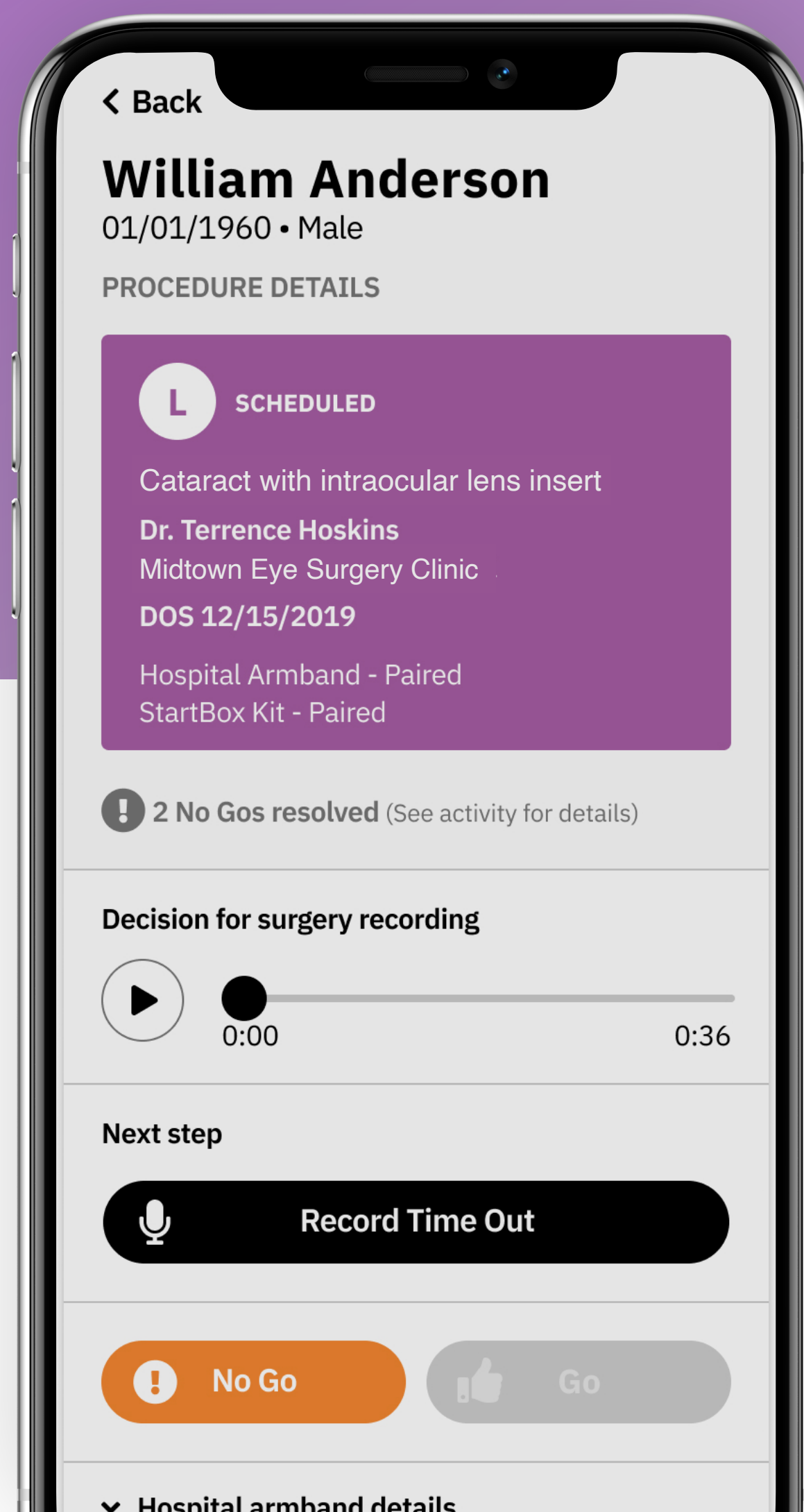




# StartBox® Patient Safety System

From Decision to Incision®

Digitally track a  
patient's procedure  
from clinic to surgery



IMPROVE SAFETY. TRACK RISKS. REDUCE COSTS.  
Through a Real-Time Data-Driven Approach





## DIGITAL PATIENT TRACKING

Cloud-based app tracks a patient from the provider's office until the start of a procedure



## REAL TIME, DATA-DRIVEN

Collects data at every interaction



## REDUCE COSTS

Allows healthcare facilities and insurance companies to accurately assess own risk



# How do you ensure safety?



## SAFETY PROTOCOLS

Providers and facilities implement rules, policies, guidelines, checklists, etc.



## ERRORS ARE HUMAN

Errors still occur: >3000 every day. Sometimes they are caught. Less often are they reported and analyzed.



## EFFECTIVENESS IS UNKNOWN

Safety effectiveness is unknown unless/until events occur (binary).





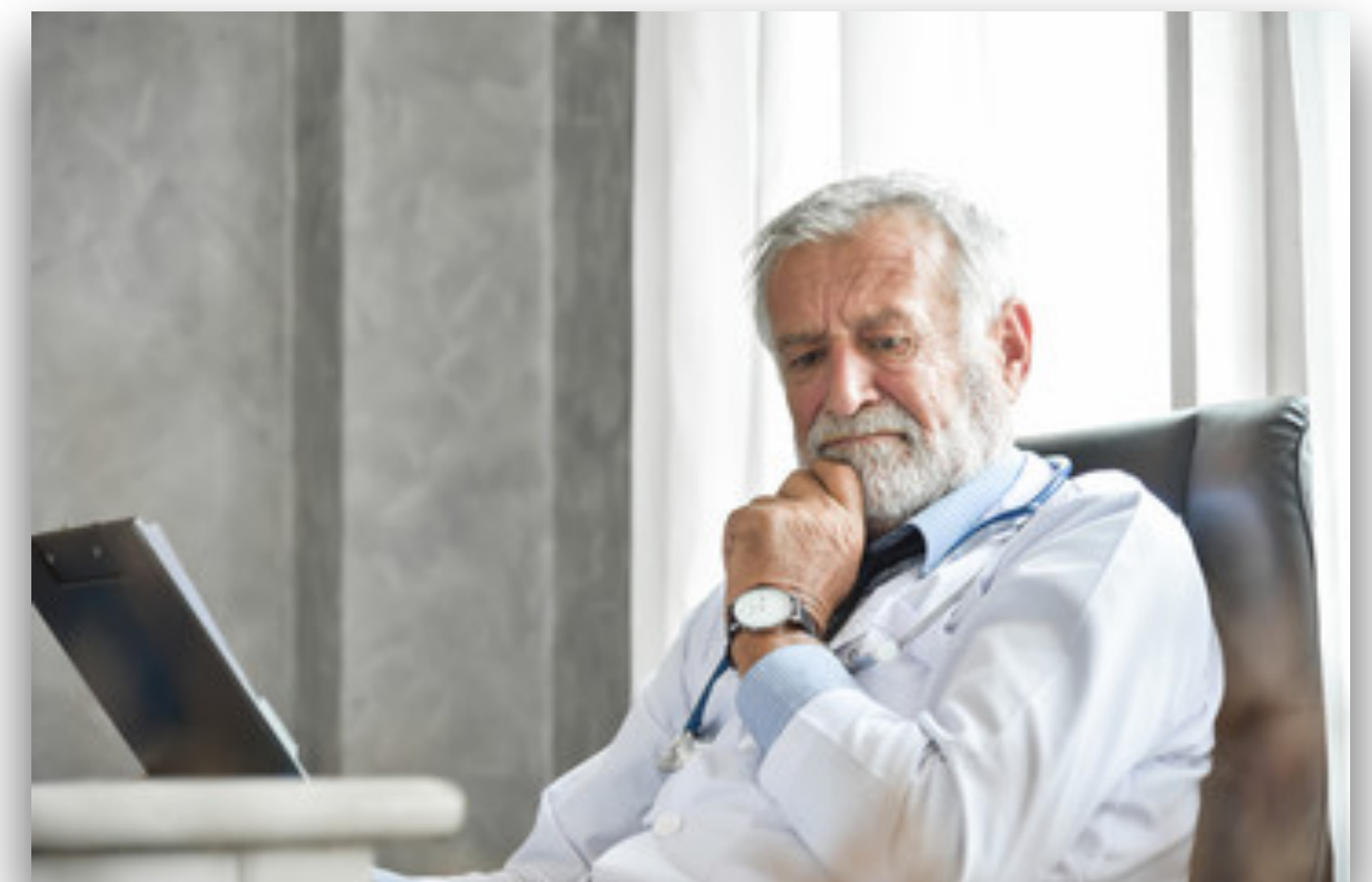
## MEDICAL LIABILITY COSTS ON THE RISE

30% of premiums increased from the previous year, the highest percentage since 2005. 14 states had premium increases of 10% or more.

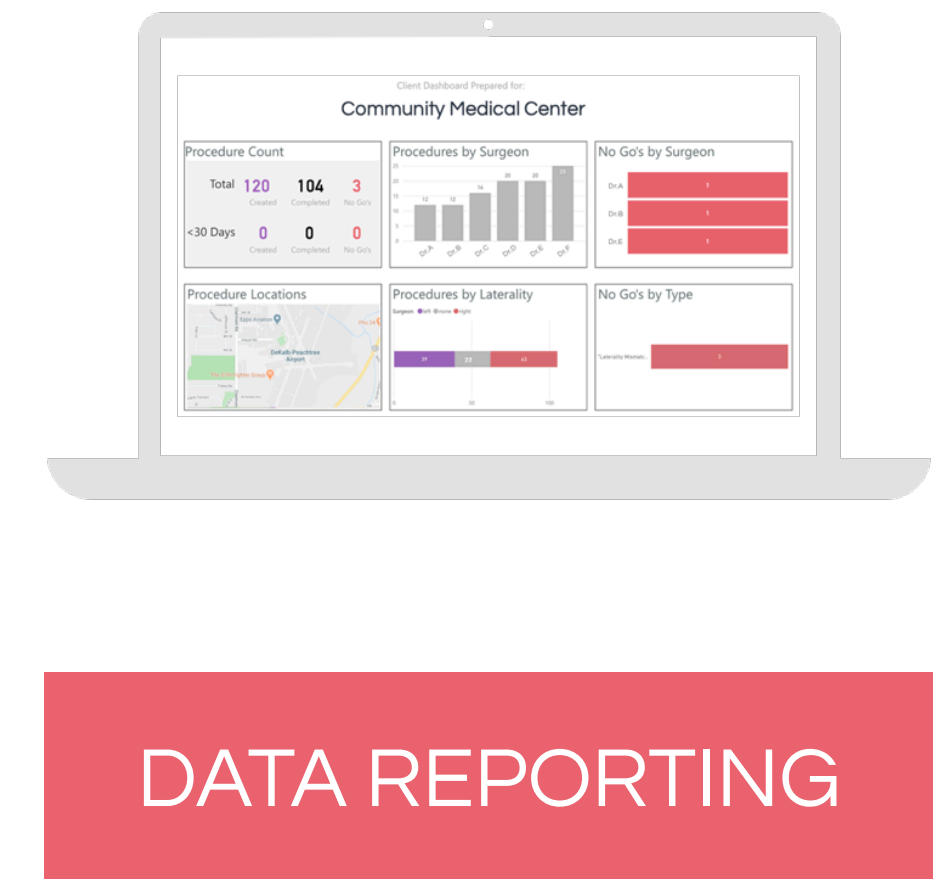
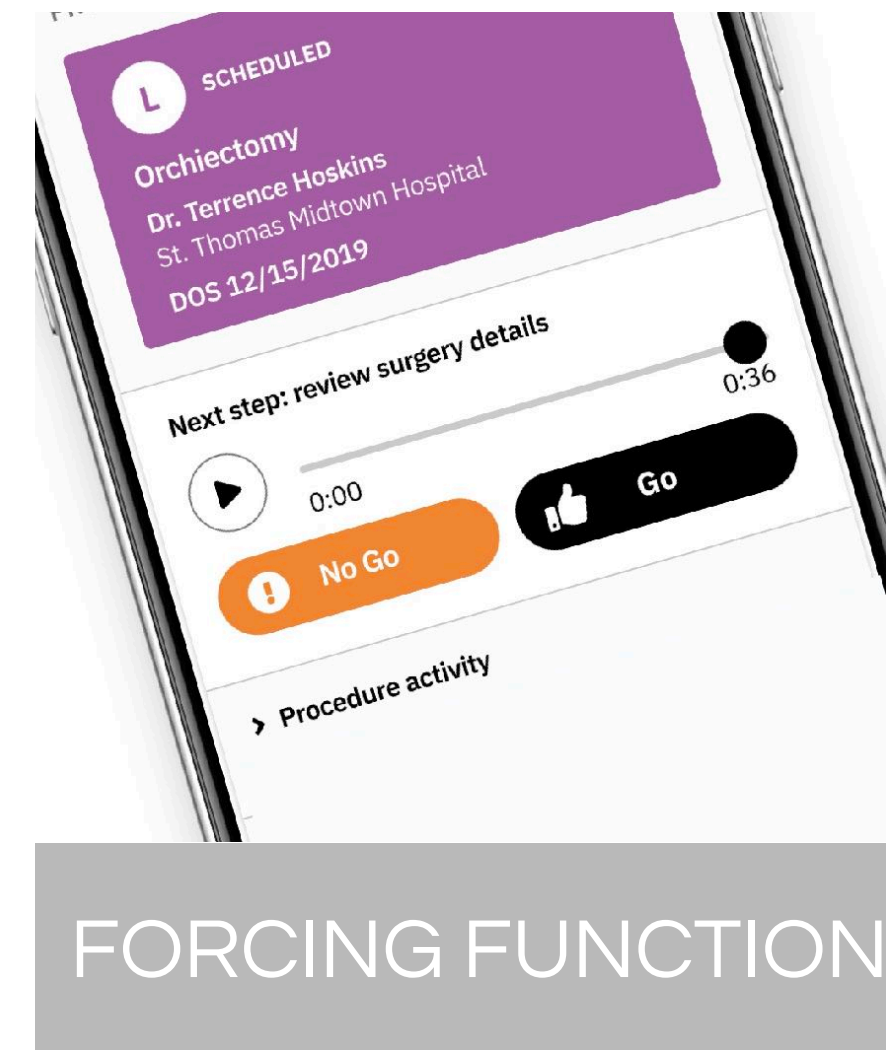
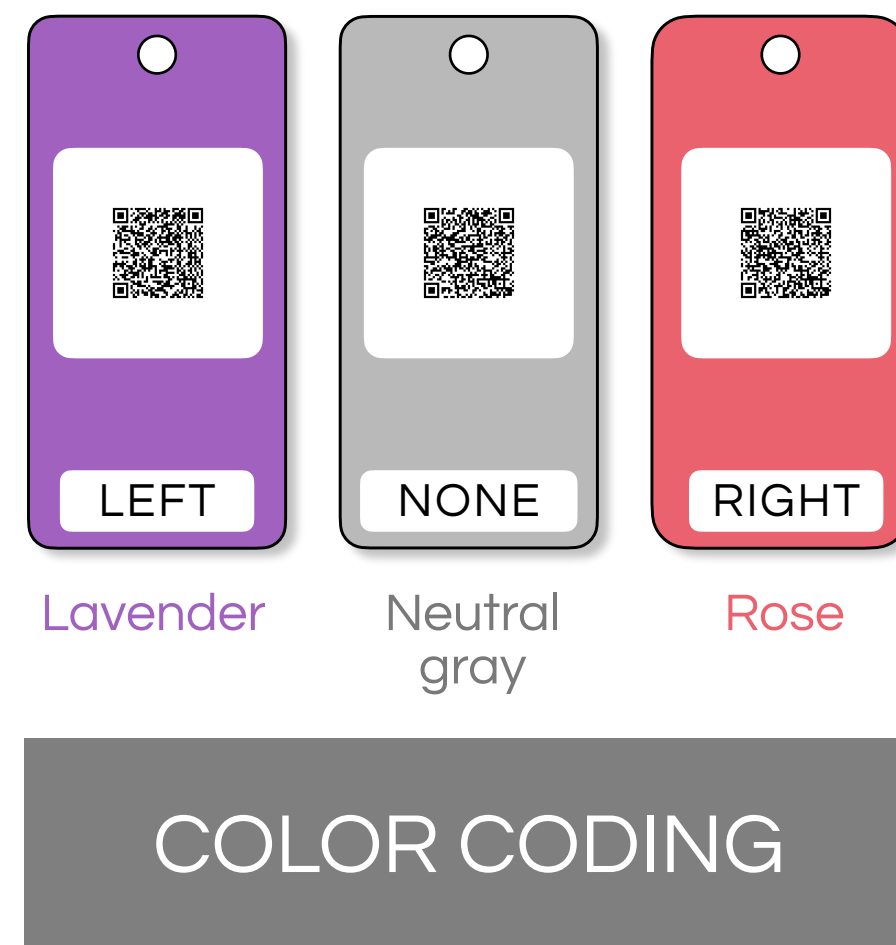
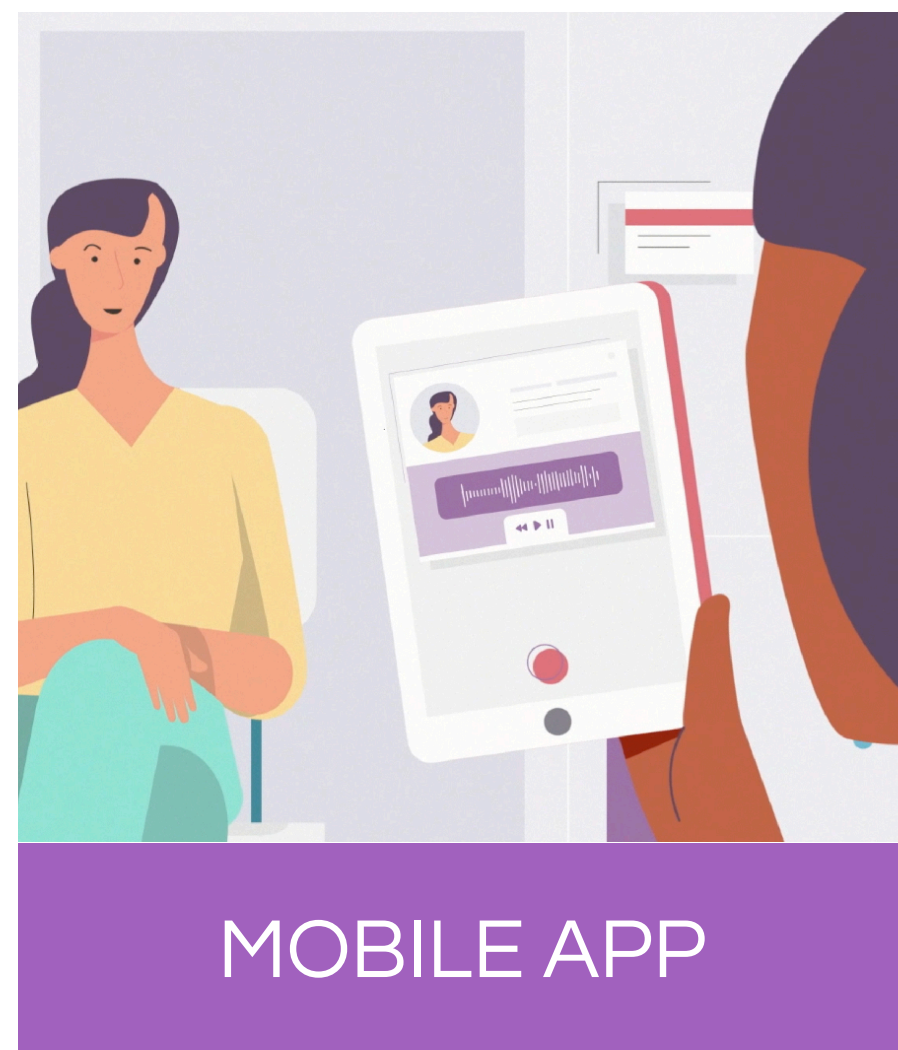
(AMA Economic and Health Policy Research, March 2021)

## YOUR SAFETY PROFILE IS UNKNOWN

Without data, everyone pays the same. Rates are aggregated and do not reflect accurate risks.







At the core of the StartBox System is a mobile application that records the original decision for surgery between the patient and physician. This cloud-based recording can be easily accessed by all staff, at all times. The system also utilizes a color code to designate the procedure laterality, directly addressing 70% of errors. Verification is required (Go/No Go) before procedure advances (i.e. forcing function). Any member of the healthcare team can flag errors with the app during the various checkpoints, providing real-time alerts, generating data and ultimately predictive analytics.





## Innovative Technology System to Prevent Wrong Site Surgery and Capture Near Misses: A Multi-Center Review of 487 Cases

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**Introduction:** Wrong site surgery (WSS) is a preventable error. When these events do occur, they are often devastating to the patient, nursing staff, surgeon, and facility where the surgery was performed. Despite the implementation of protocols and checklists to reduce the occurrence of WSS, the rates are estimated to be unchanged.

**Materials and Methods:** An innovative technology was designed to prevent WSS through a systems-based approach. The StartBox Patient Safety System was utilized at six sites by 11 surgeons. The incidence of near misses and WSS was reviewed.

**Results:** The StartBox System was utilized for 487 orthopedic procedures including Spine, Sports Medicine, Hand, and Joint Replacement. There were no occurrences of WSS events. Over the course of these procedures, medical staff recorded 17 near misses utilizing the StartBox System.

**Conclusions:** StartBox successfully performed all tasks without technical errors and identified 17 near miss events. The use of this system resulted in the occurrence of zero wrong site surgeries.

**Keywords:** wrong site surgery, wrong patient, wrong side, wrong laterality, wrong procedure, near miss, patient safety, forcing function

### INTRODUCTION

Wrong site surgery (WSS) continues to plague medical facilities across the globe despite implementation of initiatives, checklists, and protocols. WSS refers to surgery that is incorrectly performed on the wrong side, wrong spine level, wrong anatomy, wrong patient, or the wrong procedure. Estimates on the incidence of WSS vary widely, ranging from 0.09 to 4.5 per 10,000 procedures (1–6). This potentially translates to between 683 and 34,000 wrong site surgeries per year based upon annual rates of surgical procedures in the United States. Attempting to put these wide ranges in context, Seiden suggests that WSS events occur 50 times a week or more (5); Clarke estimates that a 300-bed hospital can anticipate a report of a WSS event an average of once each (7); and Canale reports that orthopedic surgeons have a 25% chance of performing a WSS at least once in their career (8). The majority of errors are classified as wrong side, ranging from 70 to 81% of overall events (5, 7). Though small in number, the impact of WSS is large and may result

487

487 PROCEDURES, 6 SITES

Spine, sports medicine, hand, and joint replacement

0

ZERO WRONG SITE SURGERIES

16 cases corrected; 1 postponed for confirmation

17

17 NEAR MISSES (NO GOs)

6 patient, 6 procedure, 5 laterality

Gloystein DM, Heiges BA, Schwartz DG, DeVine JG, Spratt D. Innovative Technology System to Prevent Wrong Site Surgery and Capture Near Misses: A Multi-Center Review of 487 Cases. *Front Surg.* 2020;7:563337. Published 2020 Oct 23. doi:10.3389/fsurg.2020.563337

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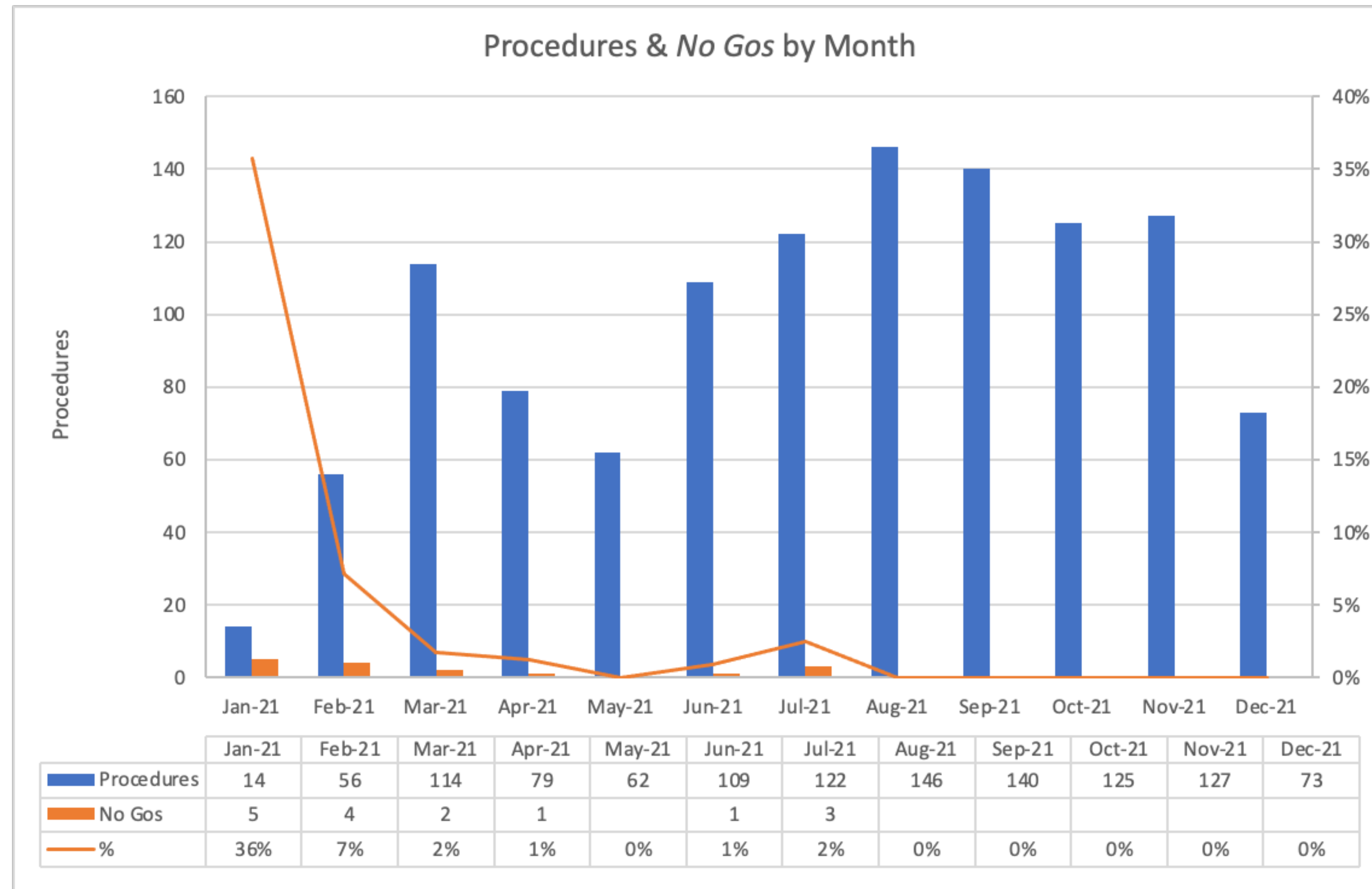
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## Taking *No Gos* to Zero



Longitudinal use of the system has demonstrated its ability to reduce No Gos (near misses) to zero as adoption progressed.



# Providers & Facilities Save



## KNOWN SAFETY PROFILE

Data shows current and historical risk.



## ACCURATE RATES

Insurance rates can accurately reflect actual risks, not aggregate risks.



## COSTS CAN BE REDUCED

With continual review of real time data, risks and costs can be improved on an ongoing basis.



## TEAM OF EXPERTS

Medical device product development.  
Marketing. Distribution. Clinical implementation.  
Business operations. Safety systems.



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From Decision to Incision®

Improve Safety. Track Risks.  
Reduce Costs.

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