

# 2020 NPCR ARKANSAS CENTRAL CANCER REGISTRY SUCCESS STORY

STORY TOPIC: Covid-19 impact

STORY CATEGORY: Public Health Impact

STORY TITLE: Cancer Challenges Amid a Pandemic, and a Glimpse at Arkansas Data

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## SUMMARY

By March 20, 2020, there were more than 234,000 cases of COVID-19 confirmed worldwide and more than 9,800-registered deaths.<sup>1</sup> Arkansas identified its first case around March 11, 2020.

Persons with compromised immune systems suffer the most severe disease and because of this, staff at the Arkansas Central Cancer Registry (ACCR) conducted a linkage to study the distribution and severity of COVID-19 among cancer patients in Arkansas.

## CHALLENGE

On March 11, 2020, the Governor of Arkansas issued a public health emergency to take action to prevent the spread of COVID-19.<sup>2</sup> The first challenge for the Arkansas cancer community during the pandemic is the risk of contracting and developing severe complications of COVID-19.<sup>3</sup> Therefore, preventing infection is of primary concern. Those treated for cancer in the past are likely to have gained normal immune function back, and are, at this time, not at a higher risk but precautionary measures should still be taken.<sup>4</sup> Preventive measures include regular handwashing, avoiding close contact, wearing a mask, covering a cough or sneeze, and cleaning and disinfecting surfaces.

Another major challenge in the cancer community was the pause of elective procedures at the beginning of the pandemic, such as cancer screenings, to help reduce the risk of transmission of COVID-19 in health care settings. In Arkansas, elective procedures ceased April 3, 2020 and only allowed to proceed April 27, 2020 under special conditions (e.g., outpatient procedures only and patient must have a negative COVID-19 test within 48 hours of the beginning of the procedure). Subsequent guidance on elective procedures in the state underwent provisions until August 1, 2020.<sup>5</sup> A consequence of putting these elective procedures on hold was a considerable decline in screening. A recent report by the Epic Health Research Network estimated that colon, cervical, and breast cancer screening appointments were down between 86% to 94% back in March, 2020.<sup>6</sup> This may result in later stage tumor development, which can lead to worse prognosis and survival.

At the same time, there is also concern of delayed treatment among cancer patients. During normal times, fear and anxiety play a major role during a patient's disease.<sup>7</sup> This is complicated by the added fear of contracting COVID-19, which could have a great impact on treatment refusals and cancer survivorship.<sup>6,7</sup> These challenges bring importance to understanding the short- and long-term health effects of this disease on this patient population.

## SOLUTION

In order to gain a better understanding of the impact of COVID-19 on Arkansas cancer patients, a linkage was performed between the Arkansas Central Cancer Registry dataset, 1996-2020 (2018-2020 provisional), and the COVID-19 dataset at the Arkansas Department of Health in June of 2020.

Standard dual probabilistic linkage methodology based on the Fellegi and Sunter model was used to perform a match between the two sets.<sup>8</sup> The variables used for the match were first name, last name, sex, race, telephone, birthdate, street address, city, and zip code. As of June 2020, the total number of records used from the Arkansas Department of Health COVID database was 7,542 and 373,291 from the Arkansas Central Cancer registry. A total of 255 cancer patients were matched to the COVID-19 database. The ACCR collects high quality and complete data and has been consistently certified as a Registry of Distinction by NPCR. The only limitations were that the COVID-19 dataset was not complete since these data were reported rapidly with little time for quality assessment.

## RESULTS

Arkansas cancer patients diagnosed with COVID-19 by June 1<sup>st</sup>, 2020 (N=255), had the most prevalent cancer types (female breast, prostate, colorectal, and lung), see Figure 1. Patients diagnosed with cancer during 2018 had the largest number of COVID-19 infections than any other diagnosis year since 1996 (25.8%). Cancer patients diagnosed with COVID-19 were predominately female (58%) and between the ages of 55-64 (25.9%) and 65-74 (22.8%) years old.

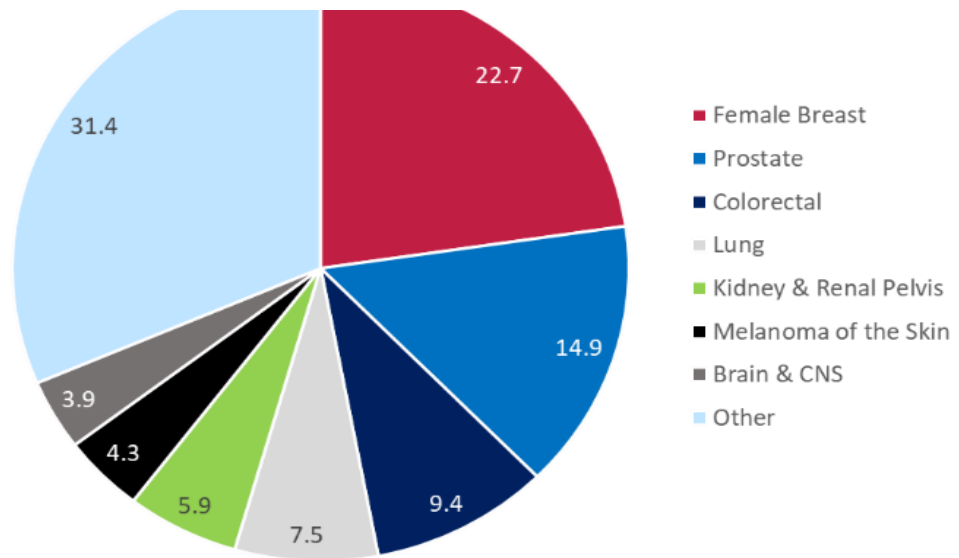
White males (71.6%) and females (75.5%) had a higher percentage of COVID-19 cases than black males (28.4%) and black females (24.5%). Of the cancer patients diagnosed with COVID-19, 45.4% were hospitalized, and of those hospitalized, 15.7% were intubated. The data showed that to date, 91% of cancer patients diagnosed with COVID-19 in Arkansas survived.

## SUSTAINING SUCCESS

At this time, safe screenings and cancer treatment in Arkansas during the COVID-19 pandemic should continue at pre-pandemic levels.<sup>9,10 11</sup> Current hospital safety guidelines for screenings and cancer treatment are in place and being followed and relaying effective messaging about this is important.<sup>5</sup> Further, cancer registry data will be critical in measuring the impact of a pandemic on the delivery of cancer care in Arkansas.

To educate providers in Arkansas, the results of this project was accepted for publication in the September 2020 issue of the Arkansas Family Physician, a publication of the Arkansas Academy of Family Physicians. In addition, results were presented at oncology grand rounds at the Winthrop Rockefeller Cancer Institute at the University of Arkansas for Medical Sciences in September 2020.

**Figure 1.** Cancer Patients Diagnosed with COVID-19 by Cancer Type, Arkansas, 1996 - 2020. Data from 2018-2020 are provisional.



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