# 2023 NPCR NORTH CAROLINA SUCCESS STORY

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## Key Performance Indicator Dashboards

## National Program of Cancer Registries
# SUCCESS STORY

## SUMMARY

The North Carolina Central Cancer Registry (NCCCR) uses several key performance indicators (KPI) to monitor and evaluate operations. Gathering and reporting KPI data was a time-consuming, manual process. The NCCCR wanted to synthesize and automate the KPI process using available staff expertise and programs to create a more dynamic resource for program evaluation.

## CHALLENGE

- Various staff were responsible for creating KPI reports based on their area of expertise. These reports were created manually at various time intervals, in various formats, and stored in various locations throughout the network.

- Reports were not easily maintainable or accessible by all staff.

- Reports contained detailed data that did not provide a quick, overall picture of the metric.

## SOLUTION

- Identified KPIs that could be obtained from consistently available and reproducible sources.

- Used Python scripts to streamline data extraction from these sources (CRSPlus, SQL Server, Access, and Excel) daily and generate static web pages that are published to an intranet server.

- Cleaned, aggregated, and augmented the data using libraries like *pandas*, *Plotly Express*, and *jinja*.

## RESULTS

- The KPI process runs automatically on a nightly basis, producing a daily status of each KPI.

- KPI reports are available to all CCR staff on intranet web pages.

- KPI reports contain data visualizations for quick assessments and tables or hover options with detailed data. See figures.

- Four dashboard categories display over 50 KPIs: Completeness in Facility Reporting, Death Clearance Status, Certification History/Most Recent Submission Measures and Monthly Case Reporting.

- Where possible, the KPI report aligns with the NPCR grant-required performance measure (PM). This allows the NCCCR to access and respond to PM progress reports quickly. For example, one KPI report shows the annual increase in reporting from physician offices based on specialty that is specifically designed to align with the PM requirement. All data needed to respond to that PM are available in this KPI report.

## SUSTAINING SUCCESS

- Using Python scripts to perform all data manipulation report generation allows the entire process to be replicated and updated easily.

- The NCCCR continues to evaluate necessary KPIs and how those data can be incorporated into the automated KPI process.
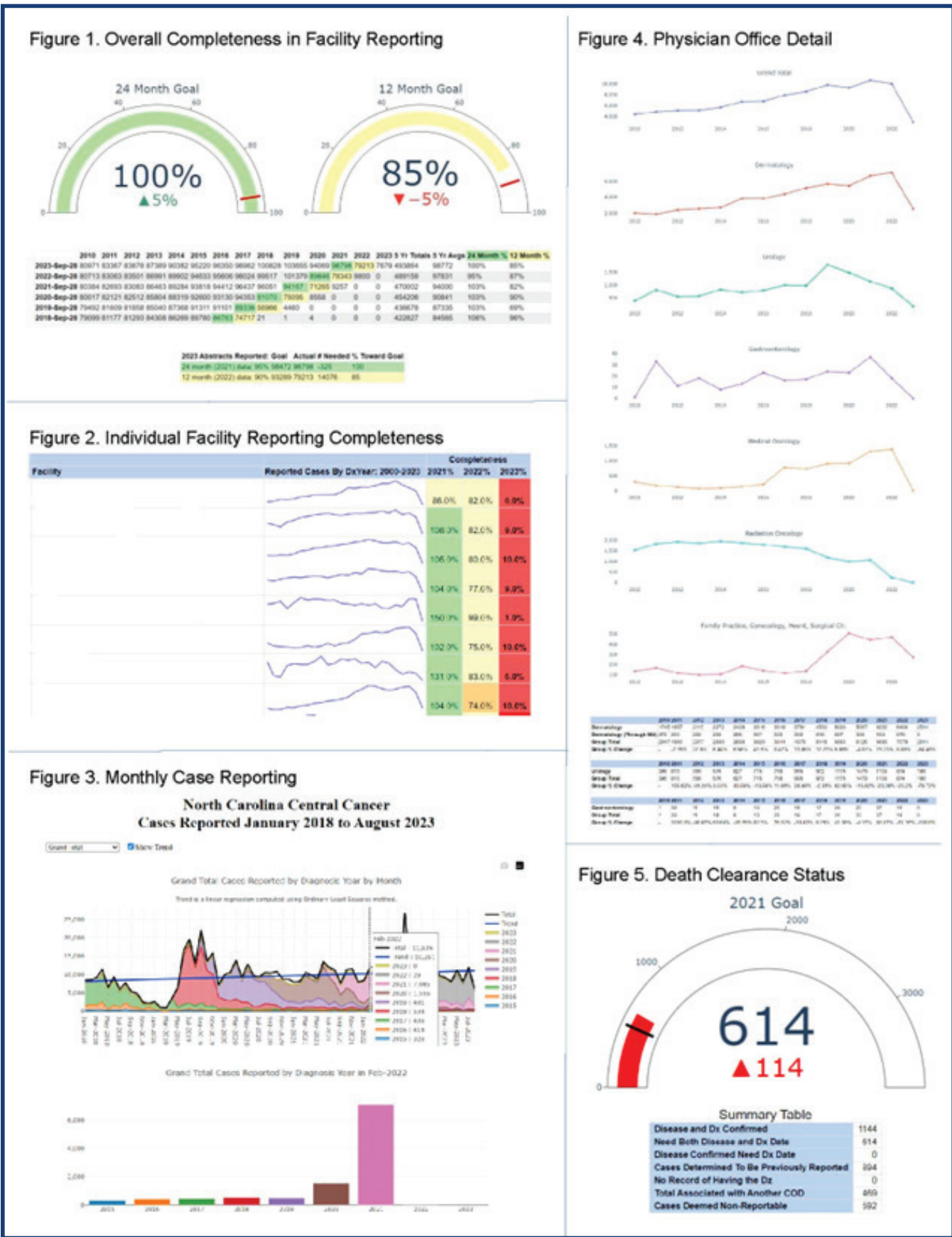
## STORY QUOTE

*"The dashboard is more than an interesting display of graphs. It is the ability to pull data from various sources to visually track registry's key performance indicators. It is also a practical tool used daily by all staff to evaluate cancer reporting and quickly assess compliance with certain performance measurements."*
*– Chandrika Rao, PhD, Interim Director, State Center for Health Statistics, Director, Central Cancer Registry*

## REGISTRY CONTACT

https://schs.dph.ncdhhs.gov/units/ccr/

**North Carolina Figures**



Figure 1. Overall Completeness in Facility Reporting
Figure 2. Individual Facility Reporting Completeness
Figure 3. Monthly Case Reporting
Figure 4. Physician Office Detail
Figure 5. Death Clearance Status