

# Ambulatory Oncology

## Infrastructure development in response to the COVID-19 pandemic

Susan Yackzan, PhD, APRN, MSN, AOCN®, and Megha Shah, BSN, RN, OCN®



**BACKGROUND:** The COVID-19 pandemic generated challenges to the delivery of safe, efficient, and high-quality cancer care. In ambulatory oncology, where most cancer care is delivered, these challenges required the rapid development of infrastructure.

**OBJECTIVES:** This article describes challenges to the design and implementation of ambulatory oncology infrastructures that support clinical oncology care during a pandemic.

**METHODS:** This article reviews clinical experiences in interprofessional, multicenter, academic, and community settings during the COVID-19 pandemic. Cohesive and efficient services, collaborative processes, and workflows; patient triage and symptom management; technology and equipment; and communication strategies are discussed. National ambulatory care guidelines and practice recommendations are included as applicable and available.

**FINDINGS:** Continued treatment delivery and support for patients with cancer, as well as infrastructure to minimize viral exposure to patients and oncology healthcare workers, are essential when caring for this high-risk population.

### KEYWORDS

ambulatory oncology; pandemic; COVID-19; telehealth; oncology nursing

### DIGITAL OBJECT IDENTIFIER

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**DISRUPTIONS OF HEALTH CARE DURING THE COVID-19 PANDEMIC** were rapid in onset and protracted with continued viral spread. The first positive case in the United States was confirmed by the Centers for Disease Control and Prevention (CDC) on January 20, 2020 (Holshue et al., 2020), and viral transmission was widespread across the United States by mid-March (Schuchat, 2020). As a result of the pandemic, a variety of challenges have been presented to individuals providing care for patients with cancer. This has been apparent in many care settings but particularly in the ambulatory oncology setting.

During the past several decades, ambulatory care has undergone tremendous expansion, with care shifting from inpatient to outpatient settings. Estimates suggest that as much as 80%–90% of cancer care is delivered in the ambulatory setting (Buchsel & Glennon, 2005; Pirschel, 2019). As reported to Congress in 2018 (Medicare Payment Advisory Commission, 2018), a steady decline in inpatient discharges and a steady increase in outpatient visits occurred between 2006 and 2016. This care shift to the ambulatory setting was made possible by advances in technology and treatments, as well as innovations in the provision of care. A significant driver of the shift has been economic pressure and influence from payers, particularly from the federal health insurance program Medicare. The Medicare Prescription Drug Improvement and Modernization Act of 2003 and the Patient Protection and Affordable Care Act of 2010 created changes in reimbursement and value-based programs that have contributed to the growth of ambulatory care (Journal of Healthcare Contracting, 2015).

Challenges presented by the COVID-19 pandemic in the ambulatory oncology setting exposed the necessity of infrastructure development. Whether process or product, the development of infrastructure has often been swift and championed by oncology nurses to meet urgent needs. This article reviews challenges to designing, problem-solving, and implementing ambulatory oncology care infrastructures that support the safe delivery of clinical care during a pandemic.

### Provision of Cohesive and Efficient Services

The COVID-19 pandemic has highlighted a particular challenge of many interprofessional ambulatory oncology settings. These settings are