

Abstract

Referral and transportation of critically ill children is an important and growing aspect of pediatric critical care medicine (PCCM). Nationally, PCCM fellows often serve as transport medical control (TMC); however, established training curricula are lacking.¹ At our institution, PCCM fellows serve as TMC for all transfers to the pediatric intensive care unit (PICU). Current training includes didactics and informal education while on clinical service. We sought to improve fellow management and communication in referral calls regarding the transfer of critically ill children through referral call simulations.

We developed two simulation scenarios - a patient with severe diabetic ketoacidosis and a patient with cardiac arrest. PCCM fellows individually ran through each scenario. Fellows communicated over the phone with a confederate acting as the referring provider while they entered clinical data into the patient record using the Epic® Playground electronic health record platform. A voice-changer was used to remove familiarity with the confederate. Investigators with simulation expertise debriefed fellows after each scenario. Fellows completed surveys before and after the simulation scenarios to assess their comfort with serving as TMC.

All fellows in our PCCM fellowship program participated in each simulation scenario. Prior to conducting the simulation scenarios, third-year fellows reported greater confidence in their ability to obtain necessary information regarding the patient's status and communicate effectively with the referring provider than first- or second-year fellows. After running the simulations, all fellows reported increased confidence in their abilities to communicate clearly and gather information necessary for the care of patients being transferred.

Methods

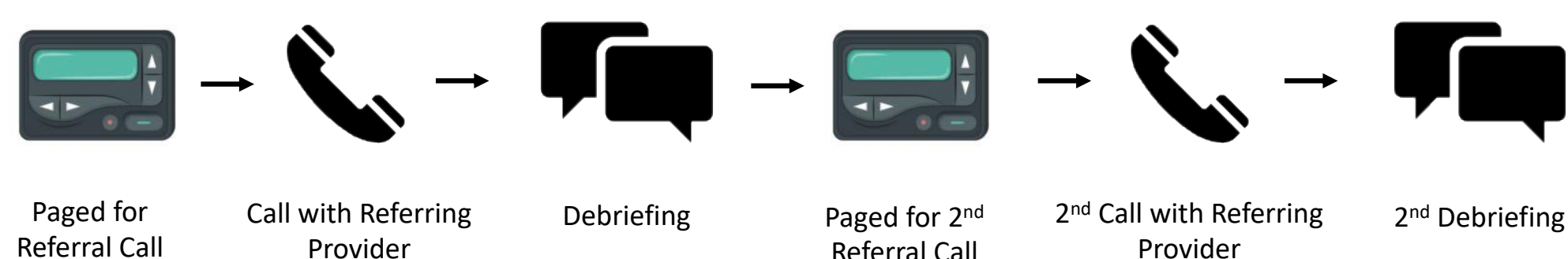


Figure 1. Study Methods. Fellows participated in referral call simulation scenarios. Two scenarios were created – one of a patient with severe diabetic ketoacidosis and one of a patient with cardiac arrest. To replicate a real-life clinical encounter, PCCM fellows received a page with the initial patient information and instructions to call the admission and transfer center to discuss each case with a referring provider. A confederate played the role of the referring provider, and a voice changer was used to remove fellow familiarity with the confederate. Fellows communicated over the phone with the referring provider while they entered clinical data into the patient record using the Epic® Playground electronic health record platform. Investigators with simulation expertise observed and debriefed fellows after each scenario. Fellows completed surveys before and after the simulation scenarios to assess their comfort with serving as TMC.

Results

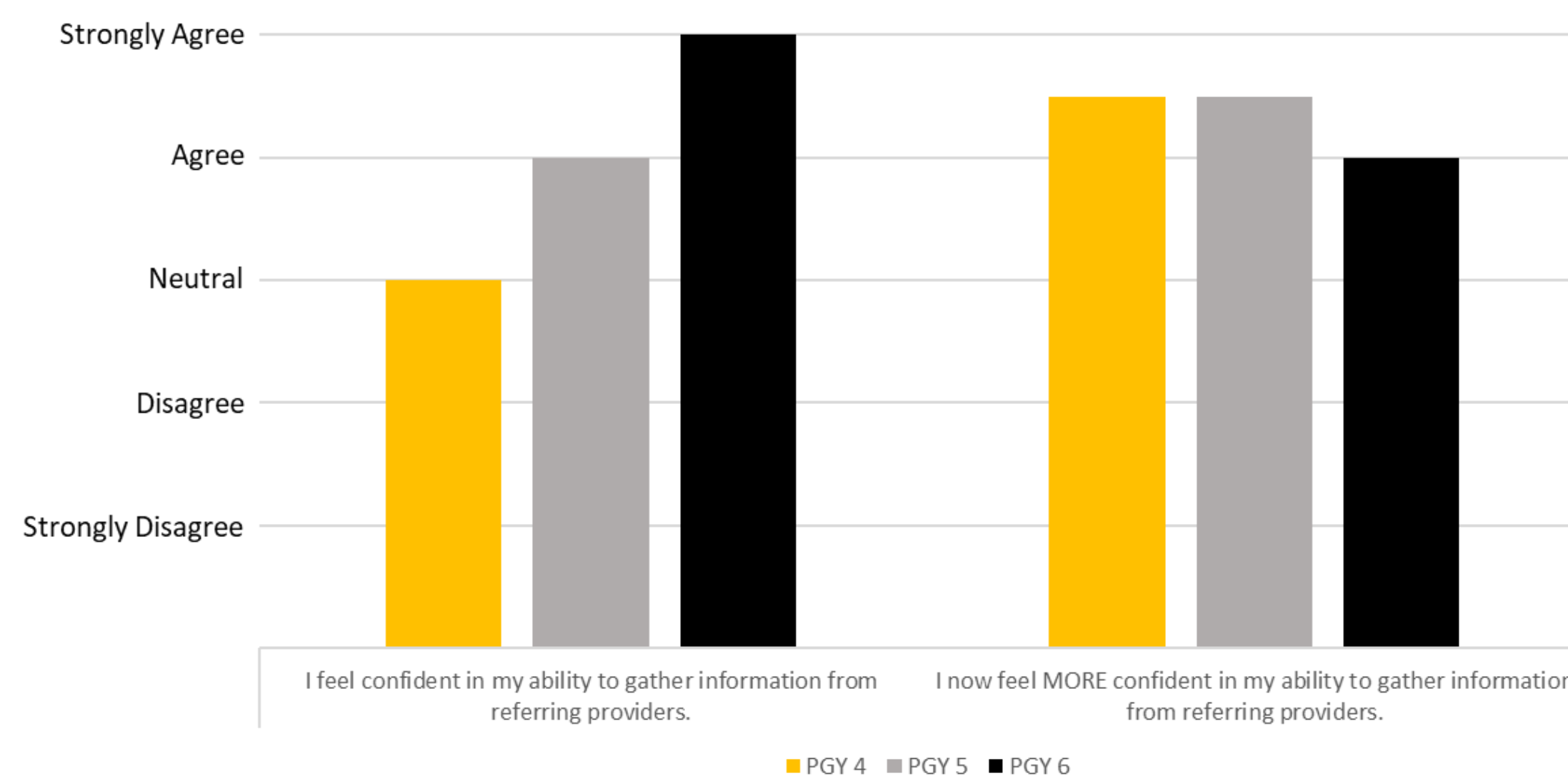


Figure 2. Fellow confidence to gather clinical information improved with simulation. Second- and third-year fellows initially expressed confidence in their ability to gather information from the referring provider, while first year fellows were equivocal. All fellows reported increased confidence in this task following simulated referral calls. $n = 5$ for PGY-4, $n = 2$ for PGY-5 and PGY-6

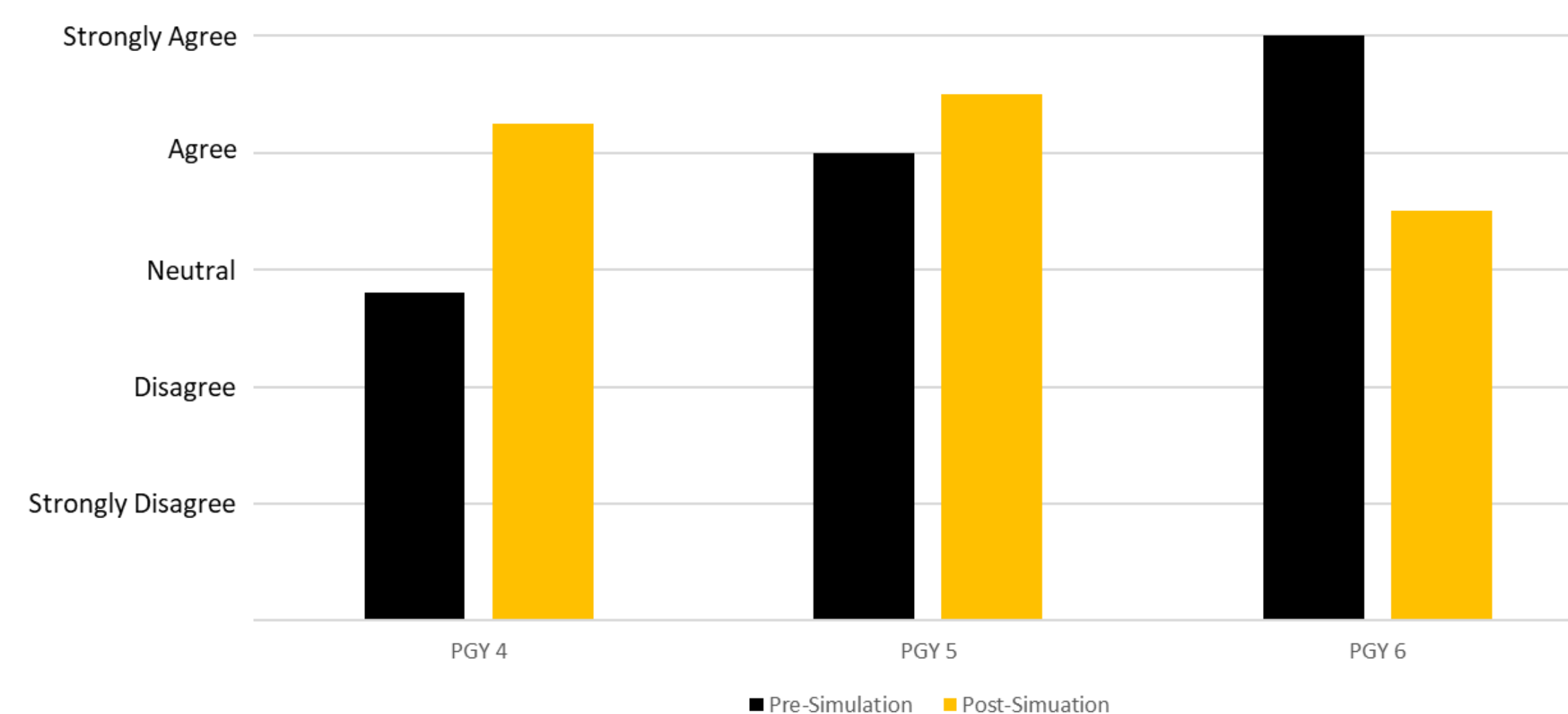


Figure 3. Junior fellow confidence to provide medical recommendations to referring providers improved with simulation. Compared with first year fellows, second- and third-year fellows reported higher confidence in their ability to provide appropriate medical recommendations to referring providers. This improved for fellows at the PGY 4 and PGY 5 level but decreased for PGY 6 fellows following referral call simulations. $n = 5$ for PGY-4, $n = 2$ for PGY-5 and PGY-6

Results

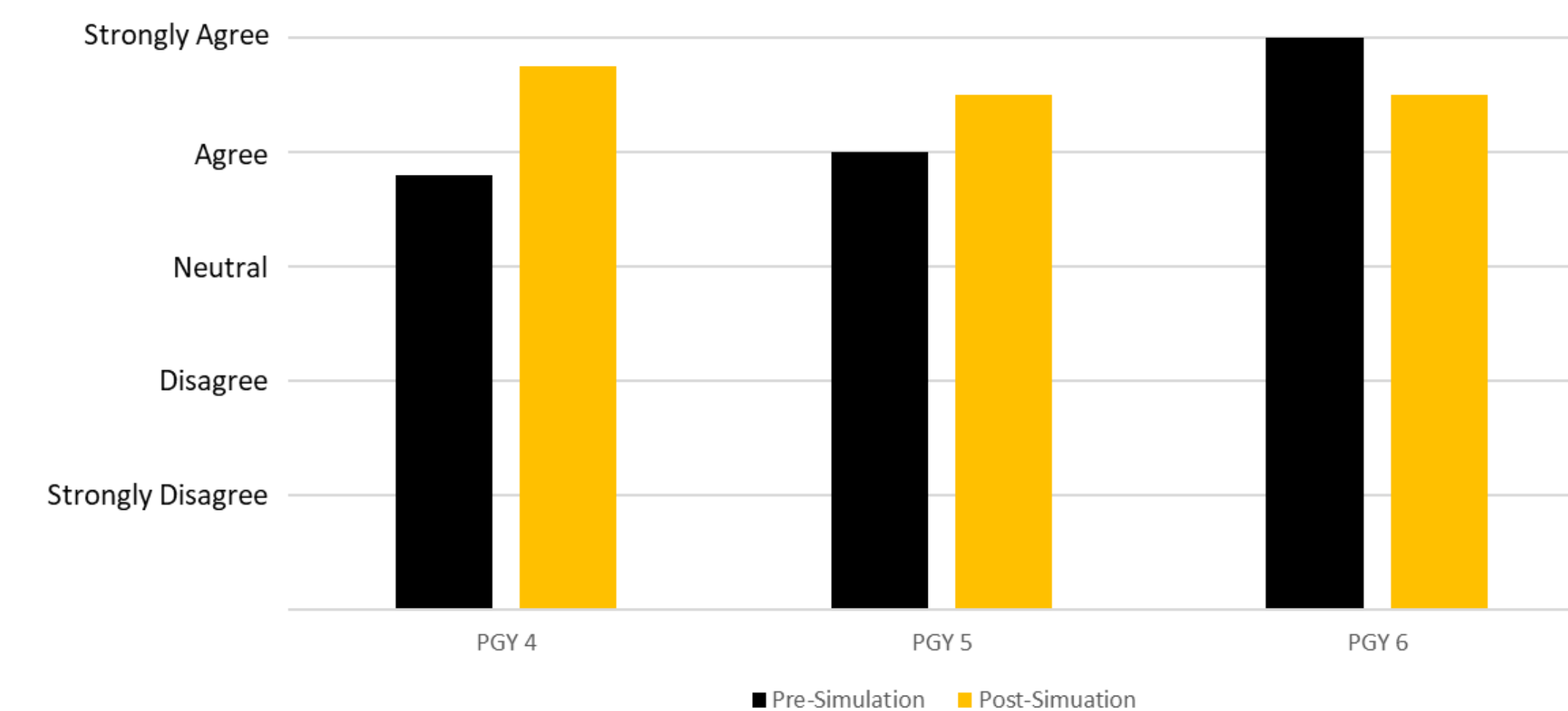


Figure 4. Junior fellow confidence to communicate effectively with referring providers improved following simulated referral calls. All fellows expressed confidence in their ability to communicate with a referring provider. This improved following referral call simulations for PGY 4 and PGY 5 fellows but was not as strong among PGY 6 fellows. $n = 5$ for PGY-4, $n = 2$ for PGY-5 and PGY-6

Conclusions

Simulation of referral calls to the PICU is an effective method to improve PCCM fellow confidence in gathering relevant patient data and communicating with referring providers. Our data is limited by the small number of participants. Three of our PGY-4 fellows did not have previous experience serving as TMC; however, all other fellows had this prior experience when this project was initiated. Future simulations will continue to include new PCCM fellows without prior experience as TMC and will incorporate evaluation of communication in recorded transport calls before and after implementation of recurring referral call simulation education.

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References

- Good RJ, Zurca AD, Turner DA, Bjorklund AR, Boyer DL, Krennerich EC, Petrillo T, Rozenfeld RA, Sasser WC, Schuette J *et al*: **Transport Medical Control Education for Pediatric Critical Care Fellows: A National Needs Assessment Study.** *Pediatric Critical Care Medicine* 2022, **23**(1):e55-e59.