Pathology informatics selected abstracts

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Adopting standard formats for reporting clinical laboratory test results

November 2022—Lab test result formats are not standardized, potentially causing confusion when the same test results are displayed differently—for example, when a positive pregnancy test appears as +, P, or positive, or an indeterminate test result appears as DNR, which could be interpreted to mean did not report, did not react, or even do not resuscitate. Because of this issue, the authors trialed standard laboratory result formats across the 130 facilities that are part of the Veterans Health Administration, each of which has one or more CLIA-certified laboratories. The authors selected the most common laboratory tests from each facility, which composed at least 95 percent of a facility's monthly laboratory test volume between 2000 and 2015. They then specified the standard result formats for these tests based on the facilities' feedback. Personalized emails were sent weekly, over a 15-week period in 2016, to the facilities' lab information systems managers, lab managers, and laboratory directors. The weekly reports divided each facility's test results into standardized (met the test result format in the standard), unstandardized (did not meet the standard's test result format), or uncommon (had no format specified in the standard and were excluded from the study). For the unstandardized results, facilities were given the choice of adopting the standard or providing feedback to modify it. More than 156 million results (weekly average, 10.4 million) were reviewed during the course of the study. The unstandardized results declined during that time by 51 percent (from 0.144 to 0.070 percent; $P<0.001$). Notably, more than 50 percent of the unstandardized results came from only six of the 130 facilities. The authors reported that while it was challenging to get all of the facilities to adopt the standard, the collaborative nature of the study process, with iterative changes fueled by facility feedback and requests, led to the trial's success over a short time period.

Hauser RG, Quine DB, Iscoe M, et al. Development and implementation of a standard format for clinical laboratory test results. *Am J Clin Pathol*. 2022;158(3):409–415.

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A formula for standardizing telecytology validation

The demand for cytology services to perform rapid onsite evaluation for specimen-adequacy assessment and interpretation and to appropriately triage ancillary testing has increased immensely. Telecytology has proved to be a cost-effective solution to address this increasing demand. Many cytopathology departments that conduct rapid onsite evaluation (ROSE) daily at multiple sites are implementing telecytology systems. Telecytology for ROSE typically involves viewing digital images in real time using video streaming or robotic microscopy. Yet, while there are pathology guidelines for validating whole slide imaging for diagnostic purposes, a standardized approach does not exist for validating telecytology for ROSE. Therefore, the authors developed an approach to telecytology validation for ROSE, which they suggest could be followed by others in a variety of practices. The authors selected six months' worth of archival, consecutive fine-needle aspiration specimens (123 aspirate smears) from 52 patients at Loyola University Medical Center, Maywood, Ill. The cases included 20 thyroid, 12 lymph node, five lung, five liver, six pancreas, and four abdominal masses, which were comparable to the type of cases encountered in the authors' routine practice. The authors used LC30 USB microscope cameras and CellSens Standard software with a NetCam plugin (Olympus) for the study, which was conducted in four sites—the interventional radiology, endoscopy, bronchoscopy, and ultrasonography suites. They had a cytopathology fellow assess de-coverslipped Diff-Quik–stained slides at the remote ROSE site while six board-certified cytopathologists convened in a conference room with a television screen. The fellow and cytopathologists independently evaluated slide images for adequacy, diagnostic category (negative, atypical/suspicious, or positive), and specific diagnoses. The fellow communicated via an office phone call and was put on speaker so any of the cytopathologists could orient that

person. A test session using only a few of the cases was used for initial training. The evaluation time for each case and number of slides reviewed were recorded. All study participants were blinded to the original diagnoses. The cytopathologists had an overall adequacy concordance rate for the real case set (not the test case set) of 94.8 percent (range, 92.3-100 percent). Their overall diagnostic category concordance rate was 91.9 percent (range, 90.3-95.5 percent). And their overall specific diagnosis concordance rate was 88.1 percent (range, 84.6-92.9 percent). No technical difficulties were reported. The authors concluded that validation of telecytology for ROSE should be standardized, and they propose using their recipe for such validation studies.

Trabzonlu L, Chatt G, McIntire PJ, et al. Telecytology validation: is there a recipe for everybody? *J Am Soc Cytopathol*. 2022;11(4):218–225.

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