# 2019 NPCR NORTH CAROLINA SUCCESS STORY

North Carolina Cancer Registry: Nigar Salahuddin, CTR; Sumana Nagaraj; Soundarya Radhakrishnan

## Successful Cancer Case Ascertainment Through Electronic Reporting

# NATIONAL PROGRAM OF CANCER REGISTRIES
# SUCCESS STORY

**SUMMARY:** Since October 2014, electronic cancer reporting is mandatory in the State of North Carolina. Therefore, the NC Central Cancer Registry has incorporated different electronic reporting mechanisms to collect robust data from physician offices and other non-hospital-based facilities. The process involves an in-depth data collection, analysis, manual review and consolidation of reportable cases. Two of the main electronic reporting methods, pathology reporting (e-Path), and Meaningful Use (MU) Promoting Interoperability method of reporting HL7 CDA files through Certified EHR technology are described.

NC CCR implemented e-Path in 2008 to facilitate encrypted transmission of cancer data from pathology laboratories. It is used to improve the completeness, timeliness, and quality of cancer registry data. A total of 63 labs report an average of 12,000 reports each year via e-Path. Approximately 10% of the reports are flagged for follow-back to the reporting facility as potentially missed cases. Since the implementation of MU reporting from physician offices in 2011, 53 providers from 10 physician practice groups (dermatology practices) report solely through the MU Reporting, demonstrating an effective and an efficient method of case ascertainment through the physician offices.

NC CCR has developed and implemented a successful process for converting the MU and e-Path cases into North American Association of Central Cancer Registries (NAACCR) record layout for uploading into PrepPlus. The e-Path and MU files exported from eMarcPlus are linked through LinkPlus software to NC CCR's database extract to identify non-matches that have not been reported. These non-matches are then manually reviewed by CCR's experienced quality management specialists and non-reportable cases are eliminated; key data items for the remaining reportable cases are coded in Excel by reviewing text to complete the abstract. These cases are then converted to NAACCR record layout after populating the remaining data items to defaults through SAS program, to ensure they pass edits.

**CHALLENGE:** The challenges to electronic reporting have been multi-fold, the first was to address the operational challenges such as managing the data that gets reported to eMarc database for both e-Path and MU cases. The second challenge has been to track and validate the completeness of the data that needs to be reported. The foremost challenge was to set up a clearly defined workflow for each of the electronic reporting mechanisms.

The other challenge was in the conversion of eMarcPlus files to meaningful and complete NAACCR record layout files. This process involved a lot of manual review of text and coding of data items; Identify data items that need to be set to defaults in SAS. With NAACCR version 18, these data items for coding and defaults have increased due to the introduction of many new data items, especially the Site-Specific Data items (SSDI). The challenge also lies in coding these data items to the correct values to ensure they pass edits.

**SOLUTION:** N.C. CCR has incorporated these workflows to facilitate an efficient, and comprehensive data collection process for physician data.



ePath Processing Work Flow



MU2 Data Processing Workflow

## RESULTS:

### ePath Reporting Results

| ePath Year | Matched Records | Matches | Non-Matches | Non-Reportable | Loaded to PrepPlus | Follow Back to Hospitals | Follow Back to MDO |
|---|---|---|---|---|---|---|---|
| 2016 | 29754 | 19897 | 9857 | 5982 | 1528 | 295 | 382 |
| 2017 | 35007 | 28285 | 12178 | 7001 | 1875 | 282 | 699 |

### MU Reporting Results

| | |
|---|---|
| MU files received for 2014-2016 diagnoses | 3452 |
| Non-matches after linkage to registry database (cases not reported by the practice) | 4649 |
| Cases with a non-reportable condition | 3 |
| Multiple records combined into a single record for the patient and tumor | 3261 |
| Cases loaded into the final registry database | 1385 |
| MU files received for 2017 diagnoses | 1500 |
| Cases with a non-reportable condition | 1 |
| Multiple records combined into a single record for the patient and tumor | 338 |
| Cases loaded into the final registry database | 836 |

### MU cases loaded into CRS

| Year | Count |
|---|---|
| 2013 | 1 |
| 2014 | 19 |
| 2015 | 273 |
| 2016 | 491 |
| 2017 | 836 |
| **Total** | **1620** |

**SUSTAINING SUCCESS:** Building on the demonstrated successes and through automation of some of the manual process will be the key to improving the data quality received from pathology labs and physician offices. By creating efficient workflows, N.C.CCR has been able to map out a path for the successful ascertainment of cases. Otherwise, the registry would have missed cases that would affect the completeness of the registry data. As 'every case counts', electronic reporting of cancer cases through different sources not only helps the registries' case completeness and timeliness but also makes it relevant in today's health care in improving patient care and outcomes.

**CONTACT INFORMATION:**

**Nigar Salahuddin, CTR**
Meaningful Use Project Coordinator
NC Central Cancer Registry, Division of Public Health
Nigar.Salahuddin@dhhs.nc.gov
(919) 715-7474

**Sumana Nagaraj**
Applications Analyst- ePath/MU2-SME
Division of Public Health, NC Central Cancer Registry
North Carolina Department of Health and Human Services
Sumana.Nagaraj@dhhs.nc.gov
919 715 9728

**Soundarya Radhakrishnan**
Statistical Supervisor, N.C. Central Cancer Registry
Division of Public Health, State Center for Health Statistics
North Carolina Department of Health and Human Services
Soundarya.Radhakrishnan@dhhs.nc.gov
Telephone: 919 715 3740

NPCR
NATIONAL PROGRAM of CANCER REGISTRIES
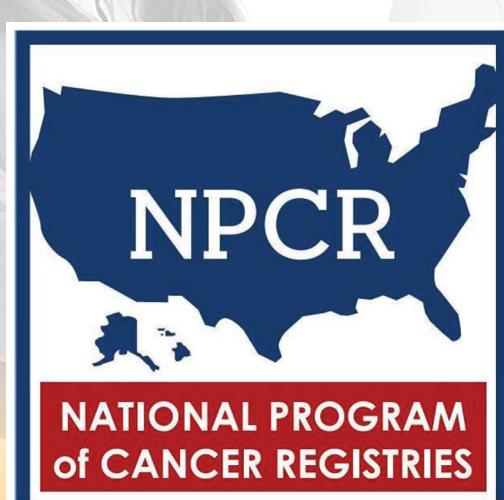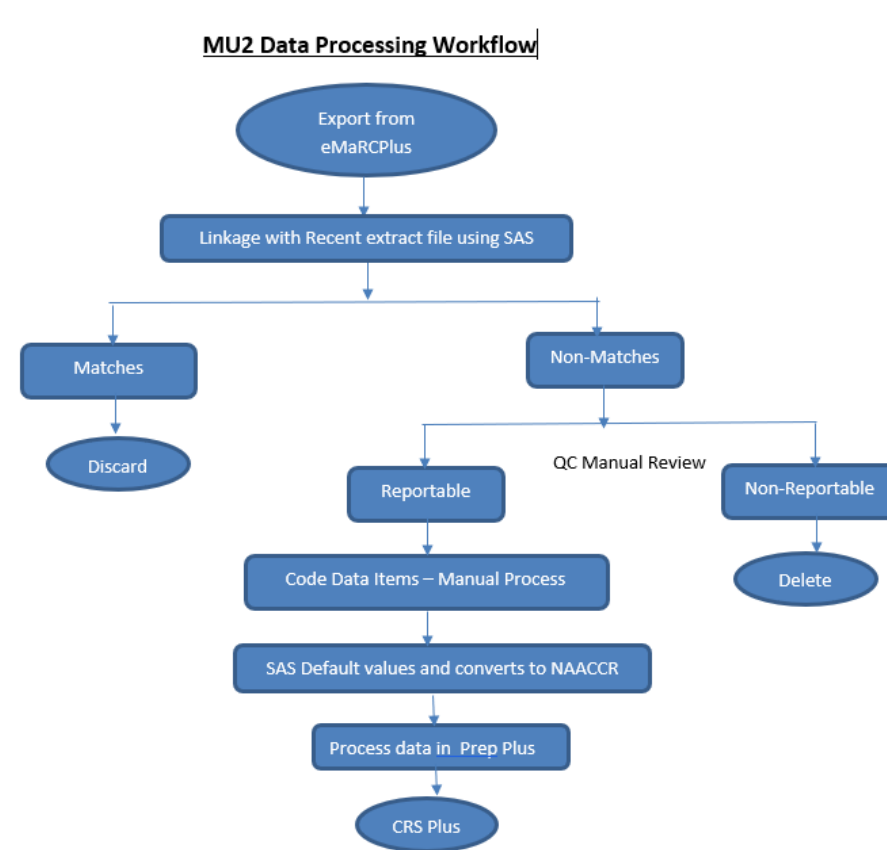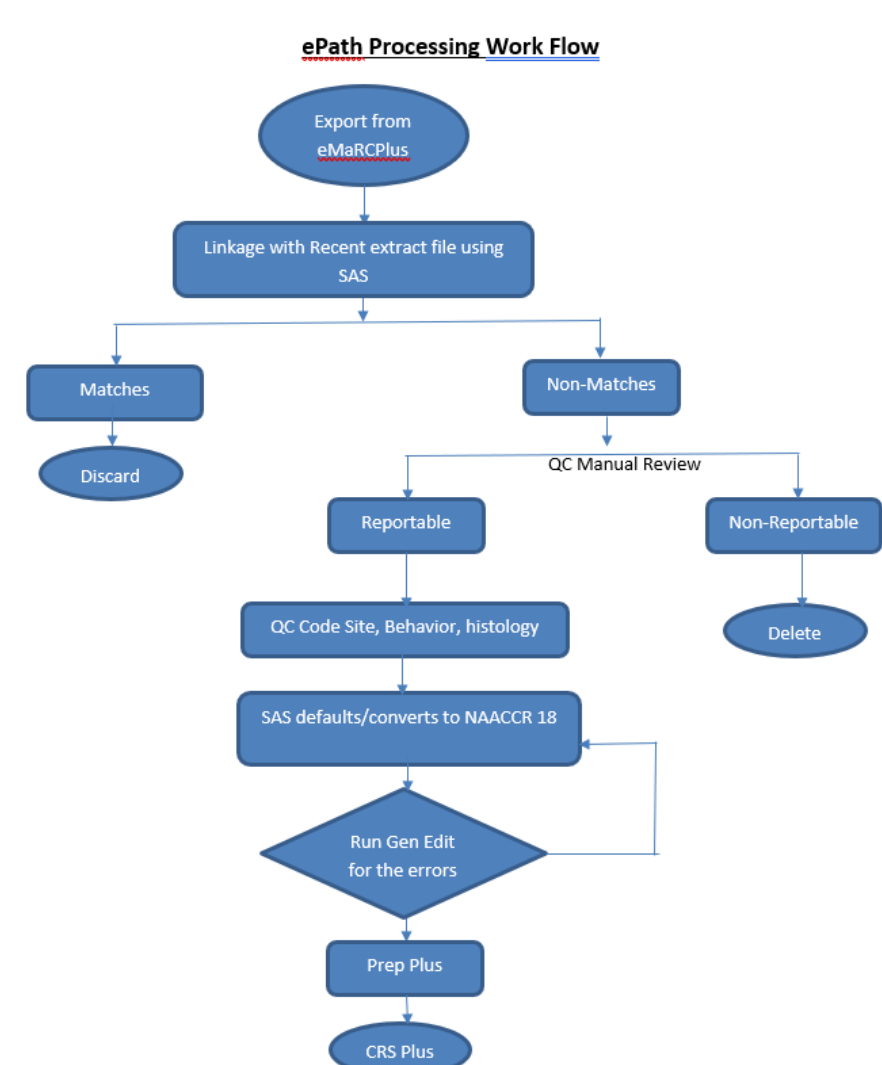
CDC
**Centers for Disease Control and Prevention**
National Center for Chronic Disease Prevention and Health Promotion