

Utilizing Telemedicine to Pre-screen New Patients to Facilitate Triage and Reduce Exam Room Wait Times in a Pediatric Sports Medicine Clinic



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BACKGROUND

- Patients want to spend quality time with the attending physician and get guidance as to how to treat their chief complaint during an outpatient visit
 - Issue: multiple factors that affect how much time a provider can spend with a given patient
 - Remedy: Assistants often gather background information prior to evaluating the patient
- Information transfer can be time-consuming and potentially cause delays
 - May lead to patient dissatisfaction and increased stress to providers and staff
- As we move towards value-based healthcare, it will be imperative for providers in our specialty to find ways to keep patients satisfied while delivering high quality care.
- Pre-screening of patients utilizing telemedicine can help decrease provider stress and burnout by
 - facilitating documentation
 - minimizing clinic delays
 - maximizing patient/provider interaction.
- Streamlining the flow of patients through a clinic could improve revenue as more patients could be seen in a given period of time

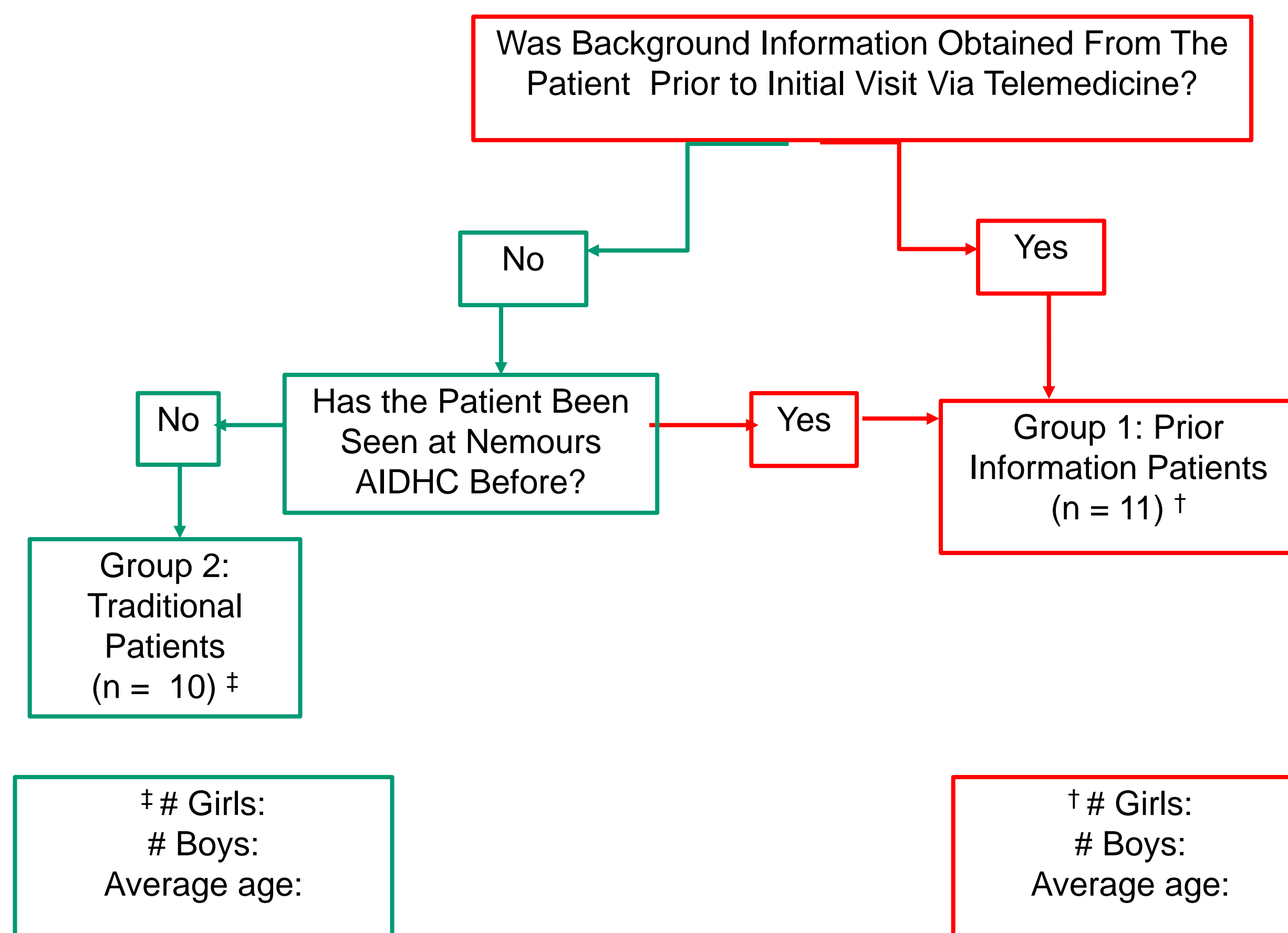
OBJECTIVES

- To perform a pilot study that analyzes time points collected from new patients with a chief complaint of knee pain in order to determine if obtaining the appropriate background information prior to the patient visit could reduce redundancy and streamline the patient's visit
 - Surrogate for patient satisfaction: total exam room time being minimized and the percentage of time in the exam room spent with the attending being maximized

MATERIALS AND METHODS

- Retrospective chart review approved by Nemours IRB
- Subjects: new patients with a chief complaint of knee pain
- Initial visits occurred between 6/26/2018 and 8/2/2018
- Breakdown of total visit time examined: time spent checking-in, rooming, waiting in waiting room, in x-ray, waiting in exam room, with an assistant, and with the attending physician
- T-tests used to determine significance at alpha < .05
- Patients categorized into groups based upon availability of prior information (Fig 1)

Figure 1. Patient Categorization



RESULTS

- Compared to traditional patients patients with prior information spent:
 - Significantly less time in the exam room (Fig 2)
 - Significantly greater percentage of their exam room time with the attending (Fig 3)
 - Average overall time attending spent with each group was equivalent (Fig 6)
 - Approximately 10% more of their overall visit spent with the attending (Figs 4 & 5)
 - Significantly less time with other hospital personnel (Fig 6)
 - Significantly less overall visit time (Fig 7)
- Patients spent over half of their visit waiting (Fig 8)

RESULTS

Figure 2. Total Time Each Group Spent In The Exam Room

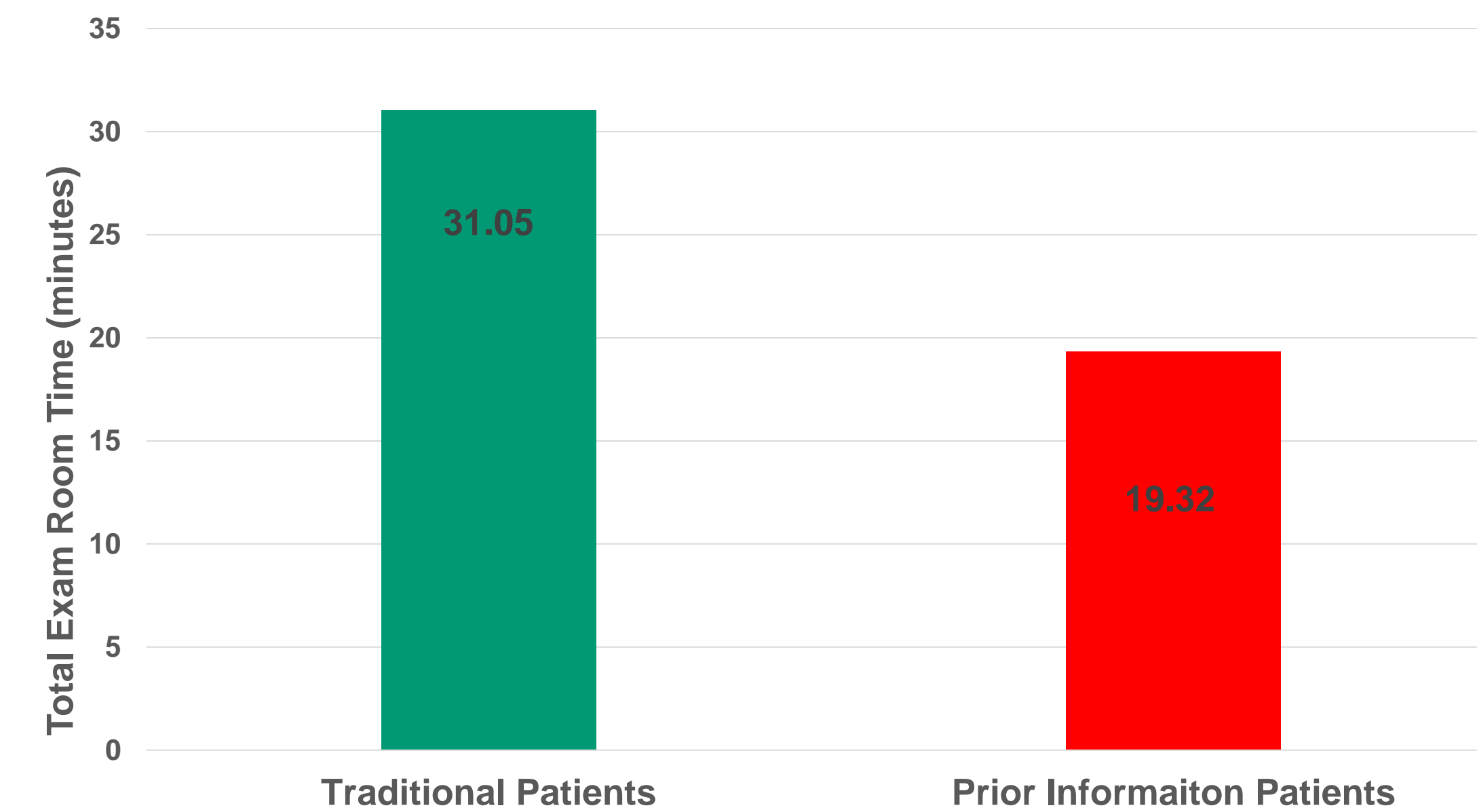
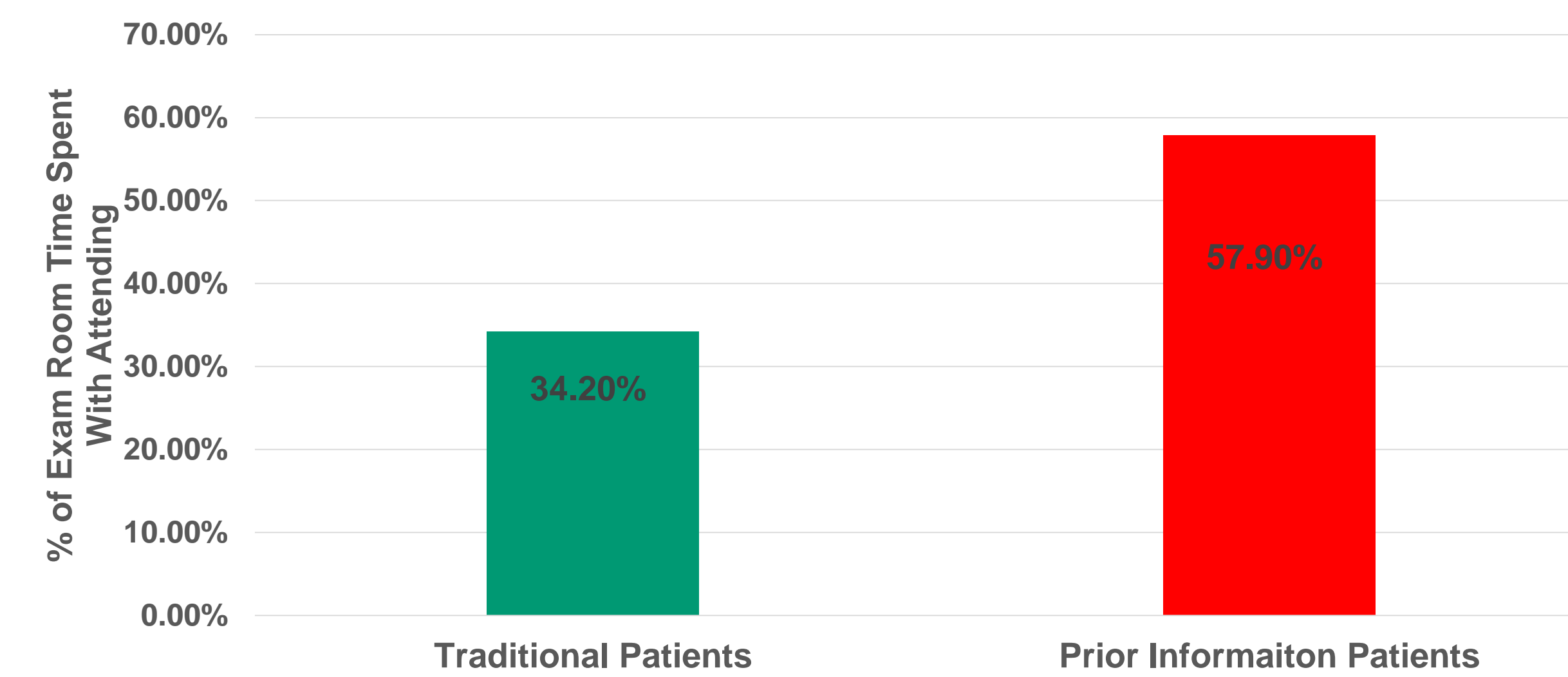
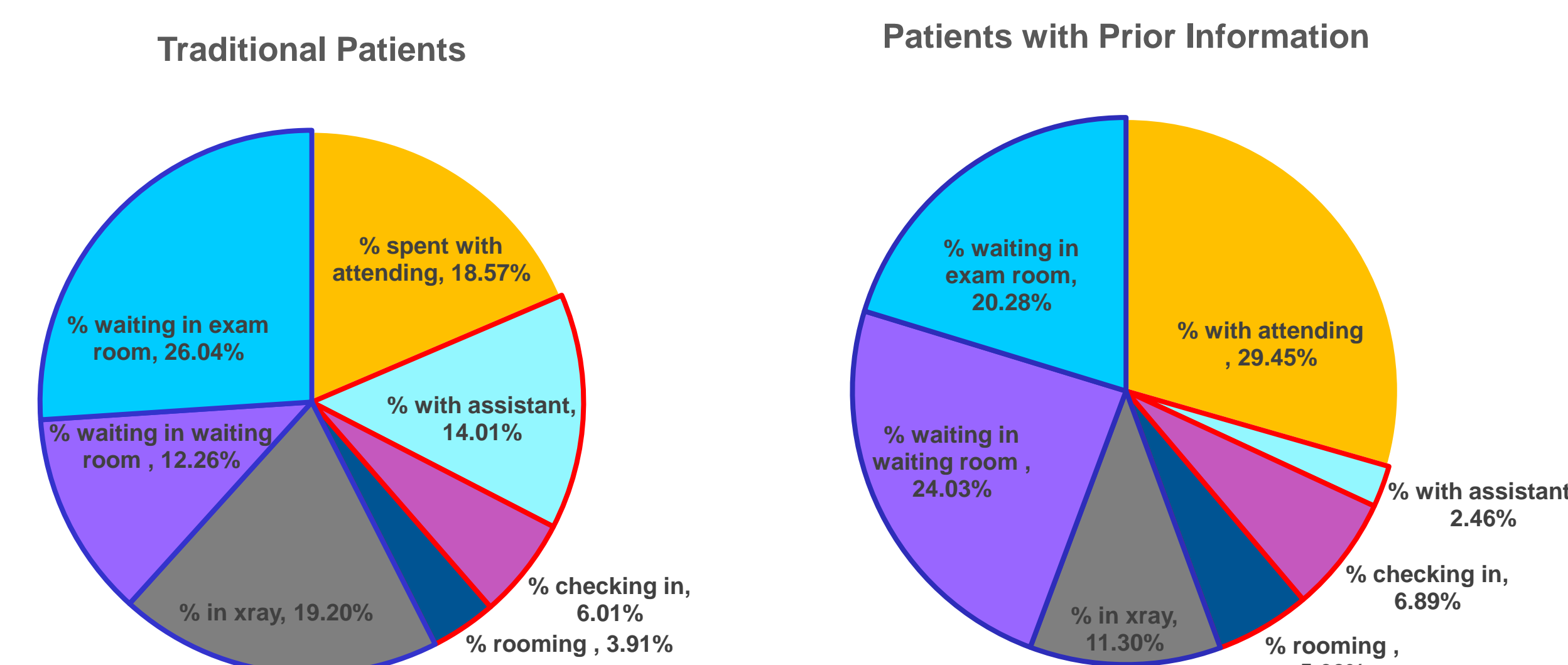


Figure 3. Percentage of Time in the Exam Room Spent with the Attending Physician

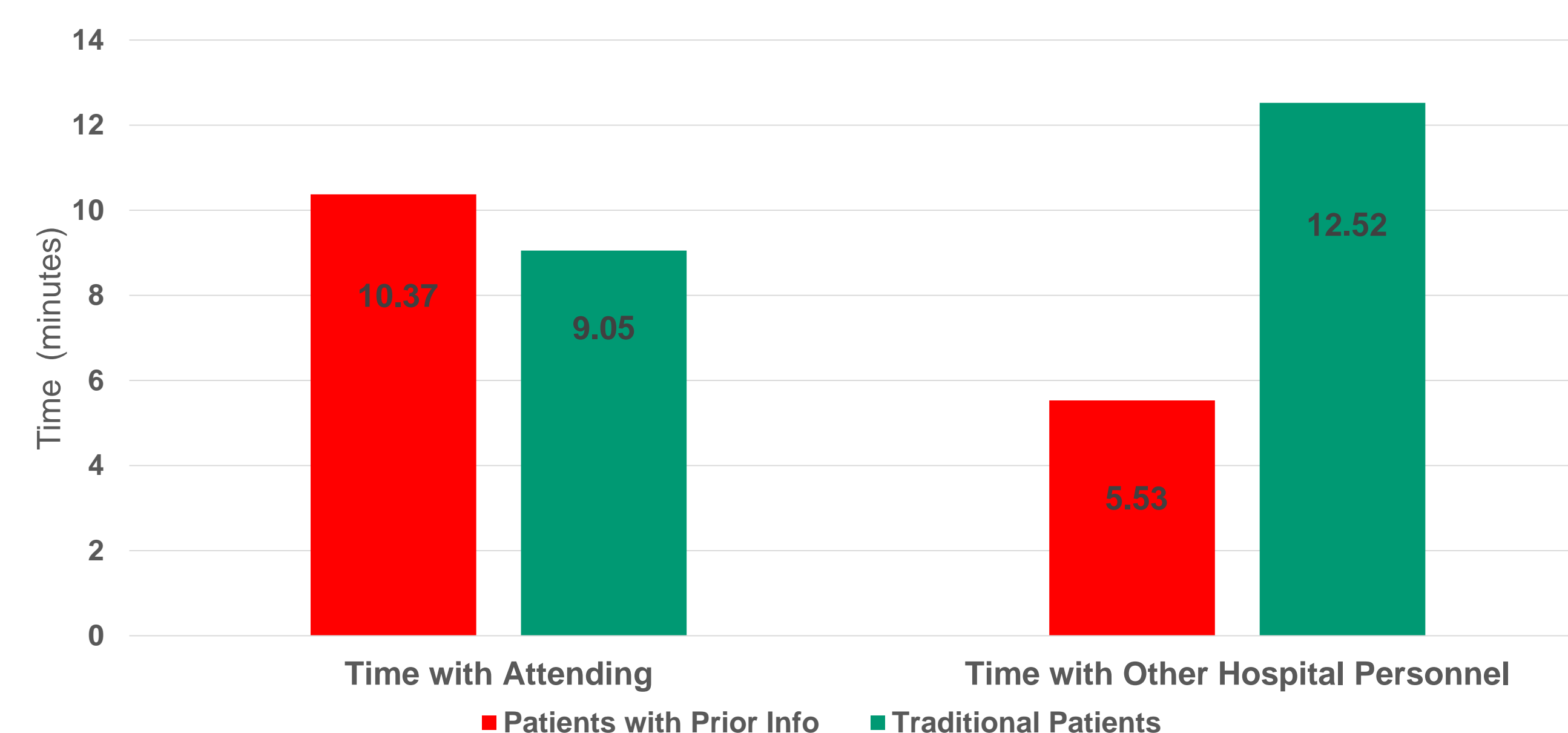


Figures 4 & 5. Average Percent Breakdown of Time Allocation During Visit



Portions with red borders indicate percent of visit time spent with a hospital personnel other than the attending. Portions with blue borders indicate percent of visit spent waiting

Figure 6. Average Time Spent With Attending Physician and Other Hospital Personnel



RESULTS

Figure 7. Total Visit Time at Nemours AIDHC

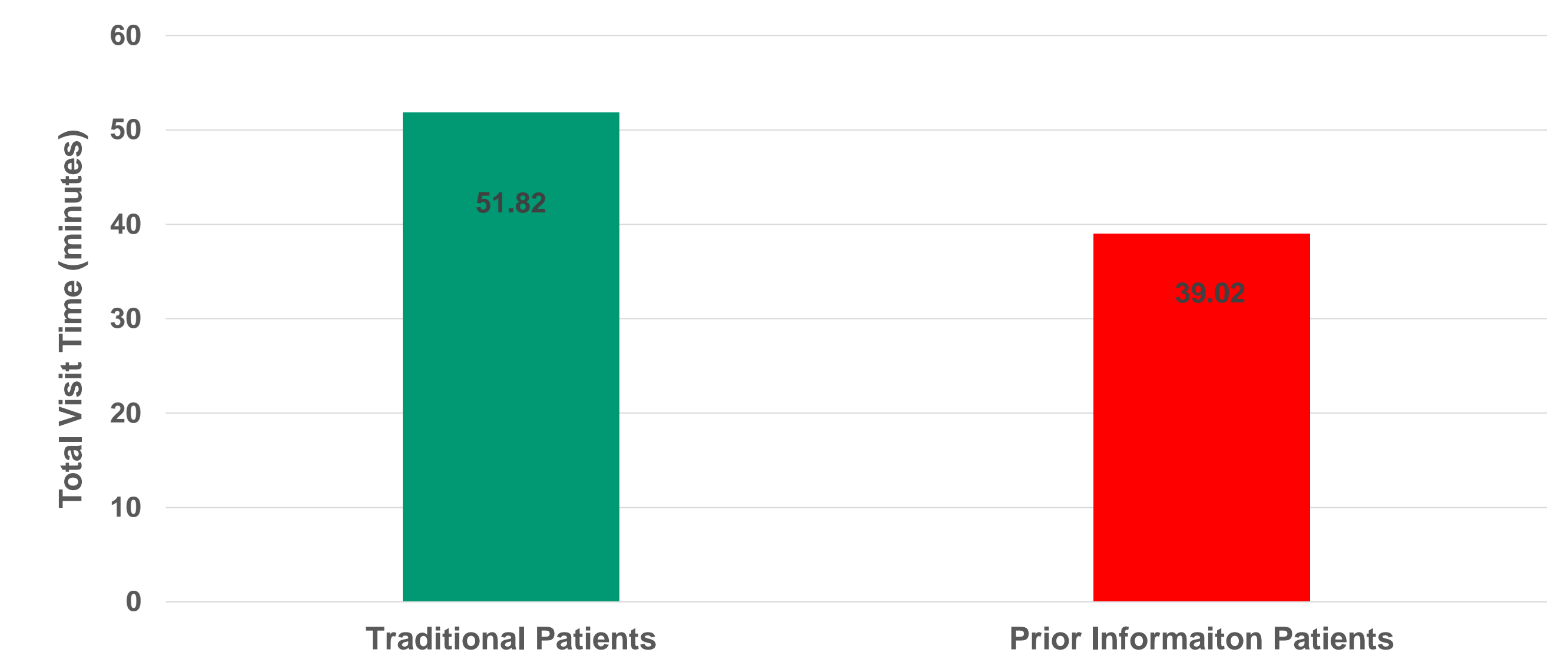
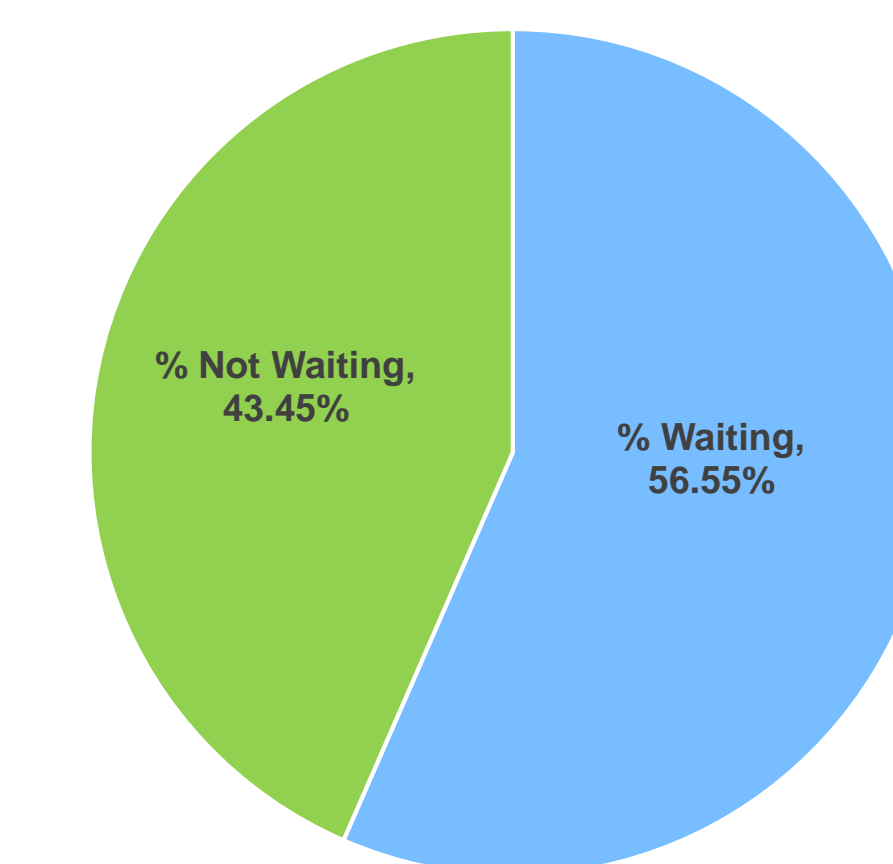


Figure 8. Average Percent of Visit Waiting for All Patients



CONCLUSIONS

- Obtaining appropriate background information prior to patient's initial visit can minimize waiting time and maximize the percentage of time that they spend with the attending physician
- Patient satisfaction may be increased if the attending has prior information about the patient
- A strategy needs to be devised to reduce patient wait times
- Future research warranted:
 - Replicating study design utilizing larger sample sizes and patients with other chief complains as well as obtaining check out time
 - Utilizing a survey to gauge patient satisfaction directly
 - Examining time points of patients following those prescreened via telemedicine to further determine whether pre-screening patients can help physicians run more on time

LIMITATIONS

- Check-out time not obtained
 - Reduced time spent with other hospital personnel
- Exceedingly small sample size
 - Did not allow us to break into subgroups (ex. patients who did and did not see an assistant and patients who did and did not receive an x-ray during their visit)
- Only time points from patients with a chief complaint of knee pain were analyzed
- Not all patients obtained an x-ray at Nemours during their visit, thus reducing the average time spent in x-ray
- One traditional patient was sent to x-ray prior to seeing the provider/an assistant
- Not all traditional patients saw an assistant

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