INTRODUCTION AND OBJECTIVES: 21 years ago the Institute of Medicine articulated a vision of a learning healthcare system based on electronic health records (EHRs). Building on federal investment in EHRs and policy reform linking payment to quality, the American Urological Association invested in a platform to aggregate clinical data from EHRs for quality measurement and reporting. The resulting AQUA Registry is a Qualified Clinical Data Repository (QCDR) that can report quality measures to the Centers for Medicare and Medicaid Services (CMS). We describe AQUA participants and report early trends in quality scores reported to CMS through AQUA.

METHODS: This is a retrospective analysis of AQUA participation from 2014-2016. We compared characteristics of urologists and practices participating in AQUA to those of the broader urologist population as reported in the 2016 AUA Census. We assessed the impact of AQUA participation on quality of care by comparing measure pass rates pre and post participation. To ensure data validity we limited our analysis to measures reported to CMS, with a denominator \( \geq 10 \), and from practices with \( \geq 180 \) days of participation. To evaluate the trend before and after joining AQUA, we fit a univariate linear spline regression with a knot at time 0.

RESULTS: Participation in AQUA increased rapidly during the first full 3 years of operation and now includes over 125 practices and 1148 urologists (9.4%). 97.6% of AQUA participants are in private practice, 1.9% are in academic practice, and 0.5% are employed by private or public hospitals, compared with 59.1%, 25.5% and 11.2% respectively among urologists nationally, 95.9% of AQUA participants live in metropolitan areas compared with 89.9% of urologists nationally, and they are 4 years younger. Participation is distributed across regions and states. 17 quality measures were reported to CMS through AQUA, 4 of which were urology specific and 13 of which were cross-cutting measures. Figure 1 shows the mean pass rate on each of the 4 urologic measures before and after participation in AQUA.

CONCLUSIONS: Early participants in the AQUA registry were mostly community practitioners in metropolitan areas. 3 of 4 urologic measures examined showed improvement and 1 showed no change, suggesting that measuring care facilitated gains in measurement and possibly quality.

Figure 1: Trend in performance on quality measures before and after participation in AQUA (designated as month 0) for all practices reporting the measure to CMS. Sets represent measure pass rate by practice per quarter. Blue lines are the estimated mean pass rates. Grey band are 95% confidence intervals.

LBA2
THE USE OF TELEMEDICINE FOR THE POSTOPERATIVE UROLOGIC CARE OF CHILDREN: RESULTS OF A PILOT PROGRAM
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INTRODUCTION AND OBJECTIVES: For postoperative visits, which are often brief interactions between family and clinician, the costs may be out of proportion to the perceived benefits of the visit. Our objective was to evaluate the feasibility of telemedecine for post-operative encounters in pediatric urology.

METHODS: This is a prospective telemedicine pilot study during a 12-week implementation period from 11/10/17 to 2/6/18. All postoperative patients deemed eligible by one of two urologists were offered enrollment in the telemedicine program. Enrollees underwent at least one virtual visit within six weeks of surgery. After each virtual evaluation, the guardian and clinician were prompted to complete a survey pertaining to perceptions of the telemedicine experience, including their overall satisfaction (rated 1 to 10) and how effective the virtual visit was in delivering care. The following variables of interest were tracked: appointment compliance, estimated travel expense and time saved per round-trip visit, virtual waiting room and visit time as well as number of unscheduled clinic or emergency department (ED) visits, complications, and readmissions. Any technical difficulties were also noted.

RESULTS: During the study period, 64 postoperative virtual visits were performed in 45 patients. There was 97% technical success with utilization of the telemedicine software. Surgeries included labioplasty (1), circumcision (12) and circumcision revision (5), lysis of penile adhesions (2), hypospadias repair (2), hydrocele/ hernia repair (5), scrotal orchidopexy (5), ureteral reimplant (6), stoma revision (4) and stone procedures (3). The median age of children was 4.0 years (IQR 1.1 to 9.0 years) and 73% of patients were boys. Families saved a mean of $378 of travel cost and 3.9 hours of travel time per visit. Inspection of the post-operative incision was possible in all appropriate cases. Clinicians found that the virtual visit was “very effective” in 86% of cases, delivering the same care that they would have provided during an in-person visit. Mean guardian and provider satisfaction with the virtual visit experience overall was 9.9 and 9.0, respectively. No adverse postoperative outcomes were observed. There were no unscheduled clinic or ED visits.

CONCLUSIONS: This pilot study demonstrates that telemedicine can be successfully implemented in the postoperative care of pediatric urology patients. Use of this innovative technology was feasible and reduced unnecessary costs to the family, while maintaining high satisfaction for clinicians, patients and their families.

Source of Funding: None

LBA3
THE CHANGING FACE OF UROLOGIC ONCOLOGIC SURGERY FROM 2000-2018 (63 141 PATIENTS) - IMPACT OF ROBOTICS
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INTRODUCTION AND OBJECTIVES: Evaluate the status of urologic oncologic surgery, open versus robotic, over 17 years.

METHODS: Systematic review and meta-analysis of Pubmed, Scopus and Web of Science on surgery for localized prostate, bladder, kidney and testis cancer (01/2000-01/2018). Ultimately, we selected 3 studies examining time and costs of robotic and open procedures (3). The median age of patients was 65 years (IQR 20.1 to 90.0 years) and 73% of patients were boys. Families saved a mean of $378 of travel cost and 3.9 hours of travel time per visit. Inspection of the post-operative incision was possible in all appropriate cases. Clinicians found that the virtual visit was “very effective” in 86% of cases, delivering the same care that they would have provided during an in-person visit. Mean guardian and provider satisfaction with the virtual visit experience overall was 9.9 and 9.0, respectively. No adverse postoperative outcomes were observed. There were no unscheduled clinic or ED visits.

CONCLUSIONS: This pilot study demonstrates that telemedicine can be successfully implemented in the postoperative care of pediatric urology patients. Use of this innovative technology was feasible and reduced unnecessary costs to the family, while maintaining high satisfaction for clinicians, patients and their families.

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LBA4
IMPLEMENTATION OF A NOVEL POINT OF CARE PCR TEST TO GUIDE ANTIBIOTIC PROPHYLAXIS PRIOR TO TRANSRECTAL PROSTATE BIOPSY

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INTRODUCTION AND OBJECTIVES: To implement a point of care qPCR based test (EST200) targeting multidrug resistant (MDR)-ExPEC clonal group–ST131 and ST69—that combined were expected to represent majority of sepsis causing E coli prior to prostate biopsy at the point of care to determine antibiotic selection.

METHODS: After IRB approval, we obtained rectal swabs either 2-6 weeks prior to biopsy or on the day of prostate biopsy. Rectal swabs had two culturettes. One culturette for standard culture on ciprofloxacin infused (10mg/L) MacConkey agar and susceptibility testing.

RESULTS: A total of 140 men participated in the study. Pre-biopsy cultures against PCR to predict FQR status at the time of the biopsy. Culture had a higher inadequate result compared to PCR (18% vs. 2%, p<0.01). Regarding predicting FQR at biopsy, pre-biopsy cultures had an AUC of 0.91 (95%CI 0.84-1.00, p<0.001) and PCR had an AUC of 0.71 (95%CI 0.58-0.84, p=0.005) (AUC comparison; Z=2.31, p=0.02). Unfortunately, PCR missed 7/24 FQR noted at the time of biopsy. Risk based techniques may over compensate with additional antibiotics. (21% vs. 0%, p=0.10).

CONCLUSIONS: EST200 Rapid PCR based on bacterial sequence type has moderate ability to detect total FQR at the time of biopsy. Sepsis is known to be caused by ST131:H30 in 80% of cases but not all FQR leads to sepsis; therefore, we expected an imperfect FQR detection rate. PCR times should be under 20 minutes to improve clinic efficiency. The test could continue to be modified to include additionally FQR specific genes and addition of other FQR sequence types.

Source of Funding: Agency for Healthcare Research and Quality (R03HS024810)

LBA5
INITIAL RESULTS OF A PROSPECTIVE COHORT STUDY EVALUATING RELIABILITY OF ENDOSCOPIC EVALUATION IN PREDICTING PT0 DISEASE AT THE TIME OF RADICAL CYSTECTOMY: WHERE AND HOW DOES CYSTOSCOPY FALL SHORT?


INTRODUCTION AND OBJECTIVES: Concern for discordance between endoscopic evaluation and final pathology drives current clinical management of patients deemed appropriate candidates for radical cystectomy (RC). Yet some 30% of patients who undergo neoadjuvant chemotherapy (NAC) prior to RC do not harbor detectable malignancy within the bladder at the time of surgery. Our objective was to better understand reliability and shortcomings of cystoscopic evaluation in RC candidates utilizing a protocol where all patients undergoing RC at our institution first receive a Systematic Endoscopic Evaluation (SEE).

METHODS: Patients undergoing RC for urothelial carcinoma (UC) at our institution were enrolled in a prospective, non-randomized, IRB-approved cohort study to evaluate the reliability of SEE in predicting pT0 bladder cancer. Rigid cystoscopy with targeted biopsy of visible tumor and/or tumor bed/scar, plus two additional random