



QUALITY UPDATE

A monthly publication providing information and updates to CompuNet Clients
Mission: To provide excellence in medical laboratory testing to our community.

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In this Issue

Physician Survey Report	1
Pathology Turnaround Time	2
Aspirin Resistance testing Now available	4

Results of Laboratory Services by Physician Market.

In late 2007, Paragon Research LLC conducted a *confidential* telephone survey of physician and medical offices about their primary lab of choice and how they rated various services. The purpose of the research was to:

- *Determine which lab was the respondent's primary lab of choice.*
- *Discover the ratings of their primary lab of choice on various lab services.*
- *Determine what major issues respondent's have with their lab services.*
- *Discover suggestions for improving lab service.*
- *Discover if respondent would recommend lab of choice.*
- *Compare results with results from previous years of own lab and with competition.*

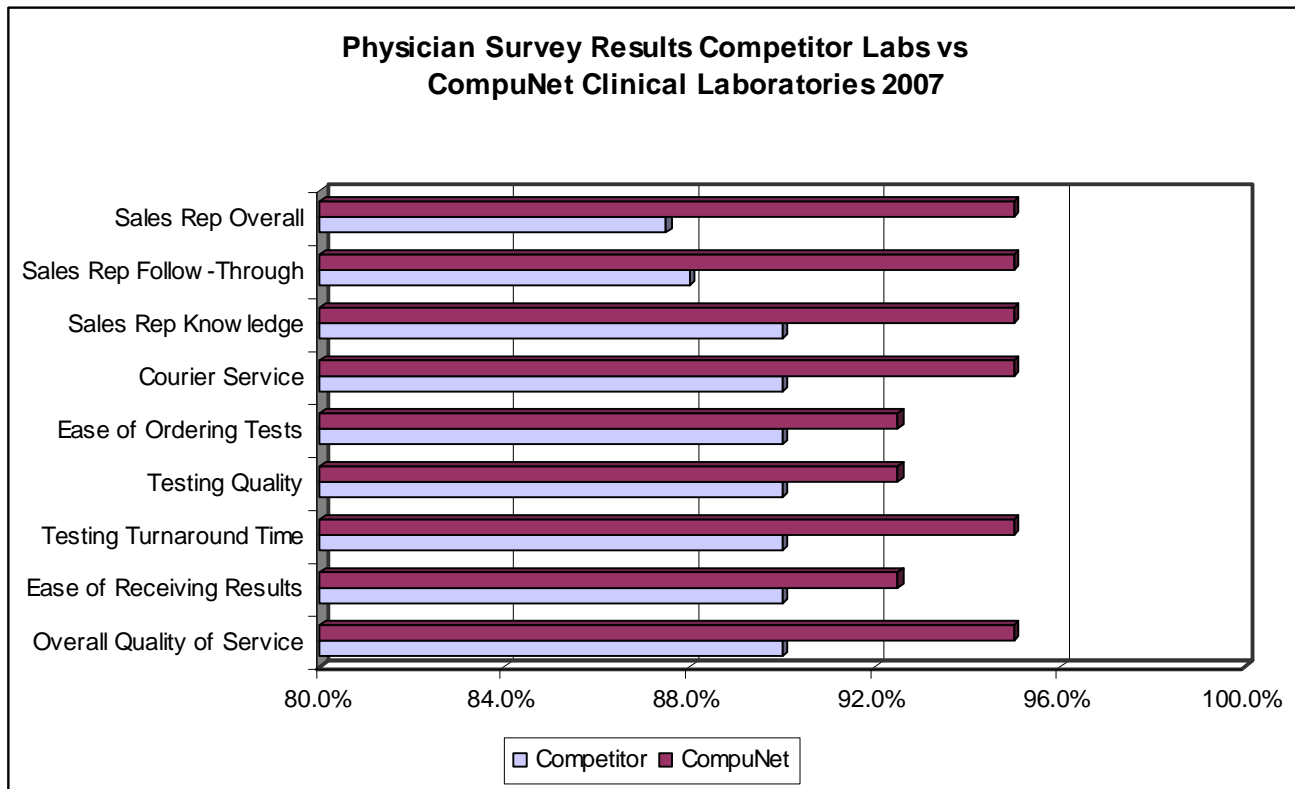
Paragon conducted a random telephone survey of twenty questions using a list of 951 physicians and medical offices located in CompuNet's 15-county core service area. From the list of 951, there were 200 respondents who completed the confidential survey.

We're proud to announce that CompuNet was ranked the highest for every service: from the time our Sales Rep contacts your office to the point that the office receives the results. The highlighted areas are seen below.

In addition, when asked if they would refer CompuNet to another medical facility or colleague, nearly all (94.3%) of those respondents who identified themselves as CompuNet customers answered *yes*.

Continued on page 2

Continued from page 1



Even though we are proud of our accomplishments, we are continually striving to improve every aspect of our business. Each employee of CompuNet Clinical Laboratories believes in our mission of “Improve the Health of our Community through Excellence in Medical Laboratory Services”. And we intend to achieve our vision to be the First Choice Laboratory throughout Our Service Area

Pathology Turnaround Time

By Dan Sushereba, Histology Manager

This article will provide some insights into the process and turnaround time (TAT) of a tissue pathology specimen received from our physician accounts. (The steps would also be similar for the acute setting patients). The TAT can be divided into 4 major steps;

1. Time from harvest of the specimen to the time the biopsy arrives in the laboratory
(Time dependent on receipt of specimen from offices.)

- As can be understood from a patients’ point of view, the patient identifies the starting

step as to when the specimen was obtained from them in the physician facility to the time they receive the results. Thus receiving the specimen from your facility as quickly as possible will assist in shortening the waiting time for the patients.

2. Time from the arrival of the specimen until the specimen dissection is completed. This is known as “gross dissection” in our world. (Gross operations take place from 08:00 through 15:00; Monday – Saturday.)

- The steps of this key process is as follows:
 - a) The patient demographics and specimen specifics are registered into our lab information systems,

Continued on page 3

Continued from page 2

- b) Gross dissection is conducted which depending on the size of the specimen - small specimens require no dissection or a small amount – large specimens require more complex dissections. All sizes require the specimens to be measured along with a description of the actual specimen.
- c) Conclusion of the gross dissection yields a properly labeled “Tissue Cassette” – ready to go into the Histology functions.

3. Histology Functions:

- a) **Tissue processing step.** (*Tissue processing can take from 3 to 10 hours.*)
 - “Tissue processing” is the exposure of dissected tissue samples to various reagents that will allow the tissue to become infused with molten paraffins or infiltration media.
 - For small biopsies this can be accomplished in approximately 3 to 4 hours. For larger pieces of tissue or tissues of fatty nature, it requires 8 to 10 hours of processing time.
- b) **Tissue embedding step.** (*1 to 3 hours per processor run depending on the nature of the tissues and volume of cassettes.*)
 - A paraffin block with the tissue oriented appropriately in the block is called “tissue embedding”. Each of the “tissue cassettes” must be opened and examined in order for the technologists to determine how to “embed” the tissue into semi-molten paraffin. The remainder of the block mold is filled with liquid paraffin and then cooled so that it becomes solid throughout.
- c) **Sectioning of tissue embedded in a block – called “Microtomy”.** (*Microtomy section timing is 1 to 4 blocks per minute.*)
 - The tissue blocks are then sliced into thin sections and placed onto glass slides. These will then be stained.

While it is possible to section and stain individual cases, industry standard is to collect the cut slides and place them in the staining process. A full rack of slides is completed in 30 minutes and it is not unusual for one case to require 2 to 3 racks. There are 30 slides per rack.

- d) **Slide Staining and Coverslipping Step.** (*30 slides per hour with multiple racks staining concurrently.*)
 - The staining process requires the removal of all paraffins from the slides prior to the application of stains. The stain contrasts nuclear from cytoplasmic cell elements.
 - After the slide is stained, a coverslipping process occurs. 20 slides in approximately 2 minutes can occur.
- e) **Case Organization Step**
 - A copy of the specimen requisition, the gross dictation and labeled slides are assembled and given to the Pathologists.

Note: Special staining (*TAT for: Routine Special Stains – 1 to 4 hours; Immunochemical Staining – 8 hours; DNA/RNA Staining – 24 hour Order placement times and volumes of staining runs can lengthen turnaround times.*)

- There are some cases that require specific special staining procedures. In such cases we have protocols to capture the stains during routine sectioning.
- In many situations, initial observations of the pathologists will produce requests for special stains that will require us to go back to the microtomes and cut the sections – requiring additional time.

4. Pathologist diagnosis, report transcription and case sign out.

(*Pathologist TAT is dependent per case.*)

In 2007, CompuNet Clinical Laboratories produced approximately:

- 150,000 blocks
- 300,000 slides

Continued on page 4

Aspirin Works® Assay for Aspirin Resistance Now Available

Effective May 1, 2008 CompuNet will offer the Elisa based urine test that determines the effect of aspirin on platelets by measuring the level of thromboxane production. The higher the levels of thromboxane production, the stickier the platelets remain, resulting in less aspirin effect or resistance. Studies have shown that patients who are non responsive (resistant) to the anti-clotting effects of aspirin are at a greater risk of adverse cardiovascular events.

Specimen requirement: at least 20 ml urine sample collected at random

8 mls of collected sample poured into urine transport tube (Yellow Speckled Tube) and submit along with the remaining urine sample in the collection cup.

Test Code: 74766

Questions: Contract Special Coagulation Department at 297-8290

(More information will be forthcoming in June issue of Quality Update).

Continued from page 3

- o 26,000 special stains
- o 50 immunologic stains

Also, in 2007 the College of American Pathologists required that any tissue being tested for the HER2 gene or its protein byproduct be fixed for a minimum of 6 hours prior to processing. This change impacts batch processing greatly. The newly required method provides greater quality but unfortunately a longer turnaround time. Even with this methodology change, in 2007, 90% of our cases were signed out within 48

hours of receipt. We are currently incorporating new methods and instrumentation into our work area. We are changing our instrumentation for staining and coverslipping (first requiring a remodeling of our histology lab in order to accommodate). This will reduce the amount of labor intensive steps helping in turnaround time and allowing highly trained technologists to greater utilize their talents. Our continual goal is to ensure high quality and timely reporting of results – understanding there is patient often anxiously waiting to hear.

