

# NEVADA

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## Probabilistically Matching of Electronic Pathology Reports with Nevada Central Cancer Registry Data to Identify New Cancer Cases

# NATIONAL PROGRAM OF CANCER REGISTRIES SUCCESS STORY

**SUMMARY:** The Nevada Central Cancer Registry (NCCR) provides statistical data to assist epidemiologists, health researchers, and individuals in the medical and allied health professions. This data helps identify cancer risk, evaluate cancer patient care, and illustrate leading trends in cancer incidence, survival, and mortality in Nevada. However, the associated results are dependent on the quality of the data that is used. Furthermore, preliminary studies on the timeliness of cancer reporters in Nevada has shown healthcare facilities largely report not only after their mandated time periods, but after the North American Association of Central Cancer Registries (NAACCR) data submission period, two years later (OPHIE, 2014). Concerns have been brought up regarding the quality of core variables (address, race, ethnicity, and social security number) and meeting the expected number cancer cases set by the Centers for Disease Control and Prevention's (CDC) National Program of Cancer Registries (NPCR).

**SOLUTION:** Although data from pathology laboratories have consistently been reported, these reports have generally lacked core variables that are generally found from principle reporting facilities. However, due to poor reporting practices in Nevada hospitals, physician offices, and treatment centers, these cases are identified as "pathology-only cases". During 2016, the NCCR has used Link Plus to probabilistically match pathology-only cases initially with NCCR data to identify potential new cases (Non-Matches). Afterwards, a secondary probabilistic match was performed with Medicaid, Department of Motor Vehicles (DMV), and voter registration databases to identify missing social security numbers, addresses, race, and ethnicity. In order to conduct follow-back, National Provider

Identifiers (NPI) were needed to locate the ordering physician. This information was obtained from the Center of Medicaid and Medicare Services (CMS) public electronic file. Follow-back was conducted to the reporting institution to obtain additional information to complete the cancer abstract.

### RESULTS:

- 1,540 follow-back letters were mailed with a 52% return rate to date
- 1,183 new incidence cases were identified to date
- 1,194 race and ethnicity field updates
- 1,047 address and county field updates

**SUSTAINING SUCCESS:** Although this was the first thorough and substantial probabilistic matching project with outside datasets conducted on pathology reports by the NCCR, the sheer volume of responses and new cases was underestimated. Going forward, a standardized methodology has been developed that includes matching with these datasets and follow-back procedures to be conducted quarterly to reduce the overall volume of responses and to ensure all data is entered in time for the annual submission.

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### SOURCES:

Office of Public Health Informatics and Epidemiology (OPHIE). (2014). Descriptive Analysis of the Timeliness of Cancer Reporting Practices in the State of Nevada, e 1.0. Division of Public and Behavioral Health.

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