

Engaging Advanced Practice Providers To Improve Patient Care And Drive Productivity In A Radiology Consult Practice At A Comprehensive Cancer Center.

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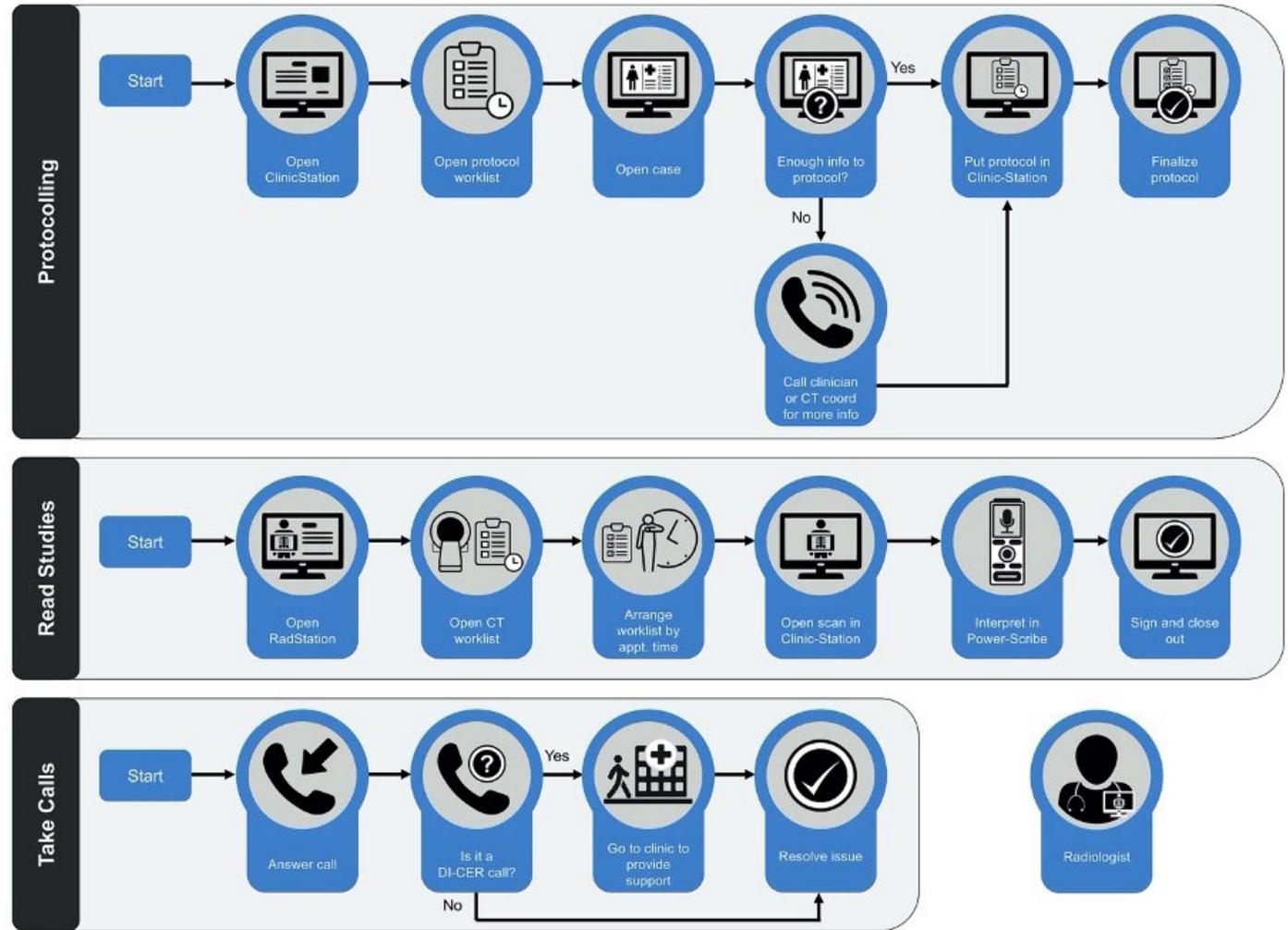
Objective

- The purpose of this study was to evaluate if addition of (APPs) to an abdominal radiology consult service would improve the efficiency and patient care.

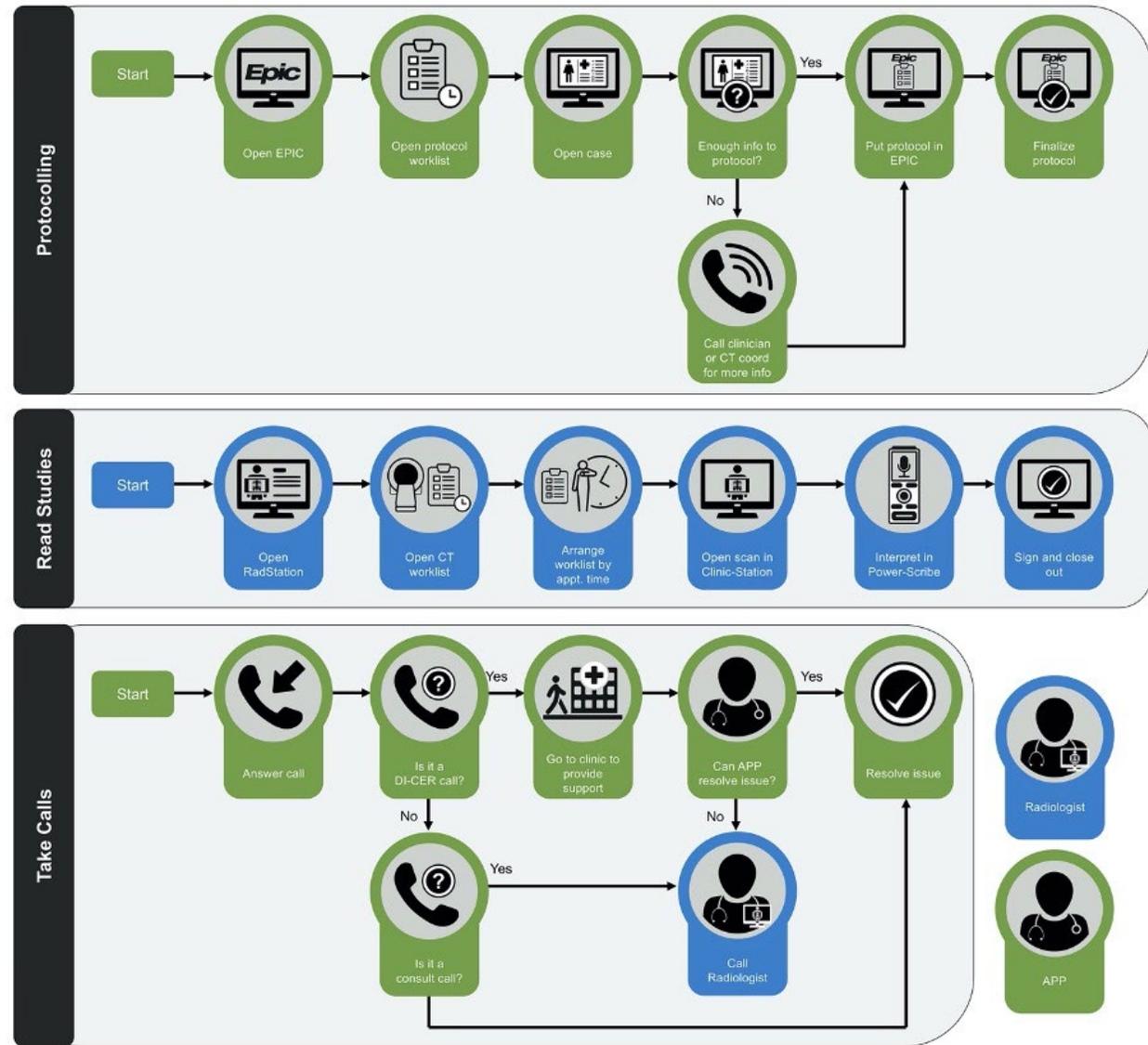
Material and Methods

- The radiologist productivity and patient care was recorded for a total of 6 months, 3 months prior and 3 months after integration of APPs into our abdominal radiology consult service.
- RVUs/ shift were recorded
- Change in billing that occurred during the radiology shift was documented
- The patient care metrics measured were
 - Prescribed protocol to patient appointment lead time
 - Number of same-day prescribed imaging protocol changes.

- Fig 1.** This figure shows our abdominal radiology consult service workflow before integration of the APPs. The Radiologist job during this shift was to protocol imaging studies, interpret CT imaging studies from a worklist and answer calls from, nurses, technologist and clinicians. DI-CER, Diagnostic Imaging-Comprehensive Emergency Response. Clinic Station: Institution developed electronic medical record system. Coord: Staff in the radiology CT call center who triage calls.



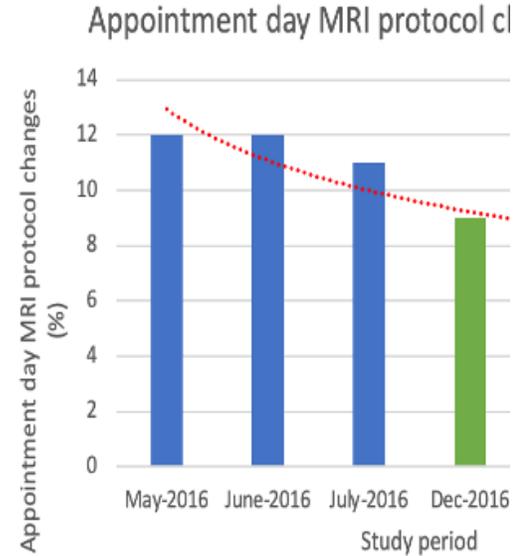
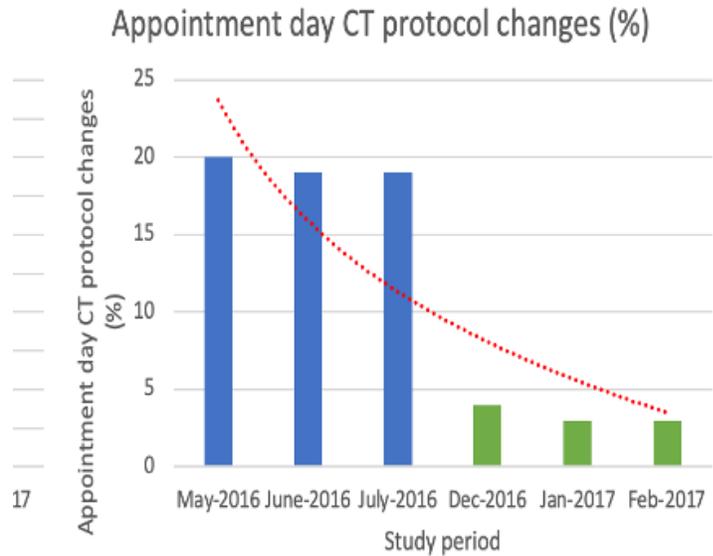
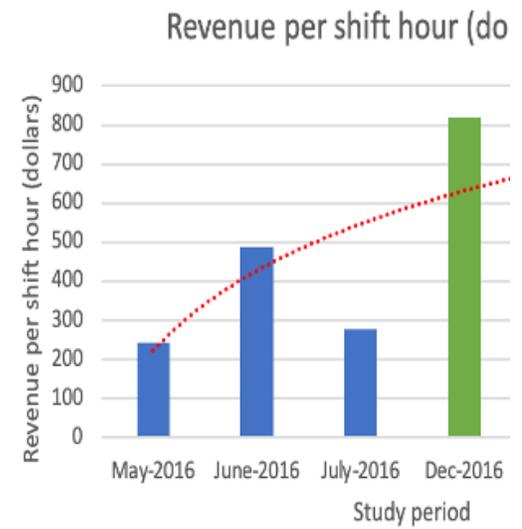
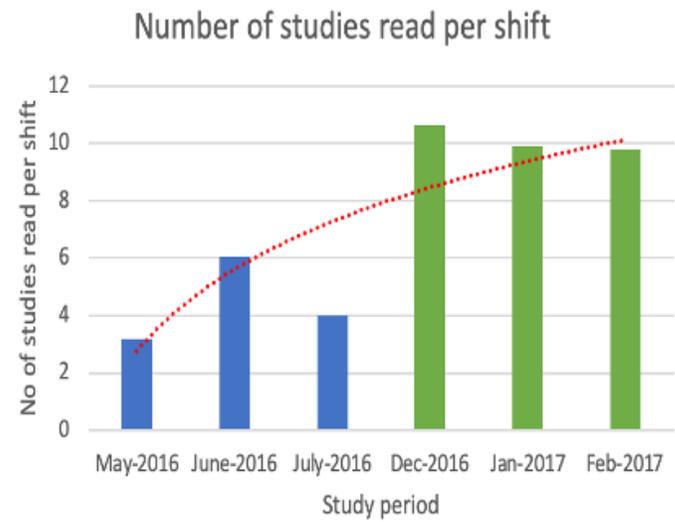
- Fig 2.** This figure shows the change in our abdominal radiology consult service workflow after integration of the APPs. The APPs took over protocolling and answering calls from the nurses and technologists. The calls from clinicians was routed to the radiologist if it was not a protocolling question. The radiologist had more time to interpret imaging studies during the shifts. DI-CER, Diagnostic Imaging-Comprehensive Emergency Response; appt, appointment.



Results

- Significant increases in the mean RVUs/shift (15.2 ± 0.9 versus 6.2 ± 1.8 ; $P = .02$), number of studies read per shift (10.1 ± 0.5 versus 4.4 ± 1.5 ; $P = .003$), revenue per shift hour ($\$756.20 \pm \55.40 versus $\$335.40 \pm \132.60 ; $P = .007$), and protocol prescription to patient appointment lead time (39.3 ± 6.7 days versus 16.3 ± 2.9 days; $P = .005$) after APP integration into the workflow.
- Significant decreases in the mean prescribed CT ($19.3\% \pm 0.6\%$ versus $3.3\% \pm 0.6\%$; $P = .001$) and MRI ($11.7\% \pm 0.6\%$ versus $8.30\% \pm 0.12\%$; $P = .011$) protocol changes made on the same days as patient appointments in the post-APP integration workflow.

- Fig 3.** Bar graphs with logarithmic trend lines (red) of the number of RVUs per shift, number of studies read per shift, revenue per shift hour, protocol time to appointment time, appointment-day CT protocol changes and appointment-day MRI protocol changes in the pre-APP (blue) and post-APP (green) workflows. The RVUs per shift, number of studies read per shift, revenue per shift hour and protocol time to appointment time, increased showing an upward trend. Appointment-day CT protocol changes and appointment-day MRI protocol changes decreased as the graph shows a downward trend.



- **Table 1.** Study outcomes in the 3-month periods before (May-July 2016) and after (December 2016-February 2017) APP integration into the abdominal radiology consult service workflow.

Parameter	Mean ± SD		P value
	Pre-APP	Post-APP	
Revenue per shift hour (dollars)	335.40 ± 132.60	756.20 ± 55.40	.007
Number of studies read per shift	4.4 ± 1.5	10.1 ± 0.5	.003
Protocol time to appointment time (days)	16.3 ± 2.9	39.3 ± 6.7	.005
Appointment-day CT protocol changes (%)	19.3 ± 0.6	3.3 ± 0.6	.001
Appointment-day MRI protocol changes (%)	11.7 ± 0.6	8.30 ± 0.12	.011
Number of RVUs per shift	6.2 ± 1.8	15.2 ± 0.9	.020

Conclusion

These findings suggest that APPs can be effectively integrated into abdominal radiology consult service, increasing the productivity of radiologists and enhancing clinical care.

Thank you



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No conflict of interest