

## Health Screenings: Fingerstick or Venous Blood Draw?



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Companies across the United States are implementing employee wellness programs at an unprecedented rate. Most of these wellness programs include on-site biometric health screenings as the starting point and foundation of their program. While designing the biometric screening program, companies need to choose a blood draw method: fingerstick (capillary) or venous blood draw (evacuated tube).

Which is the best method for on-site biometric health screenings? The answer depends on the goals and objectives of the company's wellness program. For most companies, the fingerstick method is the method of choice due to the following advantages:

1. Results are available to the employee at the health screening
2. With results available, employees can be counseled at the health screening. This *Teachable Moment* is the highest value-added service within the health screening.
3. High-risk employees are identified immediately at the health screening and informed about next steps
4. Higher employee participation rates
5. Higher Return on Investment (ROI)

Still, there are some scenarios where companies prefer venous blood draw to the fingerstick method.

1. Perception that the results from a laboratory are more accurate
2. More tests can be performed such as PSA, cotinine (nicotine) and Metabolic Panel

This white paper will examine the differences between the fingerstick and venous blood draw methods and present the advantages and disadvantages of each when used for worksite health screenings. Summit Health provides both the fingerstick and venous blood draw method for our clients. As the nation's leading provider of on-site wellness programs, Summit Health has provided services to over three million individuals within the last three years. Of all our on-site health screenings, approximately 75% of participant specimens were obtained by fingerstick and 25% were obtained by the venous blood draw method.

Employers select fingersticks almost three times more frequently than they choose venous blood draw for their on-site health screenings. One may think that fingerstick is selected more frequently because it costs less; however, this is not necessarily true. Likewise, one may believe that the venous blood draw gives results that are more accurate because the blood is sent to a lab for

testing. Also not necessarily true, fingerstick methods have been proven as accurate as commercial laboratory methods. There are situations when we recommend one over the other, depending on the type of results that the employer is seeking. Both methods have a role in employee wellness programs.

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## Which Method is More Accurate?

Common misperceptions surround the accuracy of the two methods. Let's start with the fingerstick method. How accurate are the cholesterol and blood glucose measurements using approximately four drops of blood from a fingerstick and a portable FDA-cleared waived instrument?

Summit Health has selected the Cholestech LDX® System for fingerstick testing because it is the gold standard for on-site cholesterol and blood glucose screenings with over 70,000 instruments out in the field. This instrument is used across the United States by hundreds of hospitals and in thousands of doctors' offices. Cholestech is a wholly owned subsidiary of Inverness Medical Innovations Inc. [NYSE: IMA], a \$2 billion annual revenue consumer and professional medical diagnostic products company headquartered in Waltham, Massachusetts.

The Cholestech LDX System is certified by the Centers for Disease Control and Prevention's (CDC's) Cholesterol Reference Method Laboratory Network (CRMLN) for measuring Total Cholesterol (TC) and High Density Lipoprotein Cholesterol (HDL). Low Density Lipoprotein Cholesterol (LDL) is not certified since CRMLN does not certify manufacturers of triglyceride tests (LDL is calculated and requires triglyceride in the calculation – see below). Cholestech is also the only manufacturer of a fingerstick method and one of only two manufacturers that are certified by the CDC's Lipid Standardization Program (LSP). The CRMLN and LSP certifications validate that the results obtained by the Cholestech LDX System are lab accurate (i.e. that they meet the same stringent quality requirements as those met by national commercial laboratories such as LabCorp and Quest Diagnostics).

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## Calculation of Low-density Lipoprotein Cholesterol (LDL)

Both the Cholestech LDX System and laboratories calculate LDL using the Friedewald formula versus a direct measurement (note that a laboratory can measure LDL directly but at a significant cost) using the following formula:

$LDL = TC - HDL - \text{Triglyceride}/5$

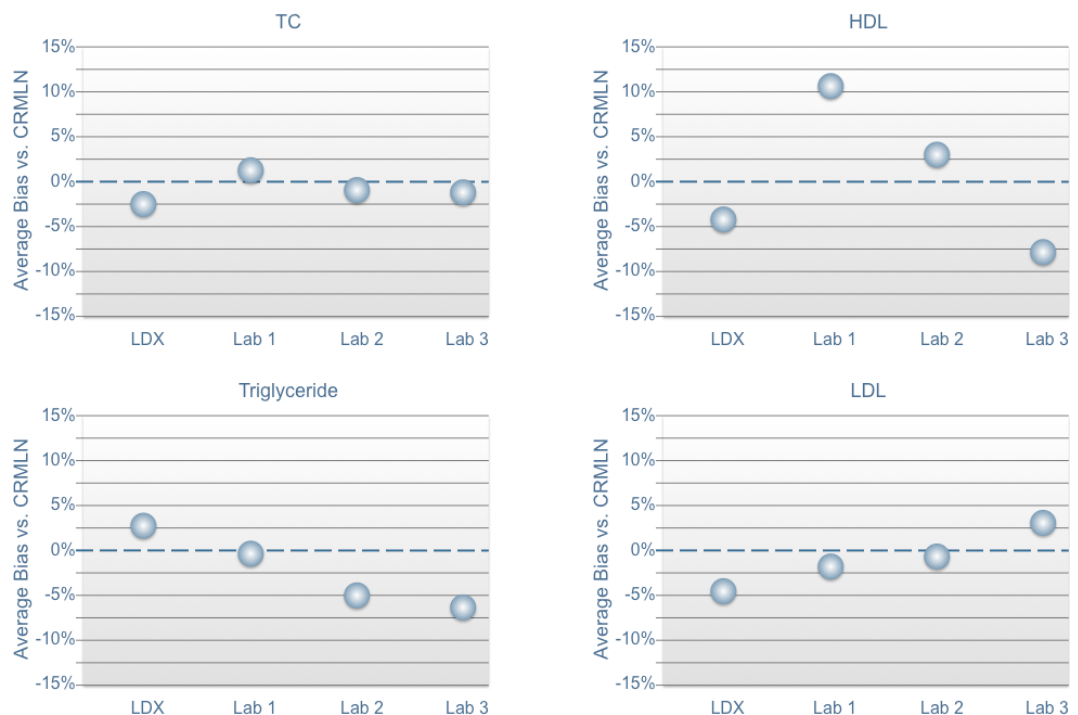
Low Density Lipoprotein Cholesterol = Total Cholesterol – High Density Lipoprotein Cholesterol – (Triglyceride divided by 5)

The Friedewald formula is only valid when Triglyceride is below 400 mg/dL. When the triglyceride is above 400 mg/dL, neither the laboratory nor the Cholestech LDX System is able to report an LDL result. With the Cholestech LDX System, the LDL cannot be calculated when the triglyceride is < 45 mg/dL, or when the Total Cholesterol or HDL are out of range for the instrument.

## Multi-Laboratory Accuracy Study

In 2005, Cholestech commissioned a study to compare the fingerstick lipid results of the Cholestech LDX System and serum results from three commercial laboratories with those of a CRMLN laboratory. The results show that Cholestech LDX lipid test accuracy (assessed by average bias) compared favorably to commercial laboratory results (see Figures). Many people think that all commercial laboratories produce identical results, but note that even the commercial laboratories in this study differed among themselves – with differences of up to 21% for average HDL bias.

**Figures. Average bias for each method compared to CRMLN laboratory results.**



CRMLN, Cholesterol Reference Method Laboratory Network laboratory; LDX, Cholestech LDX System; Lab 1 & Lab 3 are national commercial laboratories; Lab 2 is a regional commercial laboratory in the Pacific Northwest.

The National Cholesterol Education Program (NCEP), through the CDC, has established total error guidelines for lipid tests. The NCEP guidelines apply to all testing methods regardless of instrument size or location.

The NCEP's total error guidelines are as follows:

Total cholesterol	±8.9%
HDL cholesterol	±13%
Triglyceride	±15%
LDL cholesterol	±12%

A routine test method meets NCEP guidelines if 95% (95 out of 100) of the individual test results fall within these total error guidelines when compared to the CDC reference method. Like many commercial laboratory tests, Cholestech LDX lipid tests meet the NCEP total error guidelines. Although there are no nationally accepted guidelines for glucose total error, the Cholestech LDX Glucose test provides results which are consistent with good patient care. Total error for glucose is ±11%.

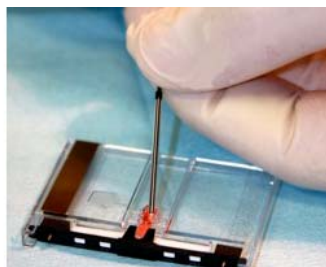
Based on the 2005 comparison study conducted by the Cholestech Corporation in conjunction with three independent commercial laboratories, the Cholestech LDX instrument provides accurate lipid test results that are statistically comparable to commercial lab results, regardless of the blood collection method.

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## Which Method Hurts More and is Riskier?

### How is a Fingerstick performed?

The fingerstick test is exactly as the name suggests. It's a stick of the finger; a little puncture is made in the 2nd or 3rd finger, and approximately four drops (35 µL) of blood are withdrawn. A capillary tube is used to measure a precise quantity of blood.



The blood from the capillary tube is then placed in a cassette, which is inserted into the Cholestech LDX instrument. The Cholestech LDX System takes less than six minutes to process the specimen and display the cholesterol and blood glucose results on a digital screen.

Below is an overview of the steps of a fingerstick:

1. Finger and site selected
2. Finger cleaned with alcohol and allowed to air dry to decrease hemolysis and not alter glucose results
3. Spring activated lancet applied to finger
4. First drop of blood wiped away
5. 35 µL (approximately 4 drops of blood) collected using a capillary tube
6. An adhesive bandage is placed on the small puncture
7. Using the capillary tube, the whole blood is inserted into Cholestech cassette
8. Cholestech cassette inserted into instrument
9. Cholestech LDX System beeps and results are displayed on digital screen in less than six minutes



On average it takes less than 1 ½ minutes to perform a fingerstick draw, and our experience has shown the success rate in obtaining the required 4 blood drops is 99.9%.

A fingerstick has some minor risks:

- The patient can experience pain when the lancet goes into his or her finger. Other than this momentary pain, the discomfort of a finger stick should be minimal
- In less than 10% of cases, a small amount of bleeding under the skin will produce a bruise (minute hematoma)
- The puncture site may be visible and sore to the touch for a short period of time after the collection
- Dizziness or light-headedness (syncope)
- The risk of local infection is less than 1 in 1,000

### How is a Venous Blood Draw performed?

Venous blood draw procedure is used to collect blood from a vein, most commonly the median cubital vein found in the antecubital – the region of the arm in front of the elbow.



The blood sample is collected in a plastic vacuum tube labeled with the patient's information and then spun in a centrifuge within 30 minutes of the draw.

Centrifugation separates the serum from the cells and prevents the specimen from degrading during shipment to the lab.

In a poorly spun specimen (when the specimen has exceeded the 2-hour time

limit for separating the serum from the cells), the glucose in the blood can degrade by 8% every hour. The lab then processes the specimen, and the patient receives a printed results report by U.S. mail approximately 10 business days after the draw.



Below is an overview of the steps of a venous blood draw:

1. Arm is selected and a tourniquet is placed on the arm above the draw site
2. Most commonly the median cubital vein is selected
3. Site is cleansed with a sterile alcohol prep pad
4. A needle is inserted into the vein and the collection tube is engaged until full
5. Tourniquet is removed within one minute
6. Needle is removed once all tubes have been collected
7. 8.5 mL (8,500  $\mu$ L) of blood is collected per tube (select tests may require up to three tubes)
8. A small gauze pad and Band-Aid are placed on the venous blood draw site
9. The blood collection tube is labeled with the patient's information.
10. The blood collection tube is placed in a rack to clot for 15-30 minutes and then centrifuged
11. Pour-off tubes and tubes are sent via overnight shipment to the specified laboratory
12. The laboratory processes the specimen within 24 hours of receiving the shipment
13. A report is mailed to the employee with the results

On average, it takes about five minutes to perform a venous blood draw, and the success rate in obtaining the required tubes in two attempts or less is **98.2%**.

A venous blood draw has more inherent risks than the fingerstick:

- Excessive bleeding can result in patients with blood thinning agents or clotting factor issues or from inadequate pressure on the site after the venous blood draw



- Bruising or a hematoma (a collection of blood under the skin) can occur due to needle movement during the venous blood draw, size of vein selected, lack of pressure immediately following the blood draw and early removal of the Band-Aid
- Fainting or feeling light-headed (syncope)
- Infection risk (a slight risk any time the skin is broken) is less than 1 in 1,000
- Nerve injury from selecting the basilic vein; nerves may not only run along the basilic vein but also on top
- Arterial nicks may occur in an attempt to access the basilic vein; this will cause an immediate hematoma
- Cellulitis: a diffuse inflammation of connective tissue with severe inflammation of dermal and subcutaneous layers of the skin
- Phlebitis: inflammation of a vein

### Which Method has a Wider Measurement Range?

In general, laboratory equipment can provide results over a wider range of cholesterol and glucose values than can the Cholestech LDX System. This means that slightly fewer patients are likely to receive an out-of-range result from the laboratory than from the Cholestech LDX System. Below is a chart that shows the ranges of the Cholestech LDX lipid and glucose tests and those from a national commercial laboratory:

	Reportable Range	
	Cholestech LDX	National laboratory
TC	100 to 500 mg/dL	3 to 800 mg/dL
HDL	15 to 100 mg/dL	3 to 120 mg/dL
Triglyceride	45 to 650 mg/dL	4 to 1,000 mg/dL
Glucose	50 to 500 mg/dL	2 to 1,500 mg/dL

	Desirable Results
TC	<200 mg/dL
HDL	≥60 mg/dL
Triglyceride	<150 mg/dL
Glucose	<100 mg/dL

The first table indicates that the national laboratory provides a greater reportable range of the cholesterol components and blood glucose when compared to the Cholestech LDX instrument. When the test result exceeds the range of the Cholestech LDX instrument’s capability, the instrument will

indicate this using "<" or ">" (e.g. triglyceride of 670 would show as ">650" on the Cholestech LDX). The second table displays the desirable results based on NCEP Adult Treatment Panel III national guidelines for lipids and the American Diabetes Association recommendations for glucose test results. As one can see, the range limitations of the Cholestech LDX instrument are not clinically significant to the interpretation of the participant's results. However, there will not be any LDL results reported for as many as 5% of individuals tested based upon the results of a national survey of the US population conducted by the CDC. When the triglyceride is above 400 mg/dL, the Friedewald equation is no longer valid and neither the commercial laboratory nor the Cholestech LDX System is able to calculate the LDL. This occurred in <3% of the US population in a national survey conducted by the CDC. In practice, patients who present with any abnormal test results outside of the measurable range of the Cholestech LDX System are referred to their personal physician or the emergency department for additional medical care. Therefore, the biometric screening using the Cholestech LDX instrument with the fingerstick collection method remains successful in identifying the participant's health risk.

### **Which Method has Tighter Federal and State Regulations?**

In order to conduct fingersticks, the on-site screening vendor needs to hold a waived Federal Clinical Laboratory Improvement Amendments (CLIA) license and use only portable blood testing instruments with FDA clearance. Some states require additional licensure according to that state's specific public health code, and some counties and cities impose even more licensure requirements. For example, California requires on-site screening vendors to register as a "non-diagnostic general health assessment laboratory" (NGHA) before they can conduct screenings in the state. Then, the vendor must contact each county Public Health Department, obtain a county-specific NGHA application, and submit supporting documentation (approved procedures, notification, personnel licensure and training documentation) proving compliance with the county's and local regulations. California state regulations require all health screening staff who conduct fingerstick testing to be state-certified phlebotomists or state-licensed health care professionals and show proof of training and certification prior to each scheduled event.

Eighteen states have specific state rules and regulations in addition to CLIA (e.g. personnel requirements and on-site inspections). Sixteen additional states have requirements (e.g. state or county notification) that are not CLIA specific. For NGHA fingerstick testing in California, each vendor must obtain 39 permits/registrations to meet state, county and local California regulations. Annual review of all the state regulations shows there is a trend toward more complex regulatory compliance.

Federal and state governments also regulate venous blood draw screenings. All specimens must be sent to a moderate- or high-complexity CLIA-accredited laboratory. The staff conducting the venous blood draw screening needs to follow federal and state regulations, which may include certification requirements. Most but not all fifty states also require a licensed physician to sign off on the test (standing order) and review the tests conducted in their state. But all moderate- and high-complexity laboratories require a physician order to meet CLIA requirements. In addition, two states are very restrictive (Maryland and California) and require ordering physicians to have a direct “patient to doctor” relationship to write an order for the blood test. Due to this restriction, it is nearly impossible to conduct a venous blood draw health screening at an employer group in Maryland and California.

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## Pros and Cons of Each Method

### Fingerstick:

#### **PRO:** Accuracy/Precision of Test Results

The Cholestech LDX System is CRMLN certified to measure Total Cholesterol (TC) and HDL Cholesterol (HDL); LSP certified to measure TC, HDL and triglyceride; and meets NCEP total error guidelines. The instrument measures cholesterol within the same bias and accuracy as commercial laboratories.

#### **PRO:** Highest Employee Participation

Most patients consider the fingerstick to be less invasive and traumatic than a venous blood draw. A certain percentage of the workforce is needle phobic and therefore is not as likely to participate in a venous blood draw collection. When health screenings are voluntary, more employees tend to participate in a fingerstick clinic than a venous blood draw clinic. Venous blood draw requires five minutes to perform, thus increasing participant wait time, which may have a negative effect on employee participation as well.

Employee participation in a health screening is critical. According to Dr. Dee Edington, Director of The University of Michigan's Health Management Research Center, research shows that a company needs to obtain 80% employee participation in order to maximize the Return on Investment (ROI) on its Wellness Program.

#### **PRO:** Immediate Results

When the fingerstick is used, the employee receives immediate feedback on their health status. This immediacy allows an employee to use this information in their Health Risk Assessment (HRA), which usually accompanies an onsite health screening.

#### **PRO:** Success in Obtaining Test Specimen

The success rate in obtaining sufficient blood for testing is over 99.9%. Since the fingerstick is less invasive, multiple attempts may be made to obtain the 35  $\mu$ L of blood. For the venous blood draw, the standard protocol is two attempts. The venous blood draw also draws 250 times more blood, 8,500  $\mu$ L per tube drawn. Some tests require as many as three tubes to be drawn, but a majority of venous blood draw screenings requires only two tubes.

**PRO: Timeliness in Counseling**

The health screener can take advantage of the “teachable moment” to counsel the employee on his or her results. The screener provides immediate patient education, communicates the level of risk, and helps the employee select an appropriate plan of action consistent with his or her test results. The employee has an opportunity to ask questions and leaves the screening experience empowered and motivated to make lifestyle changes.

When the Single Station™ screening method is used, the counseling is conducted throughout the 15 minutes of screening time. Additional information on available wellness programs can be presented and reviewed during this counseling, maximizing the benefit to the employee.

**PRO: Timely Identification of High-Risk Employees**

Since the results are available at the health screenings, high-risk employees can be identified immediately and lifesaving actions can be taken at the health screening. Key biometrics of interest are blood pressure and blood glucose. There have been times when employees have been sent directly to their doctor due to their out-of-range results.

**PRO: Overall Employee Experience**

When the fingerstick is used, the employee receives immediate health status feedback and valuable counseling, including health education, level of health risk, and even help in selecting an appropriate plan of action. The employee has an opportunity to ask questions and leaves the screening experience motivated to make lifestyle changes.

**PRO: Return on Investment (ROI)**

The following factors contribute to a higher Return on Investment (ROI) for the fingerstick method:

1. **Increased participation rate** – The higher the participation, the higher the ROI
2. **Immediate results** allow for the “teachable moment” and the ability for the employee to better understand their results and corresponding lifestyle changes that can be made
3. **A higher employee experience** leads to a stronger employee commitment to making the necessary lifestyle changes to improve their health
4. **Immediate care** for high-risk employees

**CON:** More Painful

For many individuals a fingerstick is perceived as more painful than a venous blood draw collection. Although an intimidating needle is used in venous blood draw, when administered properly it may be less painful than a fingerstick. This is because there are more nerve endings in the finger than in the inside elbow area.

**CON:** Perception of Accuracy

The more the employee believes in the test results, the more likely he or she will use it as a basis for making lifestyle changes. There is a perception that a test performed in a laboratory is more accurate than a test being performed in front of the employee at a health fair by a portable instrument. Based on the 2005 comparison study conducted by the Cholestech Corporation in conjunction with three independent commercial laboratories, the Cholestech LDX instrument clearly provides accurate and timely lipid test results that are statistically comparable to commercial lab results regardless of the blood collection method. This perception can be easily changed by providing some educational materials to the employees prior to a health screening event.

**CON:** Number of Tests Supported

The number one disadvantage of the fingerstick method for on-site biometrics is the limited number of tests available. The CLIA-waived biometric tests currently available with the Cholestech LDX System are:

1. Total Cholesterol
2. HDL Cholesterol
3. Total/HDL Cholesterol ratio
4. Triglyceride
5. LDL Cholesterol
6. Blood Glucose
7. ALT & AST – Liver enzymes

Fortunately, because most employer health screening programs require only cholesterol (lipid) and blood glucose measurements, the limited number of available tests is not usually an issue. As technology improves, additional tests will be available for the fingerstick method.

**CON:** Test Measurement Range

The Cholestech LDX tests have a more limited measurement range than those from commercial laboratories. Those patients who fall outside these ranges are unable to receive specific numeric test results during the on-site biometric screening. This can affect as many as 5% of participants in a screening that

includes LDL results, based upon a national survey conducted by the CDC. However, the range limitations of Cholestech LDX instrument are not clinically significant to the interpretation of the participants' results since desirable cut-offs are well within the Cholestech LDX's reportable ranges. In practice, patients who present with any abnormal test results outside of the measurable range of the Cholestech LDX System are referred to their personal physician or the emergency department for additional medical care. Therefore, the biometric screening using the Cholestech LDX instrument with the fingerstick collection method remains successful in identifying the participants' health risk.

The Cholestech LDX instrument reports a "Reaction Did Not Occur" if an individual's hematocrit is out of range, or under certain circumstances affecting blood flow, e.g. dehydration. Hematocrit values outside the range of the Cholestech LDX tests occur in <1% of the general US population according to a national survey conducted by the CDC.

### Venous Blood Draw:

#### **PRO:** Perception of Accuracy

Employees may perceive that tests completed in a laboratory are inherently more accurate, so they are less likely to question the results. The more the employee believes in the test results, the more likely he or she will use it as a basis for making lifestyle changes. Employees may also share their test results with their personal physicians, who may be even more likely to question the legitimacy of results not obtained from a laboratory.

A number of employers are using the biometric screening results for incentives or to determine the premium payment for the health plan. In these situations, it is imperative that the employee believes the test results are accurate. If an employee does not believe the test results, they will be less likely to participate.

#### **PRO:** Number of Tests Supported

Venous blood draw allows for the collection of a larger volume of blood so more tests can be conducted. Laboratories have the equipment and technology to support thousands of different tests that are not currently available using the Cholestech LDX System.

Some of the more popular tests seen in the market include the following:

1. Cotinine (Nicotine)
2. Chemistry Panel (liver, kidney, electrolytes, iron, calcium, creatinine, etc.)



3. Complete Blood Count (CBC)
4. Prostate Specific Antigen (PSA)
5. Thyroid Stimulating Hormone (TSH)

**PRO:** Test Measurement Ranges

The equipment used by laboratories has a wider measurement range than the Cholestech LDX tests. The range for cholesterol and glucose are outline in the Reportable Range table on page 6. This wider range produces significantly fewer “out-of-range” patients for venous blood draw than for fingerstick.

Both the Cholestech LDX and commercial laboratory calculate LDL as discussed in the section “Calculation of Low-density Lipoprotein (LDL)” on page 3, where the calculated LDL is not valid if triglyceride exceeds 400 mg/dL. However, laboratories have the ability to run a “Direct LDL” test in which LDL is measured directly off the blood sample, even if triglyceride is greater than 400 mg/dL. Thus, the screening vendor can request the lab to run a Direct LDL test on those patients with triglyceride over 400 mg/dL, for an additional test fee. This is useful for those employer programs that use LDL results for incentives or to determine the premium payment for the health plan.

**CON:** Timeliness of Test Results

The average time between a venous blood draw and receipt of mailed results is approximately ten business days. Due to this lag, there is no ‘teachable moment’ with the employee, no opportunity to educate, no momentum to motivate. With the absence of counseling on health status and a plan of action, we have observed a lower level of healthy behavior changes among the employee population. The employee also does not receive timely information on wellness programs offered by their employer and the encouragement to enroll.

Waiting for the results from the laboratory negatively impacts the completion of the employee’s health risk assessment. Many employers and wellness providers want the test results from the health screening to be uploaded to the electronic HRA. With the delay, employees may believe their results are no longer valid and should not become the basis for measurement in a wellness program.

**CON:** Risk Associated with Draw

Venous blood draws have a higher risk of medical complications, including bruising (approximately 15 percent of participants), hematoma, infection, and excessive bleeding. The hematoma (blood outside the blood vessels) poses the most significant medical risk to the employee. This usually occurs when the needle goes all the way through the blood vessel.

**CON: Success in Obtaining / Sample Handling Issues**

The individual's physiology can be a challenge to a successful venous blood draw. Veins come in all sizes and configurations. Even a very experienced phlebotomist may have difficulty finding an acceptable vein or obtaining a blood sample. The standard protocol is not to stick the patient more than twice. Approximately 5 percent of an employee population will need to be stuck twice. Forty percent of the "five percent" or 2% of the total employee population will not be able to provide a specimen. In other words, two out of one hundred employees will not have their blood drawn successfully.

The blood specimens are centrifuged at the site to separate the cells from the serum, and then shipped overnight to a laboratory for processing using a service such as Federal Express or UPS. With these services, there is always a small risk that sample handling issues may arise. Examples of sample handling issues include but are not limited to: missing/lost specimens in transit, lab accidents where specimens may be broken or damaged, or specimens may become hemolyzed due to inappropriate storage temperatures or other factors. In addition, once the specimens arrive at the laboratory there is also a small chance they can be misplaced or the employee name incorrectly associated with the specimen.

**CON: Employee Participation**

Fear of needles and blood may keep employees from participating in health screenings and thereby missing out on potentially lifesaving information. Experience has shown that a venous blood draw health screening will attract 20% fewer participants than a fingerstick screening.

**CON: Regulatory Restriction**

Due to strict state regulations, venous blood draw screenings cannot be conducted in Maryland and California. Most states require an order from a licensed physician. All moderate- and high-complexity laboratory regulations require a physician medical order prior to performing phlebotomy and laboratory testing.

**CON: Variability in Collection / Processing**

Cholesterol concentrations have been found to increase an average of 10–15% after a tourniquet was applied for five minutes. Increases of 2–5% have also been observed after only two minutes. Standard protocol is to remove the tourniquet after one minute.

The reliability of the laboratory results can be altered by blood sample temperatures (both hot and cold) and how the blood is handled after the draw.

If the blood is not centrifuged correctly to ensure the cells are separated from the serum, the specimen can degrade over time. For example, in a specimen that is not spun correctly, the glucose can degrade by 8% for every hour elapsed until lab processing. Venous blood draw samples drawn at an on-site health screening are shipped overnight to a lab. This 24-hour delay in processing the samples may add variability to the results.

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## Summary

As more companies implement on-site biometric health screenings, the question of which method fingerstick or venous blood draw method to choose is heard more often. Both methods have the same accuracy of results when the Cholestech LDX System is used for fingerstick testing. This answer is dependent on the company’s wellness program goals and objectives. With all things being equal, the fingerstick method may be preferred due to the following advantages:

1. Results are available to the employee at the health screening
2. With results available, employees can be counseled at the health screening. This *Teachable Moment* is the highest value-added service within the health screening.
3. High-risk employees are identified immediately at the health screening and informed about next steps
4. Higher employee participation rates
5. Higher Return on Investment (ROI)

With that being said, the venous blood draw method is preferred when:

1. More blood tests other than cholesterol and glucose are required
2. The perception of accuracy of the fingerstick method cannot be overcome
3. The limitation of fingerstick reportable ranges is a significant concern

Below is a table that gives an overview of the advantages of each method. The check in a cell designates the advantage goes to that method.

Category	Fingerstick	Venipuncture
Accuracy/Precision Test Results	✓	✓
Perception of Accuracy/Precision Test Results		✓
# of Tests Supported		✓
Test Measurement Range		✓



Category	Fingerstick	Venipuncture
Employee Participation	✓	
Timeliness of Test Results	✓	
Success in obtaining test sample	✓	
Timeliness of Counseling	✓	
Risks Associated with Draw	✓	
Timely Identification of High-Risk Results	✓	
Overall Employee Experience	✓	
Return on Investment (ROI)	✓	

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## About Summit Health

Founded in 1999, Summit Health is the nation's highest-rated provider of on-site wellness programs, including health screenings, immunizations, coaching, and educational seminars. This focus on quality of service has earned Summit Health customers who include all the leading health plans and over 80 Fortune 500 companies. Summit Health supports companies of all sizes, in every zip code. Summit Health differentiates itself through excellence in

1. Program Management
2. Nationwide Network
3. Participant Experience
4. Regulatory Compliance
5. Quality and Accuracy of Screening
6. Data Collection, Analysis, and Reporting
7. Simplified Pricing
8. Health Claims Processing

Contact Summit Health today for information on our affordable On-Site Single Station (SM) health screening and wellness programs:

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- Cholesterol
- Diabetes
- Blood Pressure & Pulse Rate
- Body Mass Index (BMI)

- Body Composition
- Waist to Hip Ratio
- Bone Density
- Therapeutic Massage
- Skin Condition
- Eye Test
- Pulmonary Assessment/ COPD
- Fitness Assessment
- Cotinine (Nicotine)
- 1,000+ Additional Lab Tests

For more information go to [www.summithealth.com](http://www.summithealth.com) or call 248.799.8303.

**About the author:** Richard Penington, President, CEO and founder of Summit Health, the nation's largest provider of on-site wellness services for employers, speaks out on which blood draw method is better. For over a decade, Richard has led the on-site wellness industry with the development of novel approaches for efficient delivery, quality, flawless customer experience, simplified pricing, and data integration — all hallmarks of Summit Health. In this special report, Richard explains how to determine which method is best for your employees. Mr. Penington earned BS and MS degrees in engineering from Purdue University and an MBA from the Harvard Business School.

