neonatal units (neonatal continuing care nursing, neonatal intensive care unit, and 4 other neonatal nursery units) were evaluated. The percentage of hemolyzed samples from these units was calculated on a monthly basis from March 2011 to October 2013 (Figure 2), and the average yearly hemolysis rate was also determined. Specimens received were drawn by nonphlebotomists, mainly patient care technicians. Most of the draws were carried out by the heel stick technique, using a lancet. A capillary tube collection was used. Occasionally, arterial and venous specimens were drawn.

Data collected during the year of 2011 established a baseline for the yearly hemolysis rate of 35.5% (5954 of 16787) in these units, which was used to compare hemolysis rates from the same units in subsequent years. The Table depicts the yearly average hemolysis rates in the different neonatal units in 2012. In 2012, the monthly hemolysis rates began trending upward. The unit manager was notified when the 6-month average hemolysis rate from neonatal units in 2012 was noted to be increased to 43.6% (3865 of 8868). Notable changes implemented to reduce the hemolysis rate were the use of heel warmers to get a more consistent warming prior to drawing, and increased education of correct blood withdrawal techniques by senior patient care technicians.

Following staff training as described above, the average monthly hemolysis rate decreased significantly during the year of 2013, reducing the yearly average to 28.6% (4571 of 15 978; Figure 3). The difference in the average monthly hemolysis rates was statistically significant per Pearson χ² analysis. Continued reporting of monthly hemolysis rates to neonatal unit managers supported maintenance of quality improvement efforts.

In conclusion, a hemolysis rate of 28.6% (4571 of 15 978) suggests that this is the best performance these units can achieve and can be considered as a new acceptable threshold for hemolysis specimens from neonatal units in our institution. This study also highlights the importance of monitoring and feedback to collecting personnel in improving and maintaining quality.

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Reviving the Hospital Autopsy

To the Editor.—The observations of Stephen Geller, MD, on the current state of the hospital autopsy in the United States are very familiar to me, as my colleagues and I who are responsible for hospital autopsies have said similar things to each other for years. In the end, the decline in the number of hospital autopsies ultimately reflects a simple fact: hospital autopsies as currently performed and used are for the most part viewed as less important than the other services pathologists provide, and just not worth their costs and effort.

Figure 3. Hemolysis rate (neonatal units) yearly averages for 2011, 2012, and 2013. For 2011 versus 2012: 35.5% versus 39.6%, Pearson χ² = 63.1116, P < .001. For 2012 versus 2013: 39.6% versus 28.6%, Pearson χ² = 457.2650, P < .001. For 2011 versus 2013: 35.5% versus 28.6%, Pearson χ² = 176.6754, P < .001. Pearson χ² was used to evaluate the difference in hemolysis rates between time periods. All significance levels were far lower than the Bonferroni-adjusted critical P = .02 for significance.™
If the practice of autopsy is to remain (or perhaps become) relevant to the current practice of medicine, it must demonstrate that it clearly and objectively contributes to knowledge in ways that can inform and/or change medical practice. The establishment of a national autopsy data registry could provide a mechanism to do just that, and the nationally mandated use of electronic medical records and ICD-10 diagnosis coding now makes this possible. Such a registry would include at the very least patient demographics, medications, clinical discharge diagnoses, and major autopsy diagnoses and causes of death. Its establishment could address many of the current limitations of autopsy, which likely contribute to its declining popularity as outlined by Horowitz and Naritoku.2 Their summary included issues related to reporting standards, credibility in autopsy diagnoses and conclusions, use as a meaningful research tool, absence of champions/practitioners, and lack of funding. A national autopsy registry could address these limitations in the following ways:

1. Reporting standards: The use of electronic diagnosis coding would ensure that autopsy diagnostic terminology would be standardized among institutions and also reflective of current terminology and reporting requirements often not practiced in autopsy.2

2. Credibility: Use of autopsy data from multiple institutions would establish a mechanism for external review of autopsy accuracy and quality, and thus at least indirectly contribute to improving the credibility of autopsy reporting.

3. Research: A national pool of autopsy outcome data would make possible research related to both mechanisms of disease (eg, unsuspected or unusual adverse drug effects) and treatment outcomes. Autopsy-based outcome data also could be applicable to issues related to patient safety or costs of care. The problem of selection bias in evaluating autopsy results obtained from a single institution would be ameliorated through the increased numbers of cases for analysis made possible from a national data pool. An autopsy registry also could function as a surrogate tissue bank for studies of molecular pathogenesis or proteomics, since it would identify sources of formalin-fixed, paraffin-embedded tissue from histopathologically confirmed cases of specific diseases in specific clinical contexts (eg, after medical or surgical therapy).

4. Lack of funding and champions of autopsy: Using autopsy for research could increase funding for autopsy via grant support for clinically applicable research, which in turn would make academic autopsy practice more valuable to pathology departments and academic institutions. The opportunity to receive funding for autopsy-based research could increase the number of pathologists genuinely interested in autopsy, and increase interest in autopsy among other medical specialties as well.

5. Public support: Knowledge that the results of autopsy on a loved one may be used to meaningfully contribute to medical knowledge in a visible and tangible way may prompt more requests for autopsy from next of kin.

The idea of a national autopsy registry is not novel: the Japanese registry, for example, has been used to study the importance of amniotic fluid embolism in maternal mortality during a period of 16 years.2 However, electronic medical records now make possible large-scale analyses of clinical and pathologic autopsy data in ways not previously available. Of course, establishment of a national autopsy data registry would require careful and informed planning, with input from experts in medical informatics as well as potential stakeholders. The latter could include the Centers for Medicare & Medicaid Services, National Institutes of Health, medical insurers, and accreditation agencies. Nonetheless, the establishment of a national autopsy registry could reinvigorate the autopsy as a continued important source of information with demonstrable relevance to the current practice of medicine, and in so doing significantly address the ills from which the autopsy currently suffers.

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