

**Title:** Just a Nudge: Applying Behavioral Incentives to Engage Residents in Quality Improvement Education

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**Introduction:**

Well-designed incentive structures can help individuals overcome barriers to engagement in quality improvement (QI) education, which suffers from a perceived lack of learner interest. We compared resident participation in a QI curriculum in two educational environments: team-based versus individual incentives.

**Methods:**

We conducted a multicenter cluster randomized trial of ACGME-accredited urology residencies. Programs were randomized into either a team-based competition or an individual incentive environment. In both, residents participated in an identical QI program on Qstream®, a web-based, mobile-device-compatible platform. Biweekly for 12 weeks, residents answered and received feedback on 20 clinical-scenario-based questions. In the team-based competition, leader boards displayed team standings. In the individual incentive arm, residents were eligible for a weekly loss-framed incentive requiring the winner be current on questions. Our primary outcome was percentage of questions attempted. Secondary outcomes included participation, attempting at least 1 question, and mastery, answering correctly twice-in-a-row.

**Results:**

We enrolled 453 residents from 36 programs. More participated in the team-based competition than the individual-incentive environment (71% vs. 58%, $P=0.005$ ). Team-based participants attempted a greater percentage of questions than individual incentive residents (60% vs. 44%, $P<0.001$ ). Similarly, the percent of mastered questions was greater in the team-based competition than in the individual incentive environment (24% vs. 16%, $P<0.001$ ). 45% of team-based trainees answered every question versus 33% in the individual-incentive arm ( $P=0.01$ ).

**Conclusions:**

Participation and knowledge mastery in a QI curriculum increased with team-based competition. We demonstrated the feasibility of national implementation of a specialty-specific, mobile-device-compatible QI curriculum. Behavioral incentives are means to increase engagement in resident education.