

An innovative way to present Residency Match outcomes and improve its business process at Brody School of Medicine

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Medical Education Snapshots: Part 1
December 2nd, 2020



Collaborative Team Members

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Dr. Hector Molina	DBA	East Carolina University, ITCS Central Project Office	Project Manager

Phase 1

Match Dashboard (version 1.0)

- Collect Match records
- Create a table/view in ECU Operational Data Storage (data warehouse)
- Replicate legacy report from a static paper (PDF) format to dynamic visualization
- Create prototype of visualization to deliver Match results insights to administrators

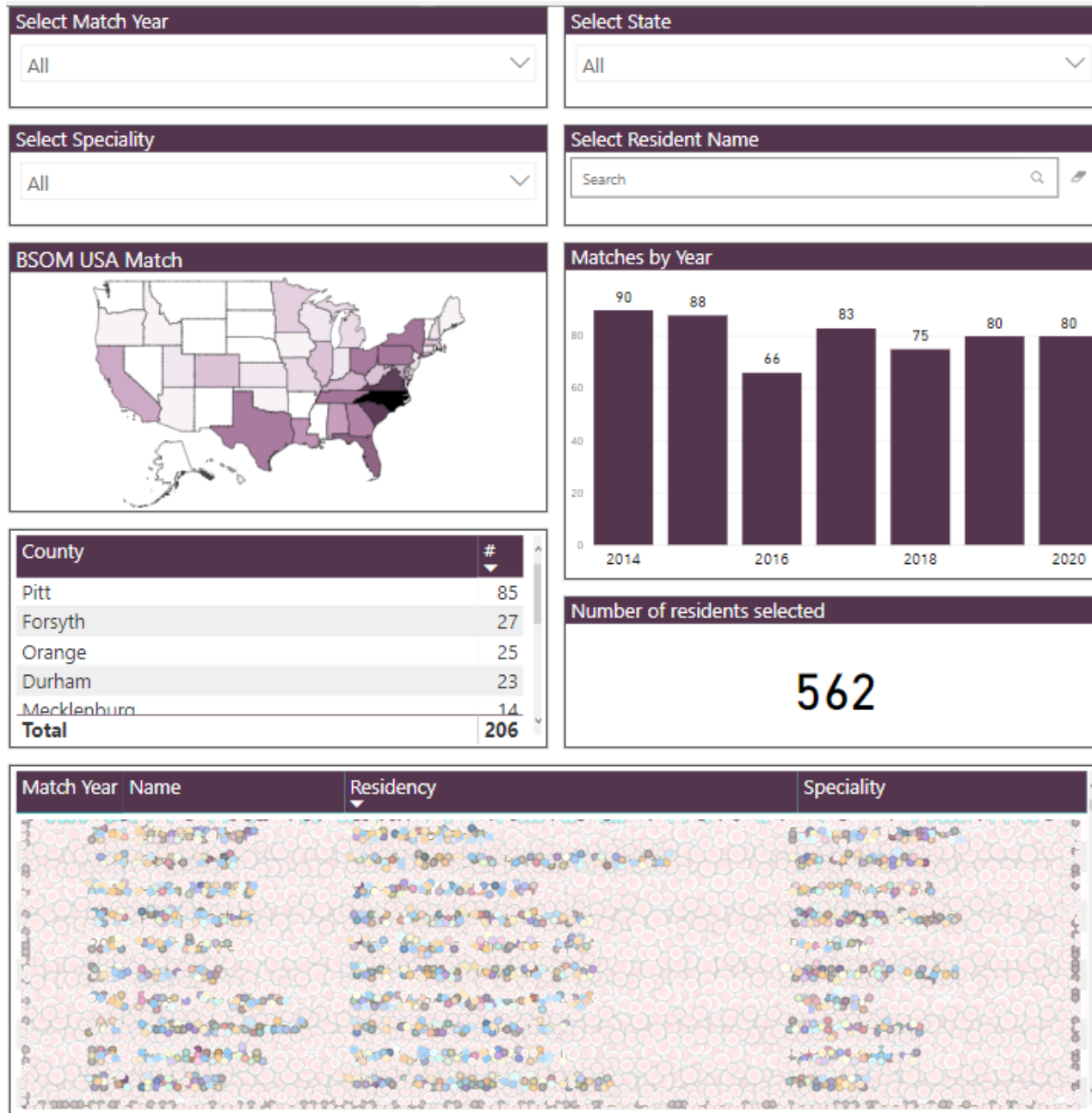
Phase 2

Public Match Dashboard (version 2.0)

- Analyze business process for data collection of Match results
- Develop a process to manage data collection in student information system (Banner)
- Update reporting with new data collection process
- Create visualization for public use – replacing Match listings on website

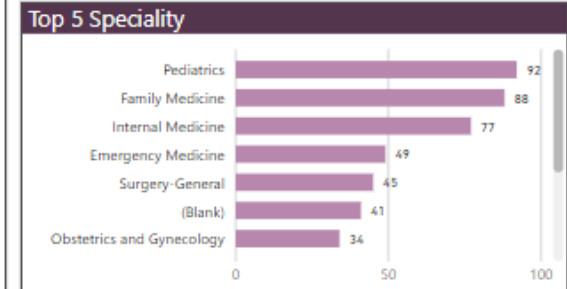
Results – Match Dashboard

- Historical Match records from 2009 to 2019 collected
 - Records extracted from BSOM website and files provided by Office of Student Affairs
- Table/view was created in data warehouse to mirror data export from National Residency Match Program (NRMP)
- Excel spreadsheet was used to import historical data in table/view
- An ETL process was created to extract, transform, and load data from excel spreadsheet to table/view
- Developed a query (“code” to retrieve data from the database) and used it to create the visualization



Instructions for viewing data

1. Select a value from a dropdown to filter data on the dashboard. Multiple filters can be used together.
2. The Search Resident Name filter will search the any part of the resident's name.
3. Click on a state to highlight the number of residents represented in the bar charts and resident detail data.
4. Mouse over a year in the bar chart to display resident speciality breakdown.



Results – Public Match Dashboard

- Students may desire to not Match results publicly
 - Created a field in the student information system (Banner) to identify students to not include in public report(s)
- Linked student flag from Banner to Match data in the data warehouse
- Changed ETL process to bring import data file automatically
- Updated the query to exclude students with confidentiality flag on record
- Identify visuals to include in our public dashboard
 - List of students with match program, location, and specialty
 - Map of where Brody students match
 - Number of students matching per year
 - Top 5 states
 - Top 5 specialties and institutions

Residency Program Match Results



Brody School of Medicine Match Dashboard

Welcome to the BSOM Match Results Dashboard!

This dashboard presents Match information for graduates from the Brody School of Medicine at ECU.

Please follow these instructions to navigate the dashboard:

To **view our graduate list** by year, click on the “Student Listing” button below.

- Use the search box to search by student/graduate name
- Listing can be sorted by a click on the arrow under each column name

To **view year-by-year trending and analytics**, click on “Match Results Trends”.

- Select the match year to filter data by year
- Click on a state or county to highlight the number of residents who match in the selected location
- Mouse over the year-by-year trending graph to display a breakdown by specialty

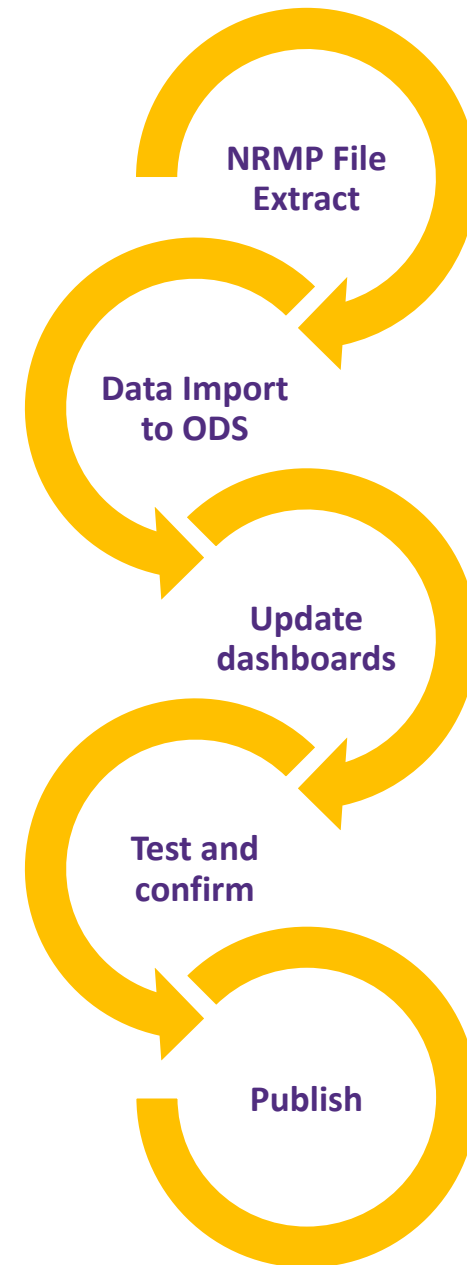
To **return to this landing page**, click the Home button in the upper right hand corner.

Challenges Encountered

- Student exclusions from manual to electronic
 - Exclusion were done by hiding student before report publication
 - Modify query to exclude students from publication with the flag entered by the Registrar
- Preliminary or Transitional program (multiple program match)
 - Student can match for a preliminary or transitional and into a specialty for secondary years of residency (i.e. Internal Medicine and Radiology)
 - Identify students via query to only report the second years only
- Students reported with multiple AAMC ids
 - Identified via query and corrected to match most recent id
 - Alternative id table created to assist in correction process
- MNRP data is not standardized

Evaluation Plan

- Every year:
 - Office of Student Affairs identifies students to exclude
 - Data file exported from NRMP and imported to table in data warehouse
 - Dashboards are updated
 - Data is verified and reports tested
- Reports are published manually on Match Day



Lessons Learned

- Open communication and understanding of the business process were essential for implementation of reports
- Bring minimal disruption to business process but still improve data collection
- “All-Hands on Deck” when file is received and start preparation for reports’ deployment
- BSOM continues with its tradition of sharing match outcomes in an interactive manner with the general public and internal users to improve decision-making process and operations
- Our team developing other reports to support analytics of medical education at Brody

Next Steps

- Banner process to identify students for exclusion is fully implemented
 - Exclusions are identified and compared with match results before dashboard is published
- Dashboards for internal and public use are published
 - Deployed Match Day 2020 – Provided a source of information as event was altered due to COVID-19
 - BSOM continues with its tradition of sharing match outcomes with the general public
- Future development: Automate dashboards updates

Acknowledgements

We thank the support and engagement of our partners in this project


- BSOM Office of Student Affairs
 - Bailey Dunn-Phillips, Director
 - Gaye Sexton, Registrar
 - Dr. Susan Schmidt, former Associate Dean for Student Affairs
 - Dr. Amanda Higginson, former Assistant Dean for Student Affairs
- BSOM Office of Academic Affairs
 - Dr. Kendall Campbell
 - Kelly Lancaster
- Tim Below, Josh Caroon, and others in ITCS Enterprise Data Services and Enterprise Information Systems

Thank You

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