page 4 of this report.

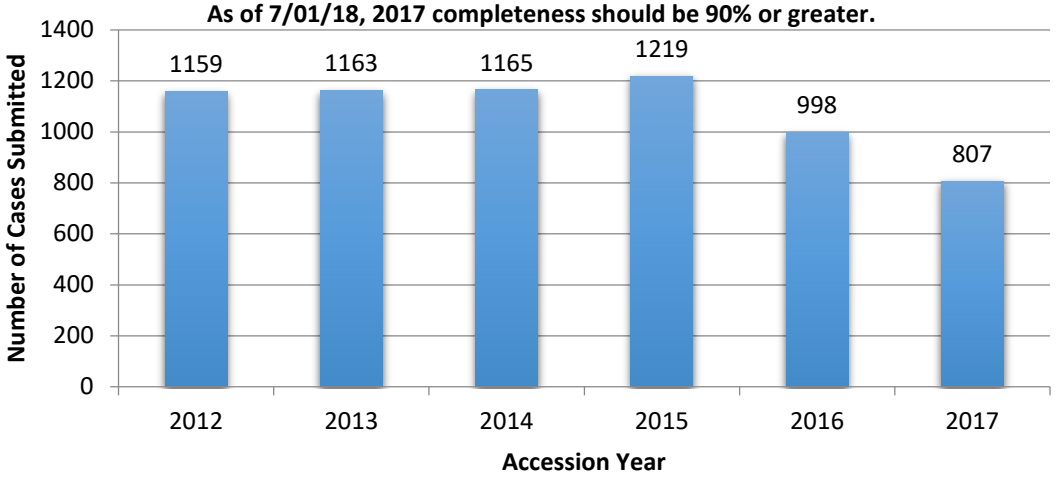
This report is a summary of data submitted by HOSPITAL NAME and is meant to be used as a quality improvement tool by your facility's Cancer Registry, Cancer Committee and administration. Use the data contained herein to gauge your progress toward achieving the Award for Excellence. Please contact your NJSCR representative, REP's Name at 609-633-XXXX with questions about the data contained in this report.

COMPLETENESS & TIMELINESS

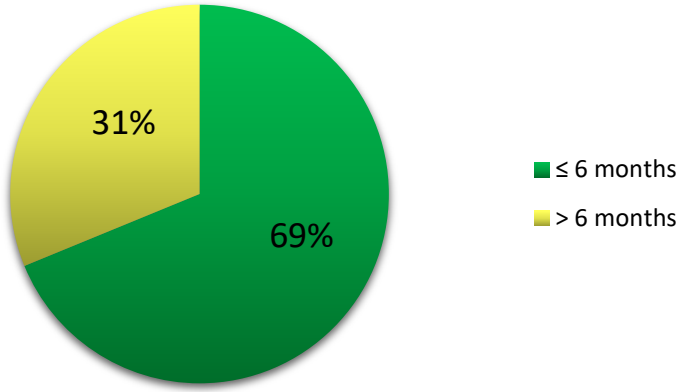
1. Number of Cases Submitted to NJSCR by Accession Year

(2012-2016 Weighted Average =1,097.3; 2017 Completeness = 73.5%)

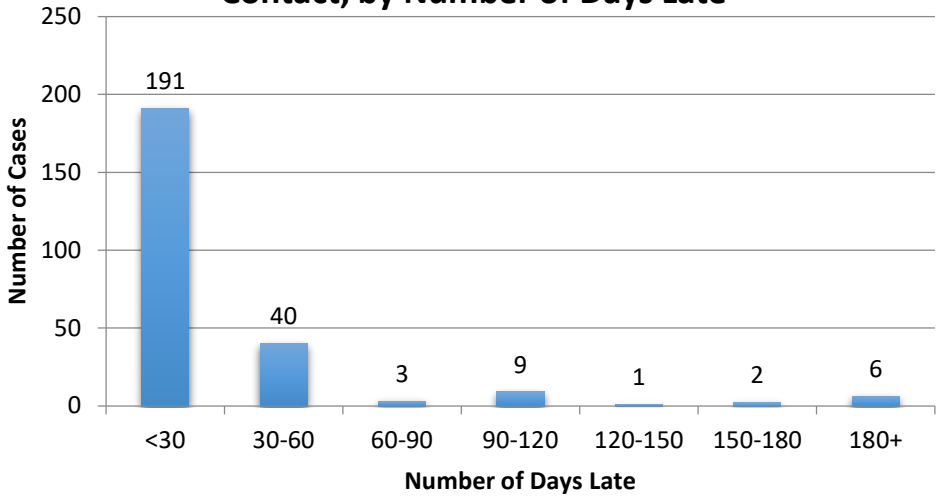
As of 7/01/18, 2017 completeness should be 90% or greater.



2. Percent of 2017 Accession Year Cases Submitted Within 6 Months of Date of 1st Contact



3. Cases Reported >6 Months After Date of 1st Contact, by Number of Days Late



3. DATA QUALITY MEASURES

Measure	My Facility					All NJ Facilities	Benchmarks*,¥		
	Percent	90% Confidence Interval€			Numerator	Denominator		Bronze	Silver	Gold
Unknown Social Security Number	2.5%	1.5%	-	3.5%	16	634	7.8%	<3%	<2%	<1%
Unknown Year of Diagnosis	0.0%	0.0%	-	0.0%	0	634	0.2%	<1.5%	<1%	<0.5%
Unknown/Other Race (99, 98)	2.7%	1.6%	-	3.7%	17	634	2.8%	<5%	<4%	<3%
Unknown/Other Hispanic Ethnicity (9, 8)	3.8%	2.5%	-	5.0%	24	634	1.8%	<5%	<4%	<3%
Unknown Class of Case (99)	0.0%	0.0%	-	0.0%	0	807	0.2%	<1%	<0.5%	<0.1%
Unknown Gender	0.0%	0.0%	-	0.0%	0	634	0.0%	<3%	<2%	<1%
Unknown/Ill-defined Primary Site (C76, C80)	2.4%	1.4%	-	3.4%	15	634	1.6%	<2.5%	<2%	<1.5%
Unknown Laterality	1.5%	0.4%	-	2.7%	5	325	2.6%	<6%	<4%	<2%
Non-Specific Histology (8000, 8001)	0.5%	0.0%	-	1.0%	3	609	0.3%	<3%	<2.5%	<2%
Unknown County at Diagnosis	0.0%	0.0%	-	0.0%	0	634	0.2%	<3%	<2%	<1%

*Benchmarks are derived from standards of the North American Association of Central Cancer Registries and the Surveillance, Epidemiology and End Results Program of the National Cancer Institute.

¥ In order to receive the Award for Excellence in one of the three categories, your facility must achieve that category for all measures listed in the table, in addition to the completeness and timeliness measures listed on the previous page.

€Credit is given for the highest benchmark included within the 90% Confidence Interval for each measure.

DATA DICTIONARY

Measure	Definition	Numerator	Denominator	Notes
Completeness	The percent of cases (analytic and non-analytic) expected to be submitted by your facility for a given timeframe which have actually been submitted.	Number of cases submitted by your facility for the diagnosis year.	Weighted average of the number of cases submitted by your facility for the previous five diagnosis years.	Facilities that fall below 90% completeness may be subject to audit by NJSCR. Un-reported cases are subject to penalties pursuant to N.J.S.A 26:2-104 through 109.
Timeliness	The percent of cases (analytic and non-analytic) first submitted by your facility for the accession year that were submitted within 6 months of the date of first contact (as defined in FORDS 2013, page 115).	Number of cases submitted by your facility for the accession year that were submitted within 6 months of the date of first contact (as defined in FORDS 2013, page 115).	Total number of cases submitted by your facility for the accession year.	**Please note:** While this report measures timeliness based on date of **first contact**, N.J.S.A 26:2-104 through 109 requires hospitals to report cases to NJSCR within 6 months of the date of **diagnosis**, or within 3 months of **discharge**, whichever is sooner. Therefore, the timeliness measures reflected in this report do not indicate a facility is compliant with NJ State Law.
Unknown Social Security Number	The percent of analytic cases submitted by your facility for the accession year with a social security number coded as 999-99-9999.	The number of cases submitted by your facility for the diagnosis year with a social security number coded as 999-99-9999.	Total number of cases submitted by your facility for the diagnosis year.	A Social Security Number is important for identifying patients with similar names and for matching records received from multiple reporting facilities for the same patient.
Unknown Year of Diagnosis	The percent of analytic cases submitted by your facility for the accession year with a diagnosis year coded as 9999.	The number of cases submitted by your facility for the accession year with a	Total number of cases submitted by your facility for the accession year.	According to the SEER Program Coding and Staging Manual (SPCSM) "Year of diagnosis **cannot be blank or unknown**." If date of diagnosis is not known and cannot be

Measure	Definition	Numerator	Denominator	Notes
		year of diagnosis coded as 9999.		estimated, **use the date of admission** as the date of diagnosis. (SPCSM 2011, pp. 49-50)
Unknown/Other Race (99, 98)	The percent of analytic cases submitted by your facility for the accession year with race coded as 99 or 98.	The number of cases submitted by your facility for the accession year with race coded as 99 or 98.	Total number of cases submitted by your facility for the accession year.	Race is an important element in the analysis and utilization of cancer registry data. See FORDS 2013, page 63 for instructions on coding race.
Unknown/Other Hispanic Ethnicity (9, 8)	The percent of analytic cases submitted by your facility for the accession year with Hispanic ethnicity coded as 9 or 8.	The number of cases submitted by your facility for the accession year with Hispanic ethnicity coded as 9 or 8.	Total number of cases submitted by your facility for the accession year.	Ethnicity is an important element in the analysis and utilization of cancer registry data. See FORDS 2013, page 69 for instructions on coding ethnicity.
Unknown Class of Case (99)	The percent of cases (analytic and non-analytic) submitted by your facility for the accession year with class of case coded as 99.	The number of cases submitted by your facility for the diagnosis year with class of case coded as 99.	Total number of cases submitted by your facility for the accession year.	See FORDS 2013, page 110 for instructions on coding class of case.
Unknown Gender	The percent of analytic cases submitted by your facility for the accession year with sex coded as 9.	Number of cases submitted by your facility for the accession year with sex coded as 9.	Total number of cases submitted by your facility for the accession year.	See FORDS 2013, page 70 for instructions on coding gender.
Unknown/Ill-defined Primary Site (C76, C80)	The percent of analytic cases submitted by your facility for the accession	Number of cases submitted by your facility for the accession year with	Total number of cases submitted by your facility for the accession year.	It is expected that a small percent of cases will have no identified primary site. In these cases the use of codes C76 and C80 may be justified.

Measure	Definition	Numerator	Denominator	Notes
	year with primary site coded as C76 or C80.	primary site coded as C76 or C80.		However, a more specific code should always be used when available.
Unknown Laterality	The percent of analytic cases of paired sites submitted by your facility for the accession year with laterality coded as 9 or 3.	Number of cases of paired sites submitted by your facility for the accession year with laterality coded as 9 or 3.	Total number of cases of paired sites submitted by your facility for the accession year.	See FORDS 2013, pages 8-9 for a list of paired sites.
Non-Specific Histology (8000, 8001)	The percent of histologically or cytologically confirmed analytic cases submitted by your facility for the accession year with histology coded as 8000 or 8001.	Number of histologically or cytologically confirmed cases submitted by your facility for the accession year with histology coded as 8000 or 8001.	Total number of histologically or cytologically confirmed cases submitted by your facility for the accession year.	The most specific histology should always be used. See FORDS 2013, page 120 for instructions on coding histology. Refer to the Multiple Primary and Histology Coding Rules for instructions on choosing the most appropriate histology.
Unknown County at Diagnosis	The percent of analytic cases submitted by your facility for the accession year with County at Diagnosis coded as 999.	Number of cases submitted by your facility for the accession year with County at Diagnosis coded as 999.	Total number of cases submitted by your facility for the accession year.	Address at diagnosis is essential to researchers using cancer registry data to assess geographic patterns of cancer. See FORDS 2013, pages 42-49 for instructions for coding address at diagnosis, including county at diagnosis.

DC Facility Quality Sample Report Form

DC | HEALTH
GOVERNMENT OF THE DISTRICT OF COLUMBIA

DISTRICT OF COLUMBIA CANCER REGISTRY
DATA SUBMISSION STATUS REPORT

Facility Name: _____ Facility ID# _____

Data Submission Year: _____

DC Cancer Reporting Regulations

In accordance to DC Law CDCR 22.215, "each health care provider and health care facility shall report within six (6) months of diagnosis or first contact, any person diagnosed with or treated for benign tumors of the brain or central nervous system or any malignant cancers, or for whom cancer treatment planning was performed but the patient opted no treatment or who expired with cancer as a cause of death.

DC Cancer Registry requires data submission from reporting facilities every other month (during even months), on the 15th day of the month.

If your facility is an American College of Surgeons, Commission on Cancer (ACoS/CoC) approved facility, 2016 Cancer Program Standard 1.6 requires *each year the cancer committee establishes and implements a plan to annually evaluate the quality of cancer registry data and activity. The plan includes procedures to monitor and evaluate each required control plan component, which includes abstracting timeliness, accuracy and completeness of abstracted data. Quality control must be performed prior to data submissions and a copy of the QA summary provided with each submission.*

A copy of this report will be sent to Cancer Registry Manager, Cancer Registry Manager's Director, Cancer Committee Chair (if applicable) & Hospital Administration.

Data Submission Requirements

This report is used as a preliminary indication of the completeness, timeliness, and quality of data in your cancer registry. Data submissions must meet all reporting requirements to be in compliance. If data does not meet all requirements, the submission file will be rejected. Your facility will have five (5) business days to correct and resubmit to DCCR. Please ensure that the corrected submission file has the same number of cases as rejected submission file.

- Data is 100% error-free (Edits must be performed using DC v18c metafile. Edits can also be performed using DC metafile in GenEdits Plus v5.)
- Data received within 6 months of first contact/diagnosis
- No duplicate cases identified in submission
- Data submission meets frequency requirements (75% of cases submitted for reporting month)
- Data passes 98% visual edits (25 randomly sampled cases)
- DCCR text requirements are utilized

DISTRICT OF COLUMBIA CANCER REGISTRY
DATA SUBMISSION STATUS REPORT

Summary of Data Submission

Submission Timeframe

Submission Due Date _____

Date Submission Received _____

Data Submission Results

Total number of cases submitted _____

Percentage of cases passing defined edits on submission _____

Total number of deleted cases within file _____

(Cases deleted due to duplicate record submission; suspense/incomplete cases, cases that do not meet the DCCR reporting requirements (non-reportable cases), and cases diagnosed prior to the DCCR 1996 reference date

Data Submission Criteria (all requirements must be met to obtain compliance)

____ Data is 100% error-free (file will be returned if <100%)

____ Data received within 6 months of first contact/diagnosis (timeliness)

____ No duplicate cases identified in submission (file will be returned if duplicates exist)

____ Data submission meets frequency requirements (75% of cases submitted for reporting timeframe)

____ Data passes 98% visual edits (25 randomly sampled cases)

____ DCCR text requirements are utilized (visual edits review)

Current Status of Your Cancer Registry

____ Compliant

____ Non-Compliant (File rejected/returned to facility for corrections)

DISTRICT OF COLUMBIA CANCER REGISTRY
DATA SUBMISSION STATUS REPORT

DCCR COMMENTS

Please review this report in detail. If you have any questions or would like additional information please contact Maria Leuchert at (202) 442-5873 or maria.leuchert@dc.gov. Thank you for your cooperation in providing timely and quality data to the District of Columbia Cancer Registry (DCCR).

DCCR Cancer Registry Data Submission Report Card

Facility Name: **Facility ID:** **Diagnosis Year:** **Submission Year:**

Reporting Criteria	Data Submission Months						Yearly Total by Criteria
	February	April	June	August	October	December	
Data is 100% error-free	0	1	1	1	1	1	**5**
Data received within 6 months of first contact/diagnosis	1	0	0	1	0	1	**3**
No duplicate cases identified in submission	1	1	0	1	0	1	**4**
Data submission meets frequency requirements	0	1	0	1	1	1	**4**
Data passes 98% visual edits	1	1	1	1	1	1	**6**
DCCR text requirement utilization	1	1	1	1	0	0	**4**
Monthly Submission Points	**4**	**5**	**3**	**6**	**3**	**5**	**26**
Monthly Submission Grade	**C**	**B**	**D**	**A**	**D**	**B**	**4**
Total Annual Grade							**C**

Criteria Not Met = 0
Criteria Met = 1

Facilities with an overall annual grade of "A" will be recognized by the DCCR.

Grading Scale
6/6 points = A
5/6 points = B
4/6 points = C
3/6 points = D
< 3/6 points = F

Tips to Monitor Central Registry Completeness & Timeliness

Although current registry software may not include on-demand reports for monitoring progress toward the 12- and 24-month submission standards, central registries can take some steps to monitor these on their own.

Ensure that at least 1–2 staff are trained in writing queries and reports within the software programs employed by the central registry, as well as in additional tools, such as SAS, Excel, and/or Access.

- Registries may wish to contact their software provider or their department- or university-wide IT support for training opportunities. Additional free training opportunities are available on the web.

Monitor the registry's progress toward the 12- and 24-month reporting standards on a monthly or quarterly basis.

- A rough estimate of completeness may be derived using the expected number of cases from the CDC Data Evaluation Reports from the previous few years.
- It may be helpful to monitor completeness by primary site, county, diagnostic confirmation, or other factors to assist in identifying where cases may be missing.
- Monitor the proportion of consolidated cases with unknown age at diagnosis, sex, race, and county at diagnosis.

Monitor reporting facility completeness and timeliness to ensure all cases have been received in a timely manner (refer to Tips to Monitor Facility Completeness and Timeliness).

Develop an annual schedule of cancer registry operations to be completed throughout the year to ensure key processes are performed in a timely fashion. The schedule might include the following:

- Processing pathology reports
- Conducting follow-back
- Quality control audits and activities
- Operational linkages (for vital status, follow-up, and demographics)
- Duplicate resolution
- Interstate data exchange
- Geocoding
- Death clearance
- Case-finding audits

Tips to Monitor Reporting Facility Completeness and Timeliness

Although current registry software may not include on-demand reports of reporting facility completeness and timeliness, central registries can take some steps to monitor these on their own.

Ensure that at least 1–2 central registry staff are trained in writing queries and reports within the software programs employed by the central registry, as well as in additional tools such as SAS, Excel, and/or Access.

- Registries may wish to contact their software provider or their department- or university-wide IT support for training opportunities. Additional free training opportunities are available on the web.

Maintain a log of submissions from each reporting facility. The log should include the following:

- Date of submission
- Number of cases in the submission
- Number of cases in the submission that do not pass required edits
- Number of cases in the submission that were rejected

Monitor the log monthly for missed submissions or submissions with an unusually low number of cases compared to prior submissions. These may indicate a problem with the reporting facility.

Provide feedback to each reporting facility on a monthly or quarterly basis with the status of their completeness and timeliness. The report could include the following:

- A list of submissions received from the facility with the submission date and number of cases in each submission
- The number of cases received from the facility for the current reporting year (excluding duplicates, rejected cases, or modified records)
- The total number of cases expected to be received from the facility based on prior reporting years or case-finding audits (excluding duplicates, rejected cases, or modified records)
- The proportion of cases submitted by the facility for the current reporting year that were received within the required time frame (i.e., within 6 months of diagnosis)
- An indicator of whether the facility is on track to being 100 percent complete by the required deadline

Tips to Monitor Reporting Facility Data Quality

Ensuring high-quality data from reporting facilities can help to reduce the burden on central registry consolidation staff, improve the reliability of auto-consolidation, and result in more timely central registry data. Providing facilities with feedback can help them improve the quality of their data.

Conduct quality audits of a selection of cases from each reporting facility and share the findings with the facility.

- Registries may choose to conduct targeted quality audits of one data item or a few related data items to reduce the burden on quality assurance staff.
- It may be helpful to have hospital registrars perform re-abstracting of their own cases using only the text submitted with the abstract.

Provide each facility with a report card or dashboard of the number and type of edits on incoming cases (based on standard edit sets) and/or the number and type of errors on incoming cases (based on visual editing).

- Calculate an accuracy rate by dividing the number of cases without errors by the total number of cases submitted and multiply by 100.

Monitor the proportion of cases from each facility that contain unknown or non-specific values in key data items. Show each facility how its data compare to data from all facilities combined.

- A registry may choose to exclude certain cases from review. These may include non-analytic cases, laboratory-only cases, or autopsy-only cases.

Registries may want to establish benchmarks or targets for data quality.

- An accuracy rate of 95 percent is recommended.

Provide reporting facilities with a mechanism for correcting and resubmitting cases to improve their accuracy rate and ensure the central registry has the most accurate information for each patient.