Figure 1 Run chart.

Figure 2 Overview of tests per patient day.

Figure 3 Overview of tests per patient.

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REDUCING LABORATORY TESTING IN A TERTIARY MEDICAL CENTRE: A RESIDENT-LED MULTILEVEL QUALITY INTERVENTION

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10.1136/bmjqs-2015-IHlababstracts.6

Background Hospital in-patient laboratory testing is steadily rising, contributing to increasing healthcare costs, errors, and unnecessary treatments. Strategies to reduce over-utilization of laboratory tests have been tried with mixed results.

Objectives To reduce the volume of the most frequently ordered laboratory tests by 10% over 6 months.

Methods The most commonly ordered tests in medical wards were determined and a survey was conducted among residents and faculty to determine the perceived causes of over-testing. A resident-led multilevel collaborative campaign was launched. This comprised of education sessions (intern and resident teaching), cost awareness information (mini cards, computer screensavers), publicity (reminders to on-call teams), regular audits and feedback. The focus was on changing test ordering behavior and culture. Monthly average test numbers were compared with those in the preceding year.

Results The campaign was launched in 8 medical wards from the period of September 2014 to February 2015. The top 6 laboratory tests/panels (full blood count, renal panel, calcium panel, liver panel, C-reactive protein and acute coronary screen) were selected based on order-volume. There was a 9.4% reduction in tests ordered during the study period, resulting in costs savings estimated at \$34,235 per month. Results were sustained over the 6-month study period. Reduced testing had no effect on in-hospital mortality (3.17% post-intervention vs. 3.02% pre-intervention, $p=0.47$).

Conclusions The development of a multilevel collaborative initiative resulted in reduction in test-ordering and significant and sustained costs savings. Approaches targeting culture change may be a feasible method of maintaining a lean health care system.