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interviewed more candidates and offered more interview days during the 2020 application cycle. Applicants also applied to a greater number of programs with 42% of surveyed applicants applying to more than 50 programs, however none attended more than 30 interviews.

**Conclusion:** In conclusion, adaptations in response to the COVID-19 pandemic have provided an unexpected opportunity to explore the impact of the virtual landscape on residency recruitment.

### Utilization of 2D Barcode Technology to Create Surgical Pathology Reports

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**Introduction/Objective:** After professional transcription service is eliminated, pathologists inevitably undertake the task of diagnostic data entry into pathology report by adapting a variety of methods such as speech recognition, manual typing, and pre-texted command. Errors and inefficiency in reporting remain common problems, especially for information with unusual syntax such as genotype or nucleotide sequences. To overcome these shortcomings, we introduce here a novel application of a well-established technology as a complementary method, namely 2-dimensional (2D) barcode symbology.

**Methods/Case Report:** Commonly used diagnostic wordings of pathology reports including specimen type, surgical procedure, diagnosis, and test results are collated and organized by organ (specimen type) and by their frequency of usage/occurrence. Next, 2D data matrix barcodes are created for these diagnostic wordings using an on-line tool ([www.free-barcode-generator.net/datamatrix/](http://www.free-barcode-generator.net/datamatrix/)). The 2D barcodes along with their text are displayed on the computer screen (or printed out as a booklet). A 2D barcode scanner (Symbol LS2208, Motorola) was used to retrieve the text information from the barcodes and transfer into the pathology report. To assess the efficacy of this barcode method, we evaluated the time of data entry into reports for 117 routine cases using an on-line stopwatch and compared with those by other data entry methods.

**Results (if a Case Study enter NA):** Unlike manual typing or speech recognition, the barcode method did not introduce typographic or phonosemantic errors since the method simply transferred pre-texted and proof-read text content to report. It was also faster than manual typing or speech recognition, and its speed was comparable to that of the pre-text method integrated in LIS but did not require human memorization of innumerable text commands to retrieve desired diagnosis wordings.

**Conclusion:** Our preliminary results demonstrated that the diagnostic data entry time was reduced from 28.5% by other methods to 22.1% by the barcode method although

due to the small sample size, statistical analysis was not conclusive.

### Laboratory Testing Patterns by Day of Hospital Stay for Medical and Surgical Hospitalizations

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**Introduction/Objective:** Studies of laboratory test utilization and costs by specific hospital day of stay (DOS) have yet to be widely published. Evaluation of laboratory test use by DOS would be helpful to better predict laboratory test reduction as hospital length of stay (LOS) is shortened, since testing on the final day of hospitalization is likely to differ from the average daily figures.

**Methods/Case Report:** Using an internal cost accounting database, we evaluated laboratory tests and costs by hospital DOS over one year (2017) at a large health system (N=133,139 hospital days). To evaluate changes over the first days of hospitalization, we set day 1 of hospitalization as a baseline and determined subsequent days as a percentage of day 1 figures. We also calculated laboratory variable cost as a percent of aggregate variable costs per DOS. We limited our analysis to the first week of hospitalization. We employed Medicare Severity Diagnosis Related Groups (MSDRG), used by the US Centers for Medicare and Medicaid Services (CMS), to aggregate hospital encounters into medical or surgical hospitalizations using MSDRG grouping methods.

**Results (if a Case Study enter NA):** For medical inpatient stays, average laboratory tests (variable costs) were 10.8 (\$74.11) on day 1, 7.7 (\$38.53) on day 2, and 5.8 (\$23.75) on day 3, with little change over the next four hospital DOS. Laboratory testing, as a percent of day 1 testing, for days 2-7 was: 70.7%, 53.4%, 54.3%, 54.5%, 55.1%, and 54.0%. Laboratory variable costs represented 7.8% of aggregate variable costs on hospital day 1 and declined sequentially over days 2-7: 5.6%, 4.3%, 3.9%, 3.8%, 3.8%, and 3.5%. For surgical hospitalizations, average laboratory tests (variable costs) were 18.2 (\$130.02) on day 1, 11.9 (\$57.38) on day 2, and 8.4 (\$35.32) on day 3. As with medical stays, there was little change over the next four hospital DOS. Laboratory testing, as a percent of day 1 testing, for days 2-7 was: 65.6%, 46.1%, 44.6%, 46.3%, 45.9%, and 44.9%. Laboratory variable costs represented 3.2% of aggregate variable costs on hospital day 1 and remained essentially unchanged over the following days (range 3.3%-3.7%).

**Conclusion:** Laboratory variable costs are highest on the first day of hospitalization and decline over subsequent days to flatten by day 3.