



VITAL CONSIDERATIONS

Automatic Blood Pressure Devices Can Deliver Long-Term Benefits in Primary Care



CHELSEA FAMILY AND INTERNAL MEDICINE [CHELSEA, MI]

Chelsea Family and Internal Medicine is part of Integrated Healthcare Associates (IHA), headquartered in Ann Arbor, Michigan. With more than one million patient visits per year, and approximately 70 practice locations, IHA is one of the largest multispecialty medical groups in Michigan.

Your primary care office is no stranger to a fully booked calendar. With a high volume of patients, it's vital to maximize efficiencies, reduce overhead and streamline your operations.

But are your most common exams — like taking a blood pressure reading — as efficient as they could be? Outdated blood pressure methods might be slowing down your caregivers and impacting your bottom line.

A primary care facility in Michigan explored this topic, comparing an automatic vital signs device to traditional manual methods for vitals collection. The study showed cost savings, efficiencies and clinical benefits when the practice used an automatic vital signs device.

RESEARCH OBJECTIVES

COMPARING AUTOMATIC AND MANUAL BLOOD PRESSURE DEVICES

Dr. Steven Yarows of Chelsea Family and Internal Medicine explored two different methods for capturing blood pressure readings in this quality-improvement study. Throughout the exercise, medical assistants conducted more than 800 blood pressure readings using an automatic oscillometric device or the manual auscultation method. The exam time and the equivalent cost per exam were calculated and compared for each method to determine the most efficient and cost-effective process.

RESULTS

IMMEDIATE RESULTS: MEASURABLE TIME AND COST SAVINGS

Measuring blood pressure with a manual wall gauge took an average of 58.6 seconds. The automatic method used a **Welch Allyn** device with the **SureBP** algorithm, producing blood pressure readings that averaged between 39.8 seconds and 29.3 seconds.¹

As medical assistants became more familiar with the **Welch Allyn** device, their measurement technique improved, decreasing reading times to an average of 29.3 seconds in the last third of patients recorded.¹ No such learning curve was seen with the manual wall gauge.

To understand the ROI, Dr. Yarows calculated the cost of a medical assistant's time and applied that to each blood pressure reading. After calculating wages down to the second, the manual blood pressure method costs \$0.34 per measurement, versus the automatic method that costs \$0.17 per measurement (after the learning effect took place). This results in a savings of \$0.11 per measurement with the automated method.¹



“The automatic Welch Allyn method averaged 39.8 seconds; however, with device experience, this decreased to 29.3 seconds.”

— DR. STEVEN YAROWS

STUDY PARAMETERS

6

MEDICAL ASSISTANTS

827

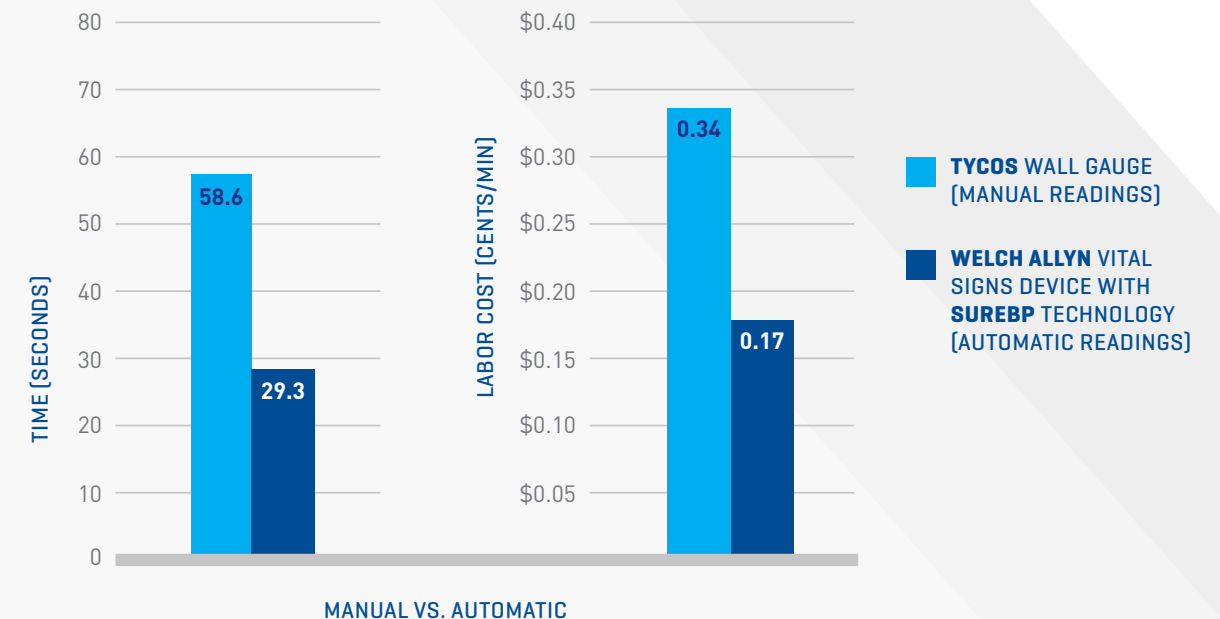
PATIENTS OVER 43 DAYS

411

PATIENTS MEASURED WITH A **WELCH ALLYN** VITAL SIGNS DEVICE WITH **SUREBP** TECHNOLOGY

416

PATIENTS MEASURED WITH A **TYCOS** WALL-MOUNTED SPHYGMOMANOMETER



FORECASTED RESULTS: THE IMPACT OF EFFICIENT VITAL SIGN MEASUREMENTS

Reducing spend by \$0.11 per blood pressure reading may not seem like a major cost savings, but the long-term impact tells a different story. Blood pressure is measured for every patient at every visit in Dr. Yarows' practice. So, with more than 25 patient visits per day, the automated **Welch Allyn** device saved the practice more than \$1,000 per year.¹

MEASURABLE RETURN

Dr. Yarows estimates that the potential return on investment for an automatic vital signs device is as little as one year.¹ Further efficiency gains can be realized if the vital signs device is connected to an EMR, streamlining workflows and helping to improve data accuracy.

PROJECTED EFFICIENCIES

Beyond the direct cost savings for a medical assistant's time, Dr. Yarows theorizes that faster readings would also result in shorter rooming times. With limited exam rooms in a primary care office, increased turnover in each room could allow more patients to be seen and deliver substantial benefits for a primary care facility.¹

SHIFTING CLINICIAN TIME

Measuring blood pressure more efficiently can enable you to focus on what's most important — providing quality patient care. Dr. Yarows describes manual blood pressure readings as tedious and time-consuming, estimating that he's spent more than 500 hours performing these routine measurements throughout his career.¹ Reducing the time for these readings by a few seconds per patient could result in long-term time savings, enabling you to shift that time away from manual tasks and towards patient care.

BLOOD PRESSURE YOU CAN BELIEVE IN

Unlike manual gauges, automatic vital signs devices can include advanced features to help support your diagnoses and treatment decisions. **SureBP** technology, for example, is an inflation-based blood pressure algorithm that's included in many Hillrom vital signs solutions. The algorithm can generate a blood pressure reading for 93% of patients on the first measurement attempt, helping save time and reduce the need for repeat measurements.²

Many Baxter vital signs solutions also include blood pressure averaging, enabling you to take and average multiple readings with the press of a button. Blood pressure averaging has been shown to reduce misdiagnosis of hypertension by up to 56% for improved hypertension diagnoses.³

\$1,000
IN SAVINGS ANNUALLY

With more than 25 patient visits a day, 5 days per week, use of a Baxter automated device could equate to a savings of more than \$1,000 per year.¹



Baxter's automated blood pressure device helped Chelsea Family and Internal Medicine capture blood pressure readings more efficiently. Saving time and money enables the clinicians to focus on their patients instead of manual data capture and documentation. And with features like blood pressure averaging, the practice is equipped with tools to help detect and diagnose conditions like hypertension more accurately.

The learnings from this study don't stop with Chelsea Family and Internal Medicine; they can be applied to other primary care offices around the country. If you're looking to make

your practice more efficient, it may be time to standardize vitals collection with an automatic vital signs solution. See how one small change can have a lasting impact on your practice and your patients.

Welch Allyn Spot Vital Signs 4400 is a simple, easy-to-use solution that offers an efficient way to capture, access and document vital signs so you can spend more time focused on your patients. Designed to help promote long-term heart health, the **Spot Vital Signs** device includes blood pressure averaging and **SureBP** algorithm for consistent, accurate blood pressure readings.



Experience the efficiencies for yourself.
Contact your Baxter representative to learn more.

Rx Only. For safe and proper use of the products mentioned herein, please refer to the appropriate Operator's Manual or Instructions for Use.

Researchers: Steven A. Yarows, MD, FACP, FASH, FAHA, Clinical Professor of Internal Medicine, Michigan Medicine. Dr. Yarows was compensated by Baxter for his time in developing this case study.

References:

1. Yarows SA. What is the Cost of Measuring a Blood Pressure? *Ann Clin Hypertens*. 2018; 2: 059-066. <https://doi.org/10.29328/journal.ach.1001012>.
2. Alpert, Bruce S., David Quinn, Matthew Kinsley, Tyson Whitaker, and Thomas T. John. "Accurate Blood Pressure During Patient Arm Movement." *Blood Pressure Monitoring* 24, no. 1 (February 2019): 42-44.
3. Baxter Data on File, 2019.

Baxter.com

Baxter, Hillrom, Spot Vital Signs, SureBP, Tycos, Welch Allyn are trademarks of Baxter International Inc. or its subsidiaries.

US-FLC157-230056 (v1.0) 07/2024