Ex Africa Semper Aliquid Novi

Frederick Meier, MD, and Bruce A. Jones, MD

From the Department of Pathology and Laboratory Medicine, Henry Ford Hospital, Detroit, MI.

DOI: 10.1309/AJCP8AM8HWYUXHHR

Three hundred fourteen years ago on July 21, 1699, a French physician and apothecary, Charles Jacques Poncet, arrived in Gondar, Ethiopia. Gondar is the site of a study of physician satisfaction with laboratory service that this commentary considers. The study’s period is much more recent than that of Poncet’s adventure—the satisfaction survey at Gondar University Hospital was carried out only last year (March 1-25, 2012)—but Poncet’s experience, the first contact of modern Western medicine with Ethiopian society, can serve to introduce Gondar.

Three centuries after Poncet’s Ethiopian sojourn, many North American and European physicians and medical scientists, including readers of this journal, find themselves drawn to practice in Africa. Besides East African and other practitioners in resource-limited settings, these Western medical venturers into sub-Saharan medical settings will find the report of Addis and colleagues of interest.

Jacques Poncet was practicing in Cairo, Egypt, when representatives of the emperor of Ethiopia, the negus, engaged him to venture up the Nile to treat the emperor for a skin ailment. Poncet found reaching his patient, Iya’su I “the Great,” a challenge. It took a year to journey up the Nile. Poncet rode into Gondar debilitated by a gastrointestinal illness, probably dysentery, that had just claimed the life of his colleague, Pere Charles FX de Brevedent, SJ; Father de Brevedent, Poncet’s sole European companion, had succumbed just 12 days before the physician finally reached Gondar. African practice continues to present logistical obstacles and risks not usually experienced in resource-rich settings.

The Gondar that Poncet entered was a major Ethiopian religious, cultural, and political center. In Poncet’s time, Gondar drew European missionaries such as Pere de Brevedent because it was the center of Ethiopian Coptic Christianity. Now, in the early 21st century, the Ethiopian Church is the largest Monophysite Christian Church (these churches include the Oriental Orthodox Churches of Egypt, Syria, Armenia, and India); it claims an estimated 38 million baptized members, about half of whom are reckoned to practice. In Poncet’s day, Gondar was also the cultural center of the province of Amhara; Amhara supplies the name to the Amharic language. Today, Amharic is second only to Arabic in numbers of speakers among Semitic languages. Placed geographically just north of Lake Tana, the source of the Blue Nile, Gondar was also the political capital of Ethiopia when Poncet arrived. In the late 19th century, the country’s political center shifted south into the province of Shoa, where Addis Ababa, founded only in the late 1880s, became the national capital.

At the court of Gondar, Poncet found Iya’su I (ruled from 1682-1706) an intelligent, actively engaged patient. Iya’su I “the Great,” a challenge. It took a year to journey up the Nile. Poncet rode into Gondar debilitated by a gastrointestinal illness, probably dysentery, that had just claimed the life of his colleague, Pere Charles FX de Brevedent, SJ; Father de Brevedent, Poncet’s sole European companion, had succumbed just 12 days before the physician finally reached Gondar. African practice continues to present logistical obstacles and risks not usually experienced in resource-rich settings.

The Gondar that Poncet entered was a major Ethiopian religious, cultural, and political center. In Poncet’s time, Gondar drew European missionaries such as Pere de Brevedent because it was the center of Ethiopian Coptic Christianity. Now, in the early 21st century, the Ethiopian Church is the largest Monophysite Christian Church (these churches include the Oriental Orthodox Churches of Egypt, Syria, Armenia, and India); it claims an estimated 38 million baptized members, about half of whom are reckoned to practice. In Poncet’s day, Gondar was also the cultural center of the province of Amhara; Amhara supplies the name to the Amharic language. Today, Amharic is second only to Arabic in numbers of speakers among Semitic languages. Placed geographically just north of Lake Tana, the source of the Blue Nile, Gondar was also the political capital of Ethiopia when Poncet arrived. In the late 19th century, the country’s political center shifted south into the province of Shoa, where Addis Ababa, founded only in the late 1880s, became the national capital.

At the court of Gondar, Poncet found Iya’su I (ruled from 1682-1706) an intelligent, actively engaged patient. Iya’su I had Poncet demonstrate topical preparations before applying them. The emperor also asked the visiting physician to project, as he began a regimen, the effects that he hoped each preparation would produce. Iya’su further asked Poncet to keep a written record that the patient and practitioner could refer to as they reviewed the applications’ effects.

Historians speculate that the skin condition Poncet saw was mycobacterial lymphadenitis-dermatitis or mycobacterial dermatitis, but the physician himself left no record of diagnostic maneuvers he may have attempted. Nevertheless, germane to the current study—which assesses physician and nurse satisfaction with diagnostic and monitoring clinical laboratory testing—Poncet received a report of imperial patient satisfaction from Iya’su I in a letter the emperor dispatched to the
king of France, Louis XIV, which Poncet carried with him when he departed Gondar on May 2, 1700.2

When we turn to our more recent dispatch from Gondar, we find that 3 lessons present themselves to 21st-century laboratory successors of Poncet. First, among the 196 nurses and physicians surveyed (one-third physicians, two-thirds nurses), most were in their 20s and had less than 3 years’ experience. The Gondar University Hospital is a young organization. Among these clinicians, good or excellent ratings for laboratory service ran only around 50%. In a published contrast to this “50:50” level of satisfaction, one of us (B.A.J.) has reported that satisfaction rates approached 90% in Q-Probes studies carried out at multiple US institutions.6,7

Second, nurses and physicians in Gondar share unhappiness with 2 main dissatisfiers: long routine test turnaround times and difficulties accessing laboratory results or records. Otherwise, nurses were significantly more dissatisfied than physicians with a hard-to-read “clinician handbook” (that we presume includes specimen collection and other test information similar to a North American laboratory users’ guide). Nurses also faulted hard-to-read or unclear report formats. Conversely, physician laboratory users were significantly more bothered than nurses about results that seemed incompatible with patients’ conditions. Such results raised concerns for physician test interpreters about the consistency of the laboratory’s test quality.

Third, questions about likely causes of consumer satisfaction or dissatisfaction with clinical laboratory specimens fall into 3 groups: the obvious, the well posed, and the badly posed. The most obvious cause of dissatisfaction is lost specimens. The frequency of this dissatisfying event (which 90% of respondents had experienced) tracked closely with overall satisfaction. Among well-posed questions were queries about laboratory management’s perceived concern with customer service. Here the study found another difference between nurses and physicians. Nurses were positive about this attribute in a ratio of 2:1, but physicians were negative about management engagement by a 3:2 ratio. In a measure of satisfaction that should be very important to laboratory managers, nurses, who likely have more contact than physicians with laboratory workers, were marginally less certain about laboratory personnel’s “professionalism” than were their physician colleagues. Examples of badly posed questions are those about laboratory workload and professional competency. Clinical staff members are hardly in positions to draw sensible conclusions about those topics of debate among laboratorians, hospital administrators, and accrediting or supervising authorities.

From a North American viewpoint, as laboratorians many North American and European laboratorians hesitate to embrace.

In this respect, the Gondar article illustrates a very positive development: clinician customer satisfaction with the laboratory testing process—end users’ satisfaction with the process that turns patient specimens into clinical information—has become a concern in settings with relatively scarce resources. The laboratorians in Gondar are not alone in their embrace of systematic, publicly reported concern with clinicians’ opinions of laboratory performance. In just the Horn of Africa, we point to 2 other recent instructive examples of credible studies of patient and clinician satisfaction with laboratory service in resource-challenged settings.8,9 Across Ethiopia (Gondar is in the northwest of the country), in the Harari Regional State (in eastern Ethiopia), Teklemariam and colleagues8 reported a sophisticated multihospital survey carried out in the spring of 2010. The survey collected opinions from 429 patients and 54 physicians and public health officers. The patients reported high overall satisfaction (88%), but the level of satisfaction differed significantly among the 5 hospitals monitored. An example of the kind of practical sorting of problems that well-done surveys can provide appears in the Harari group’s report that their customer satisfaction study focused remediating attention on inconsistent critical value reporting because it was the queried attribute with the lowest satisfaction level.

Across the Bab-el-Mandeb, the strait between the Red Sea and the Gulf of Aden at the southern end of the Arabian Peninsula, 2 laboratorians employed by the Aden Governorate in Yemen adopted our Q-Probe study model for a survey querying 207 physicians.9 Receiving responses from an impressive 161 (78%) laboratory users, the Yamani and Cuban authors found that median overall physician satisfaction in Aden was high (3.94/5.00) on our 5-point satisfaction scale. They found, however, that less satisfaction was associated with working in public (vs private) institutions; the overall level of satisfaction in public Yamani institutions was similar to that among Gondar physicians. Aden physicians, like the Gondar physicians, delivered the clear message that “quality and reliability of results” was the most important laboratory attribute to them.9

In terms of content, customer surveys of nurses who receive laboratory reports and physicians who interpret them emphasize 2 lessons. The obvious nature of this pair of lessons does not reduce their importance: result reliability and rapid test turnaround time are customers’ main concerns in both resource-rich and resource-poor environments.2,6,9

In terms of value for effort, we submit that customer surveys of nursing staff receiving laboratory reports and medical staff interpreting them prove themselves across all settings. They do so by providing 2 sorts of actionable information: first, they quantify an overall assessment of how much room
a laboratory has to improve. Second, they focus the surveying laboratory’s attention on specific, local causes of customer dissatisfaction.

The latter local focus introduces how laboratories respond to improvement opportunities. To us, the Lean approach is the most useful set of improvement tools with which to grasp opportunities for process improvement.\textsuperscript{10-14} The Lean approach is very labor intensive and requires a long-term commitment. It can work, we suggest, in both resource-rich and resource-poor settings when commitment is consistent and enduring. In resource-rich environments, technologies—computerized instrumentation, laboratory information systems, and electronic means of result reporting—have the potential to amplify Lean effects, particularly those informed by value stream mapping,\textsuperscript{15} but value stream mapping itself does not require these amplifiers.

Worldwide recognition grows that generic measures of laboratory quality reflect objective levels of performance across almost all clinical laboratory settings.\textsuperscript{16-20} In our view, the basic, generic measures of the clinical laboratory testing process are (1) order accuracy, (2) patient and specimen identification integrity, (3) specimen quality, (4) stat test turnaround time, (5) test turnaround time outliers, (6) rapidity and completeness of critical value reports, and (7) corrected report rates.\textsuperscript{20}

These measures apply in Gondar as well as they do in Detroit. Besides these measures of product quality, 2 overall measures of process quality seem to have gained similar widespread consensus. These product quality measures are objective performance in external quality (proficiency) testing and subjective performance in patient and clinician satisfaction. Regarding subjective performance assessment, we suggest, in closing, 2 distinct foci of attention: on one hand, patient satisfaction reflects the specimen collection experience. On the other hand, nurse and physician satisfaction reflects the reception experience of the result report. Laboratorians must attend to both aspects of quality. Regarding the result-reporting aspect of laboratory quality, our colleagues in Gondar have embraced transparency in their publication of this report. Transparency is often cited but usually dishonored in the breach (by failure to report publicly or reporting in cleverly obscure ways on impossible-to-navigate government websites) rather than honored in the observance (by publishing both locally and in the medical literature). The Gondar laboratorians deserve commendation for meeting the challenge of both a candid survey and a clear publication.

References


