



MEDICA

MANAGEMENT BRIEF

**How Small Practices
Achieve Big Benefits
With Affordable Clinical
Analyzer Technology**

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Introduction

When evaluating solutions for the laboratory tests their patients require, physicians and business managers in small practices first seek to maximize quality of patient care. However, to ensure the health of their practice as well as their patients, they must also consider testing's impact on revenue.

In past years, some practices have chosen to send test samples to an outside reference laboratory. Others have performed tests in their own in-house lab, often using a clinical chemistry analyzer that has been in place for some years. Today, many small practices are turning instead to a newer, more efficient — and in some cases much more affordable — generation of analyzer technology.

This report briefly reviews some advantages and drawbacks of the older approaches. It also shows how small practices can utilize the right new clinical chemistry analyzer to maximize patient care, revenue, and a host of associated benefits.

Outside labs and older analyzers

Small medical practices that currently send their work to an outside laboratory for testing should periodically re-evaluate that choice.

On the negative side, the practice loses revenue that must be passed on to the outside lab for each test sent out. However, if the volume of these outsourced tests remains low, this loss may be acceptable, since the alternative is starting and running an in-house lab. Such a lab would require investments in time, training, personnel resources, and relatively complex, costly equipment such as chemistry analyzers.

Small practices that already run in-house labs should also examine their cost/benefit ratios from time to time.

Many of these operations rely on older analyzers based on legacy technology. Have these legacy analyzers become more trouble than they're worth? Do they break down frequently, draining lab productivity with expensive downtime? Are spare parts and service increasingly costly and hard to come by? Do these analyzers require inordinate amounts of expensive consumables? Are they difficult for staff to train on and operate, thus increasing downtime and error rates — and ultimately degrading the quality of patient care?

Physicians and practice managers in both of the above types of small practices should carefully examine their options in light of important benefits offered by new technology.

Affordability and other advantages

In a practice using outside labs, once testing volume reaches 10-15 panels per day or more, the equation changes. Accumulating revenue loss may outweigh in-house lab costs. Equally, for practices using out-of-date analyzers, the benefits of keeping them may be outweighed by the advantages of replacing them.

The chief reason: some clinical chemistry analyzers are now offered in price ranges the small practice can afford.

That's not all. The new class of analyzer technology, in fact, provides a comprehensive array of diverse advantages, including the following:

- Wider price range/affordable choices
- Reduced downtime and service visits
- Faster, easier startup and operation
- Simpler, intuitive touchscreen user interface
- Advanced data entry and tracking
- Minimized chance of error
- Immediate test results
- Cost-efficient use of reagents
- Better connectivity and convenience
- More reliable revenue generation
- Smaller footprint



Rightsized and rightpriced

When deciding whether a new analyzer's advantages are sufficient to trigger a buying decision, the prospective purchaser's most critical task may be determining whether a given model is correctly "sized" for the job.

One key measure: testing workload. Larger practices with four to eight physicians may require a higher-end analyzer with numerous specialized automation features and maximized throughput. This type of analyzer can run, for example, 50-100 comprehensive metabolic panels (CMPs) a day.

However, smaller practices with one to four physicians typically generate fewer tests. So a higher-end analyzer wastes much of its capacity here, while failing to achieve a reasonable return on investment. On the other hand, a low-end analyzer may well be too slow and too prone to breakdowns, as well as lacking baseline automation features such as batch operation or random access.

Small practices may get the best results — and ROI — from a thoughtfully rightsized model. Example: the EasyRA® analyzer from Medica Corporation. This clinical chemistry benchtop analyzer is specifically designed for small practices. Using CMPs as an example, it delivers a throughput range of 10-50 panels per day, with a "sweet spot" of 30.

Rightsizing also applies to pricing.

Higher-end analyzers typically cost from \$45,000 to more than \$100,000. These high-throughput models may suit a large operation. But a smaller practice can't do enough tests to justify their purchase. On the other end of the scale, a low-end analyzer may cost as little as \$10,000. But with a limited service life, ability to run only one CMP at a time (at 15 minutes per sample), and use of surprisingly expensive reagents, these models are seldom fruitful long-term buys.

Physicians and business managers from small practices would be best advised to seek analyzers priced for their needs. It's possible to find a clinical analyzer such as the EasyRA analyzer, with optimal but not excessive automation features, for \$30,000 or less. When performing 15 CMP and 4 lipid panels per day, for example, this type of analyzer delivers full payback within 6 months. It can then keep contributing to a practice's revenue for the long term.

Hands-on time and maintenance

Many practices buy new models just to cut down on maintenance. Older analyzers near the end of their service lives simply demand too much hands-on intervention to keep in operation.

The newest clinical analyzers require more modest amounts of hands-on care. Still, higher-end models take 20-30 minutes of operator attention daily at startup for routine inspection, reagent loading, cleaning, and cycling. Most also mandate 6-8 technician visits per year for servicing. Low-end, low-automation models may take less time at startup, but make continual demands on the operator for loading, unloading, and record keeping throughout the day. They also typically are less durable and have considerably shorter service lives.

One example in the “set it and forget it” category is Medica’s EasyRA analyzer; its design is said to minimize operator time and effort. Users report only 5 minutes of walkaway startup time a day, and — due to a slide-out access drawer, maintenance-free pump seals, and xenon flash lamps — an average of only 1.2 service calls per year.

Maintenance downtimes and expenses are minimized, while a welcome level of hands-off ease frees the user for many more productive tasks in the typically busy small practice.

Automation and interface

Most automated analyzers in this category test serum, plasma, or urine, running the standard battery of tests (BMPs, CMPs, lipid panels, hepatic panels, etc.) that a small or medium-size medical practice requires. Most can also be adapted to run special tests as needed. Some can test veterinary specimens as well.

Legacy or low-end analyzers with few data automation capabilities may require *manual data entry* of patient or reagent information. This is exceptionally labor-intensive, and maximizes the chance for errors. Fortunately, most new analyzers at least utilize *bar code scanning*, enabling the system to make simple identification of labeled specimens, reagent reservoirs, etc.

At least one medium-priced model has recently brought *radio frequency identification (RFID)* capabilities to the clinical analyzer category. RFID technology allows data-rich, accurate, “smart” identification and continuously updated tracking of reagent information — including locations, values, and expiration dates; number of samples used and remaining; lot numbers; and more. In addition, RFID eliminates the need for error-prone manual reprogramming when assay parameters change.

Modern analyzers also incorporate more ease-of-use features than legacy models. Users can select analyzers that include the following:

- **Random access** (RA) processing — allows any test to be run at any time
- **Walkaway** automation — enables unattended processing of large batches, freeing up operators for other lab duties
- **Stat** feature — can interrupt batches with single samples for immediate (often 5-8 minute) analysis
- **Simplified user interface** — minimizes training and guides operators intuitively through all statuses and

functions; the EasyRA analyzer, for example, utilizes touchscreen operation, a familiar look and feel, and only four color-coded icons for easy selection and use

- **LIS connectivity** — permits linkup, optionally or built-in, to laboratory information systems

Finally, purchasers must not neglect *space efficiency*. Some high-end analyzers simply take up too much space on the crowded benchtop of the small practice, and may even require the installation of a dedicated water system. Users should look for more compact models, with the smallest feasible footprint and onboard diluent supply.

Conclusion

Modern clinical chemistry analyzers incorporate considerable improvements over legacy models. The new analyzers save time and effort while reducing the chance for error. A select few also meet the affordability goals of a smaller in-house laboratory. By carefully choosing the right model, small medical practices can increase revenues while improving their standards of patient care.



Products for Health Care

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