Case Study – Improving Diagnostic Proficiency in Anatomic Pathology

Goal

To improve diagnostic proficiency in anatomic pathology practices. Trends in diagnostic interpretations reveal areas of improvement for current quality practices and provides vital opportunities for continuous improvement, patient safety and positive outcomes.

Challenge

The new MACRA reimbursement requires pathologists to provide evidence of participation in quality initiatives with demonstrable commitment to improve diagnostic concordance.

Additionally, new CAP guidelines encourage sharing of findings with colleagues, selecting fair case representations, subspecialist review and longitudinal analysis.

The challenge for pathologists is three-fold- 1) find a standardized method to measure, assess, and then improve discordance 2) Provide objective and confidential feedback to improve this discordance and 3) provide analytics for longitudinal benchmarking.

Solution

A low-cost, dual mode telemicroscopy and digital pathology system from Mikroscan, along with QualityStar's cloud-based Quality as a Service (QaaS) provides an integrated package for improving diagnostic proficiency through subspecialist, external case review. Anatomic pathology specimens used in quality assurance can be presented in traditional digital pathology scan/store/forward format to an external specialist for case review, constructive feedback and longitudinal analysis. If a diagnostic consult is desired, live telemicroscopy can be initiated between the submitting and reviewing sub-specialty pathologist.

Scenarios

Approximately 1.6 million of the 60 million surgical biopsies performed annually indicate the presence of cancer. Of these cases, a full 97% are diagnosed from a tissue specimen.

A 2014 study University of Texas study revealed that in 25% of the approximately 2700 cases reviewed of referral patients over a one month period, a discrepancy between the original pathology report and a subspecialist's final report existed. Nearly 19% were minor discrepancies, however, in 6.2% of patients (representing 169 reports) a major discrepancy existed that potentially affected patient care.(3)

Interpretive errors like these can result in additional annual treatment costs in the US between $21K-$70K per patient, along with an average readmission cost of $30K per patient, and an average malpractice claim of $386K.[1]

Results

The Mikroscan SL5 provides a low-cost, easy to use and access method to view, interpret and share tissue samples. It's small footprint and low IT overhead mean images can be acquired in a variety of settings and then transmitted to a pathologist and/or remote subspecialist through QualityStar's QaaS interface for diagnostic concordance.

QualityStar's QaaS platform enables external case review and provides quality metrics recommended by   CAP and MACRA guidelines. QA cases are blinded, and then uploaded in a secure environment for evaluation at NCI-designated academic medical centers. Quality intelligence measures such as systematic and random discordance are evaluated and presented as 'Professional Practice Scores' (PPS) and peer benchmarking (Fig 1). PPS is.

[1] Ho J, Ahlers SM, Stratman C, Aridor O, Pantanowitz L, Fine JL, *et al*. Can digital pathology result in cost savings? A financial projection for digital pathology implementation at a large integrated health care organization. J Pathol Inform 2014;5:33.
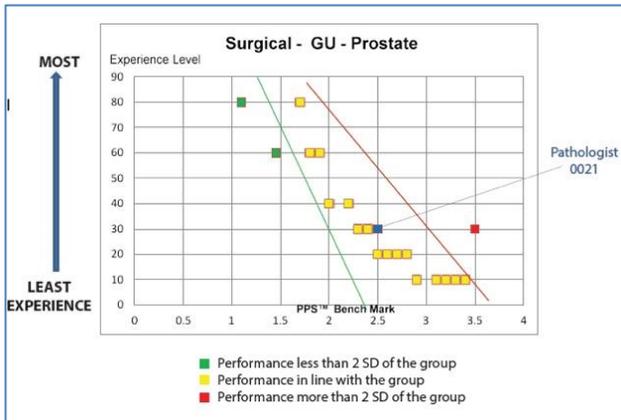
Fig. 1- Professional Practice Score. PPS is plotted against monthly case volume and years of practice compared with other pathologist PPS with similar experience levels and specimen types.

Use of quality assurance case review is considered the 'gold standard" and is shown to reduce diagnostic discrepancies. The use of external specialists reduced on-site bias and provides 5-fold improvement in detection of discrepancies. .[2]

Conclusion

Use of QualityStar's Quality as a Service tool can help every AP laboratory provide and demonstrate a new level of quality to patients, payers and regulatory agencies. QaaS further reduces pathologist workload and helps to identify areas of strength and those in need of improvement. In return, pathology departments can achieve better case management and productivity, and see an overall improvement in cost savings and risk mitigation.

Mikroscan's SL5 telemicroscopy and digital pathology system enables remote subspecialists and local pathologists to demonstrate better quality metrics and potentially improve patient outcomes.

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[2] Priebe M, Messina J, Wei S, Conner M. 'Diagnostic Discordance in Surgical Pathology.' Poster- Laboratory Quality Confab 2013.