KEY POINT SUMMARY

OBJECTIVES

To evaluate the utility of a novel method for measuring patient time in examination rooms and how this time is used.

Measuring the use of examination room time in oncology clinics: A novel approach to assessing clinical efficiency and patient flow

Key Concepts/Context

Inefficient use of time can drain resources and impede effective clinic flow. Long wait times in oncology units often result in higher costs for both caregivers and patients, while patients also tend to experience increased stress and reduced overall satisfaction with their treatment. Long wait times have also been shown to directly and indirectly reduce patient adherence to recommended treatments. The time spent specifically in an examination room is an important aspect of a patient's oncology clinic visit, but previous studies have been unable to objectively analyze exactly how time is spent once a patient enters an examination room. This study uses state-of-the-art, non-invasive video technology at a National Cancer Institute (NCI)-designated Comprehensive Cancer Center that permits filming of patients and their oncologists during their time in examination rooms.

Methods

Data for this study were derived from 55 video recordings filmed between March 2012 and April 2014. These videos were originally recorded as part of a larger, NCI-funded parent study that investigated treatment decisions and communications that occurred between patients and oncologists who had differing racial backgrounds. All participants consented to being filmed by unobtrusive recording devices installed within the examination room.

All oncologists in the study were seeing patients with a confirmed diagnosis of breast cancer, and all patients participating in the study identified as Black, African-American, or Afro-Caribbean, were between 25 and 85 years of age, and were visiting their oncologist for the first time to decide whether to begin endocrine treatment or chemotherapy. There were a total of 55 female patients with a mean

age of 57.2 years, and a total of five oncologists seeing an average of 11 patients each.

94.5% of the sample of patients were scheduled for 60-minute appointments, which is the standard timeframe allotted for appointments where patients have never met their oncologist. The last 5.5% of participants had 20- to 40-minute appointments because they had previously met their oncologist but had not discussed chemotherapy or endocrine therapy.

Five aspects of time were measured while reviewing each video: total time a patient spent in the examination room, time the patient spent waiting in the examination room before seeing an oncologist (not including the presence of other healthcare professionals), physician-patient interaction time, scheduled/planned occupancy time, and the discrepancy between scheduled occupancy time and total patient time spent in the examination room.

Descriptive statistics were analyzed for all five aspects of time. Since there were non-normal distributions of outcome data, nonparametric tests were used in subsequent analyses of the data. Because some patients had previously undergone surgery while others hadn't, Mann-Whitney U tests were used to determine differences. Spearman's rho was used for rank order correlation analyses, determining how all types of time were related.

Findings

Average total occupancy time was 94.8 minutes. Average wait time before seeing an oncologist was 34.9 minutes. Average length of patient-physician interaction time was 29 minutes. Average discrepancy between scheduled occupancy time and actual total occupancy time was 40.3 minutes. 10.9% of patients occupied their examination room for a shorter amount of time than originally scheduled. There were no notable discrepancies in time measurements between patients who previously underwent surgery and those that did not. Additionally, total patient occupancy time was unrelated to scheduled occupancy time, physician-patient interaction time was unrelated to patient wait time, and discrepancies in occupancy time were unrelated to patient-physician interaction times.

Overall, the novel video technology proved useful for measuring different aspects of time spent within the oncology unit, how this time was used, and what the relationships were between these aspects. Accurate assessments of individual appointments can be made, thereby providing metrics helpful for improving a clinic's patient flow and efficiency.

Design Implications

For the purposes of consensually monitoring patient experiences and/or clinical workflows for either security or for assessments similar to those made in this study,
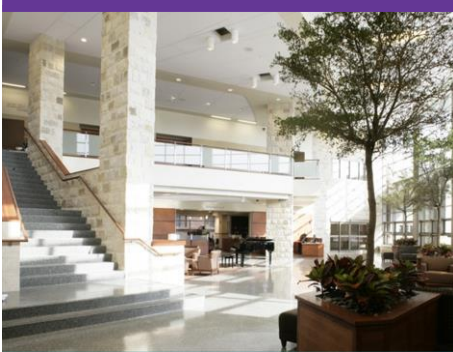
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cameras or audio recording devices could be unobtrusively installed within designated rooms and areas. While the authors assert that the presence of recording devices does not noticeably alter patient-physician interactions, it may be more aesthetically pleasing and less likely to induce self-conscious interactions if these devices were hidden or tastefully incorporated into the building design. Since patients are spending much of their time waiting in the examination room, designers may want to consider how comfortable these rooms are. The inclusion of cushioned seating and aesthetically pleasing colors, images, or plants may improve the time spent waiting.

Limitations

The authors noted several limitations within the study. A small sample size was pulled from only one clinic. The authors had little control over certain aspects of the study, such as the number of patients each physician would see. The authors had no data regarding the amount of time patients spent waiting in the reception area prior to their time in the examination room, leaving out a potentially substantial variable for additional wait times. The authors stated they also did not have consistent data on scheduled appointment start times, so while they knew the extent of time patients waited, they could not assess any relationships between scheduled start times and actual start times.