



# LABORATORY SPECIMEN ID REPORT

JANUARY 2019



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# EXECUTIVE SUMMARY

Hospital laboratories perform an essential role in diagnostics, providing a majority of clinical test findings that determine patients' treatment options. A recent report found that 60 to 70 percent of treatment options are determined by lab results.<sup>1</sup> With large specimen volumes passing through laboratories on a daily basis, laboratories are at risk for labeling errors. According to a study published in the Archives of Pathology and Laboratory Medicine, specimen labeling errors account for **55.5%** of identification errors in the lab.<sup>2</sup>

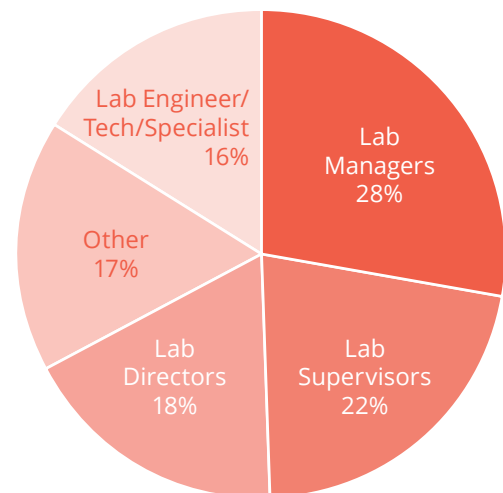
The purpose of this report is to delve deeper into this pervasive problem, analyze key trends that may have changed since our 2017 Lab Specimen Report, and communicate laboratory concerns as they relate to specimen labeling errors throughout hospital facilities in the United States. Four key conclusions recur across our survey findings: 1) specimen errors and specimen labeling errors are a key concern for labs; 2) improper specimen collection/handling is the most common lab specimen error; 3) human error and distractions are the top cause for errors; and 4) barcoding usage for specimens is inconsistent.

An online survey was sent out by TechValidate on behalf of PDC to **3,505** laboratory contacts from acute hospitals. **1,249** responses from **208** respondents yielded an overall **5.9%** response rate.

## SURVEY DEMOGRAPHIC

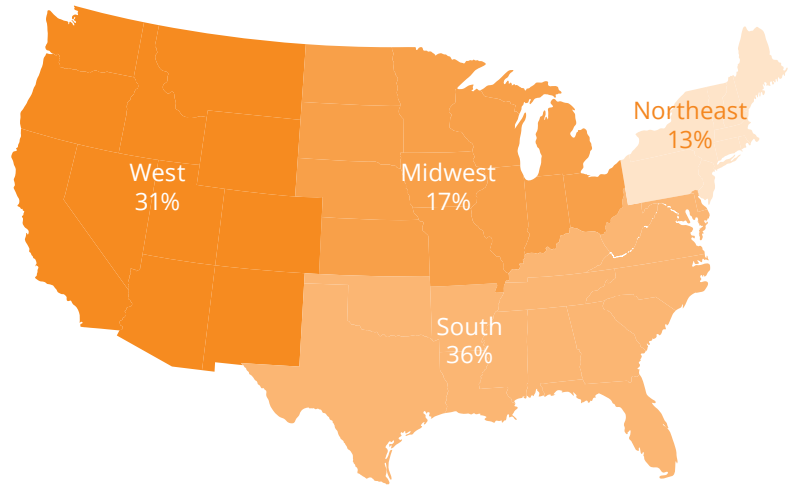
### JOB TITLE

TITLE	# OF RESPONDENTS	%
■ Lab Manager	58	28%
■ Lab Supervisor	45	22%
■ Lab Director	37	18%
■ Other	35	17%
■ Lab Engineer/ Tech/Specialist	33	16%
<b>TOTAL</b>	<b>208</b>	



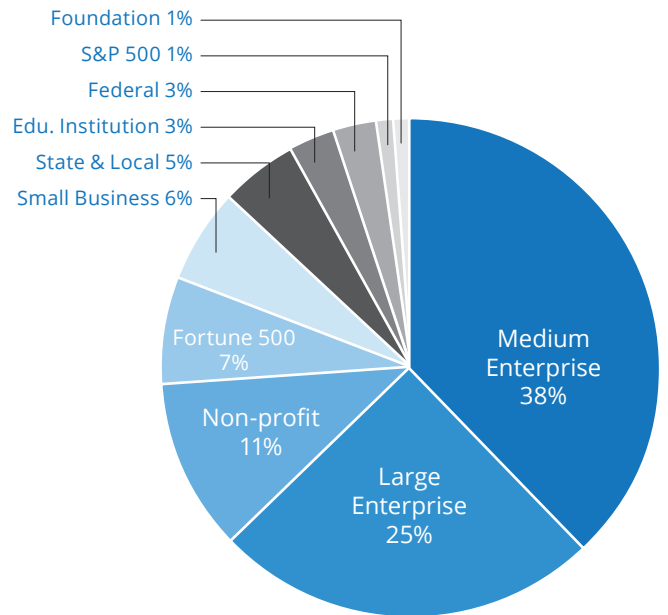
## REGION

REGION	# OF RESPONDENTS	%
■ South	75	36%
■ West	65	31%
■ Midwest	35	17%
■ Northeast	27	13%
□ NA	06	03%
<b>TOTAL</b>	<b>208</b>	



## ORGANIZATION SIZE

ORGANIZATION	# OF RESPONDENTS	%
■ Medium Enterprise	79	38%
■ Large Enterprise	53	25%
■ Non-Profit	22	11%
■ Fortune 500	14	07%
■ Small Business	13	06%
■ State & Local	10	05%
■ Educational Institution	07	03%
■ Federal	07	03%
■ S&P 500	02	01%
■ Foundation	01	00%
<b>TOTAL</b>	<b>208</b>	





# LABORATORY PRIORITIES

## IMPROVING PATIENT SAFETY & REDUCING SPECIMEN ERRORS ARE TOP PRIORITIES FOR LABS

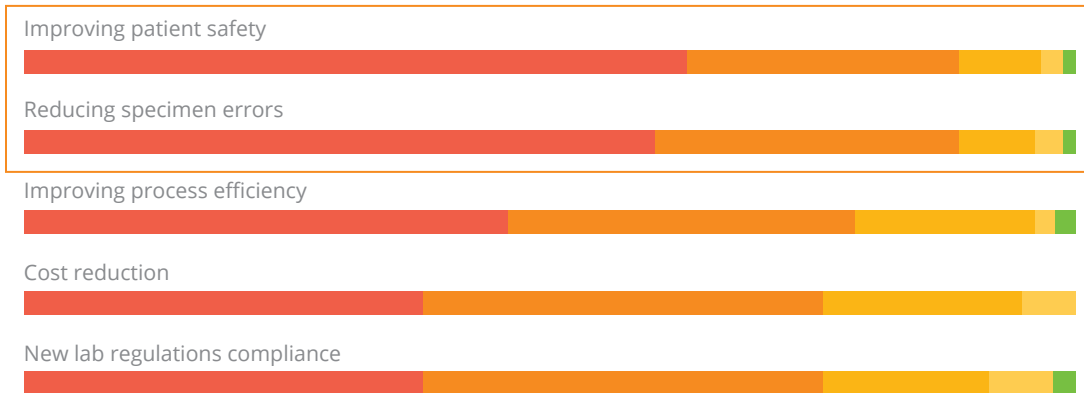
When asked to rate the priority level for specific initiatives, laboratory contacts ranked improving patient safety and reducing specimen errors as top priorities for a consecutive year, with percentages marginally increasing over 2017.

Approximately **63%** of lab contacts responded that improving patient safety is an essential priority, and **60%** responded that reducing specimen errors is essential as well. Improving process efficiency, cost reductions, and compliance with new lab regulations were also high priorities for surveyed labs in 2018.

### LEVEL OF PRIORITY FOR LABORATORIES IN 2018

For each item below, please rate the level of priority it has for your laboratory in 2018.

■ Essential
 ■ High priority
 ■ Medium priority
 ■ Low priority
 ■ No priority



Source: TechValidate survey of 129 users of PDC Healthcare Laboratory Labels. Published Dec. 6, 2018  
 TVID: A57-119-FD1

# TOP LABORATORY REGULATORY CONCERNS

## PAMA & CAP ARE MOST CONCERNING TO LABORATORIES

When asked to think about recent or new hospital laboratory regulations or compliance requirements, the top two regulatory concerns for all surveyed lab contacts are reimbursement challenges due to PAMA (Protecting Access to Medicare Act) and requirements released by CAP (The College of American Pathologists). Concerns associated with IQCP (Individualized Quality Control Plan) and patient identifiers were still cited in 2018, but no longer remained top concerns like in 2017.

For hospital and health system labs, PAMA sustainably reduces Medicare payment for high-volume diagnostic laboratory tests, which has a significant impact on laboratory margins and reimbursements. Many surveyed lab contacts expressed their concern that with reduced reimbursements, labs may not be able to afford the personnel or technology to remain compliant.

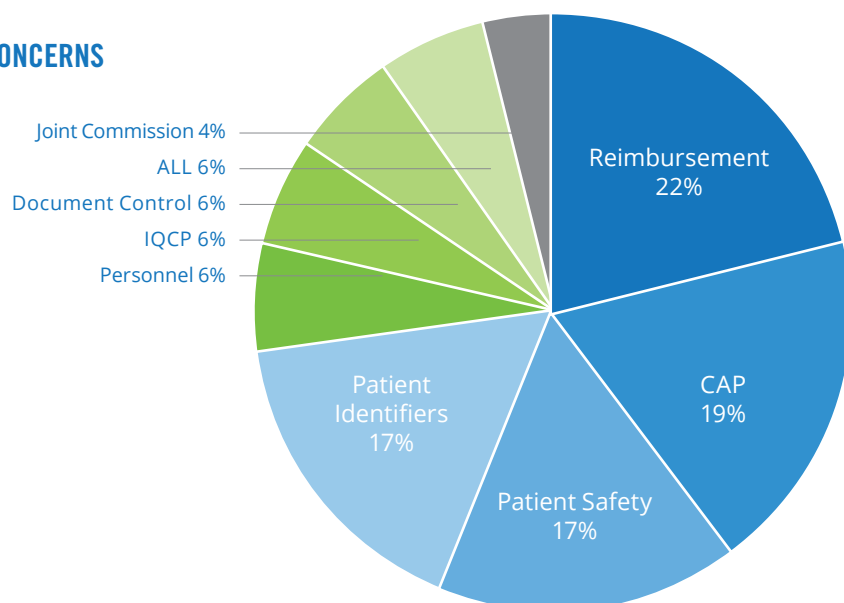
Additionally, laboratory contacts are concerned with the current and upcoming release of the Laboratory Accreditation Program checklists by CAP. The checklists contain approximately 3,000 requirements that are used during laboratory accreditation inspections to help labs stay in compliance with CMS regulations.

Additionally, laboratory contacts are concerned with patient safety and reducing specimen labeling errors by properly identifying patients by labeling specimens with two unique patient identifiers per Joint Commission's Laboratory National Patient Safety Goals.

By identifying potential sources of specimen errors and implementing an Individualized Quality Control Plan, as well as using two patient identifiers, labs reduce the probability of specimen-related errors from occurring.

### TOP LABORATORY REGULATORY CONCERNS

- Reimbursement | 22%
- CAP | 19%
- Patient Safety | 17%
- Patient Identifiers | 17%
- Personnel | 6%
- IQCP | 6%
- Document Control | 6%
- ALL | 6%
- Joint Commission | 4%

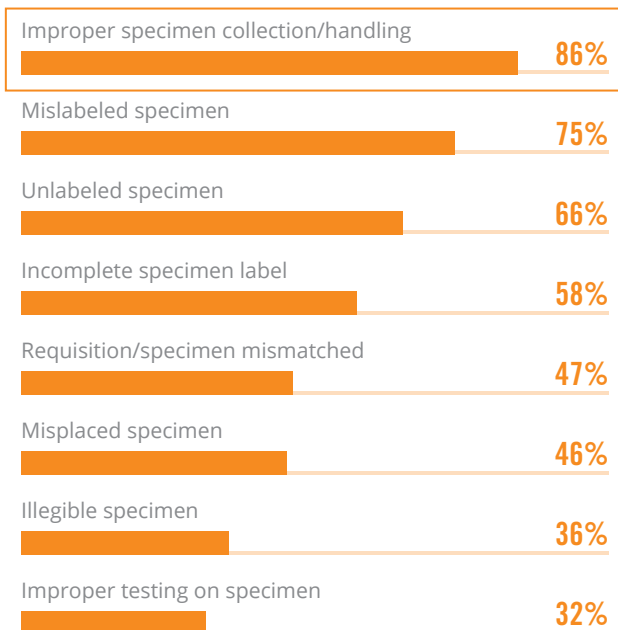


# TYPES OF LABORATORY SPECIMEN ERRORS

## IMPROPER SPECIMEN COLLECTION & HANDLING IS THE MOST COMMON SPECIMEN ERROR

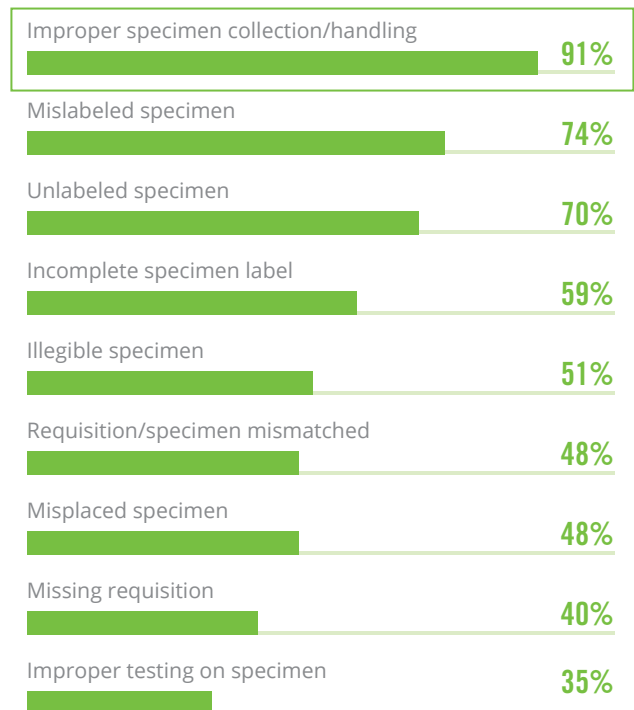
When asked which of the following types of specimen errors laboratories have experienced, improper specimen collection and handling made the top of the list again in 2018, affirming that this is a reoccurring prevalent issue that needs attention. After analyzing our data, we found that many specimen errors related to inadequate labeling practices. The four most common errors were identical to those reported in 2017, and the percentages varied from 1 – 4%, except for illegible labels, which rose considerably from **36%** in 2017. Mislabeled specimens were the most common error, cited by **74%** of respondents, unlabeled specimens made up **70%** of errors, incomplete specimen labels were associated with **59%** of specimen errors, and illegible labels related to **51%** of lab specimen errors.

### 2017 ALL RESPONDENTS TYPES OF SPECIMEN ERRORS EXPERIENCED



Source: TechValidate survey of 158 users of PDC Healthcare Laboratory Labels. Published March 10, 2017.  
TVID: 79C-386-172

### 2018 ALL RESPONDENTS TYPES OF SPECIMEN ERRORS EXPERIENCED



Source: TechValidate survey of 132 users of PDC Healthcare Laboratory Labels. Published Mar. 21, 2018  
TVID: C70-A97-B4C



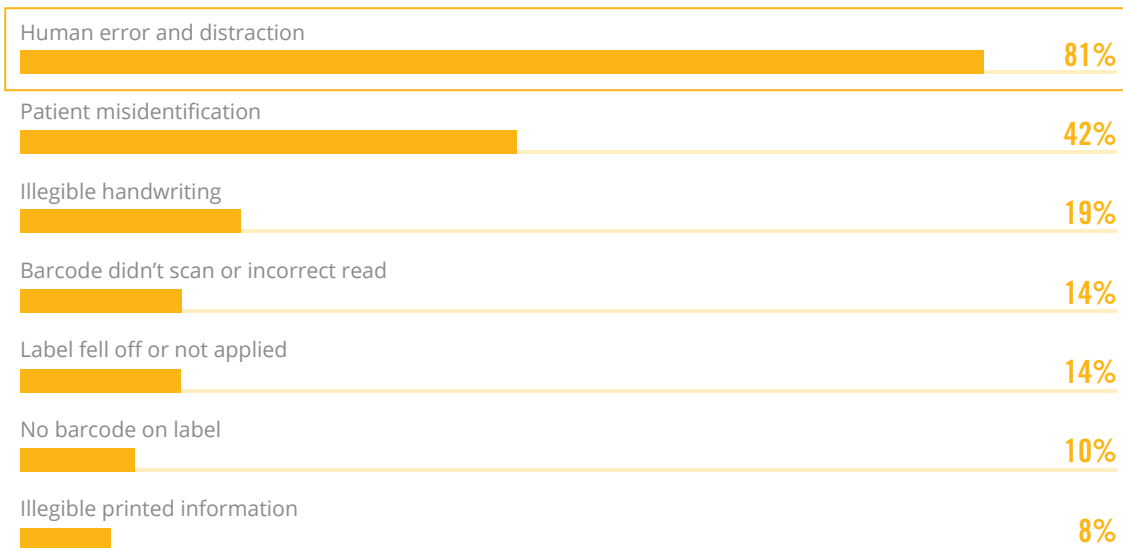
# CAUSES OF SPECIMEN LABELING ERRORS

## HUMAN ERROR & DISTRACTION IS THE TOP CAUSE OF SPECIMEN LABELING ERRORS

When asked what the top causes of specimen labeling errors are for their laboratories, human error and distraction topped the list again and was cited by **81%** of lab professionals. Although down from **94%** the prior year, human error and distraction persist and are a pervasive cause of specimen labeling errors.

The remainder of the responses can be attributed to patient misidentification and illegible information or barcodes on specimen labels.

### TOP CAUSES OF SPECIMEN LABELING ERRORS



Source: TechValidate survey of 124 users of PDC Healthcare Laboratory Labels.

## VIDEO TIP

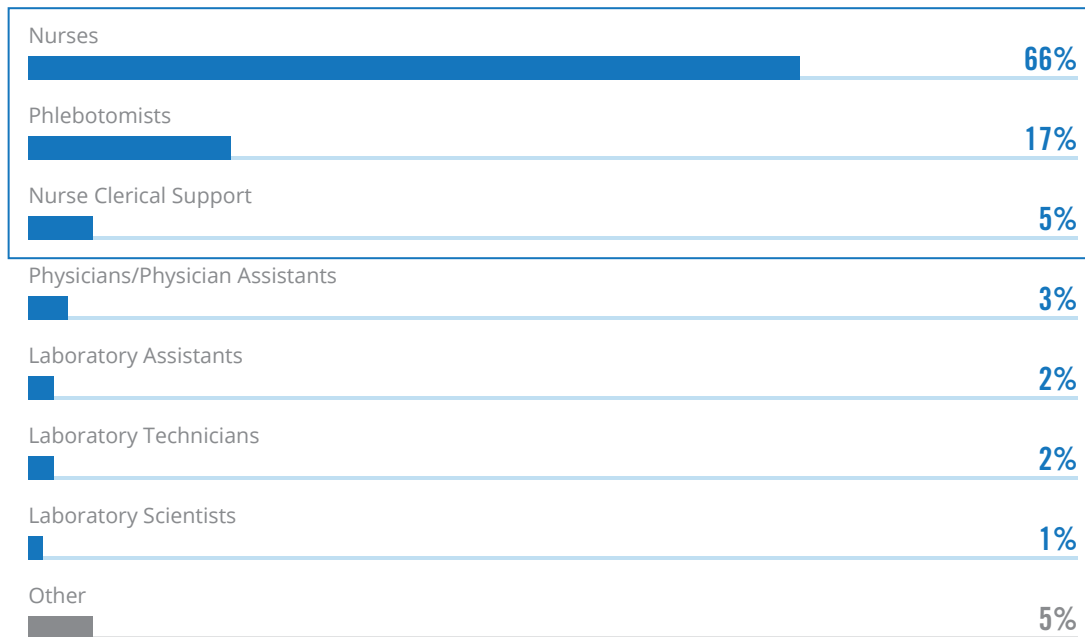
[VIEW HOW TO PROPERLY APPLY SPECIMEN LABELS](#)

# SPECIMEN ERROR CONTRIBUTORS

## NURSES CITED AS THE PRIMARY CONTRIBUTOR TO MOST SPECIMEN-RELATED ERRORS

When asked which personnel groups are the leading contributors to the specimen errors that their laboratory has experienced, an overwhelming majority (**66%**) of lab professionals cited that specimen errors are attributed most often with nurses. According to multiple studies, specimen labeling errors are most prevalent, accounting for up to **75%** of all lab errors, in the pre-analytical phase (the phase occurring before the sample is brought to the laboratory or analyzed).<sup>3</sup> Nurses operate in a highly demanding environment; conducting blood draws at patients' bedsides, which often lends itself to frequent interruptions and distractions that may impede proper specimen collection and handling. The hectic environment, employee turnover, and inadequate specimen labeling training could be potential reasons nurses may contribute to a higher number of specimen-related errors.

### LEADING CONTRIBUTOR TO LABORATORY SPECIMEN ERRORS



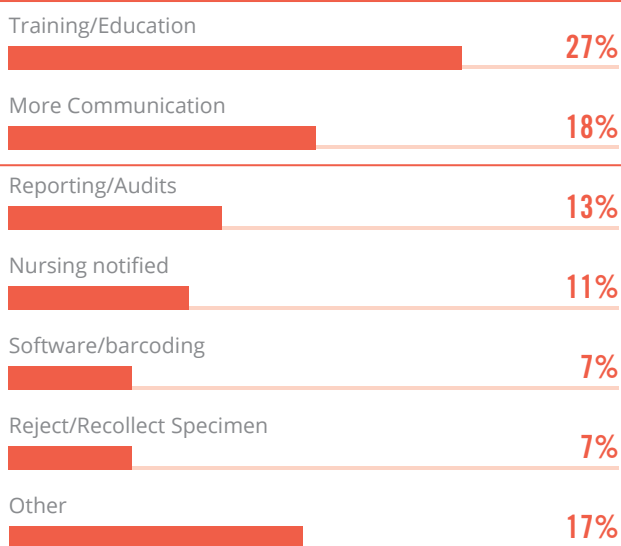
Source: TechValidate survey of 127 users of PDC Healthcare Laboratory Labels. Published Jan. 21 2019  
TVID: D08-670-11F

# HOW THE LAB ADDRESSES ERRORS WITH OTHER DEPARTMENTS

## TRAINING AND EDUCATION ARE ESSENTIAL FOR ADDRESSING SPECIMEN ERRORS

When asked how their laboratory has addressed specimen errors with other departments in their hospital, the responses varied. However, **27%** of responses cited training and education as the predominant course of action when addressing specimen errors, followed by **18%** reporting that an increase in communication with other departments is vital.

### ADDRESSING COMMUNICATION FOR SPECIMEN ERRORS



MICHAEL NOMURA, Laboratory Supervisor, St. Vincent Medical Center

*"We've mainly used education of proper phlebotomy for specimen errors, such as drawing the wrong patient, or drawing the specimen in the wrong tube. We explained that the nurse needs to identify the patient correctly then read what the label of the specimen says to draw, as all of our labels state the tube type to draw so there is no confusion at all as to specimen type."*

HEIDI MARKAR, Laboratory Manager, Kindred Healthcare, Inc.

*"Constant re-education of proper labeling of specimens."*

**DOWN  
LOAD**

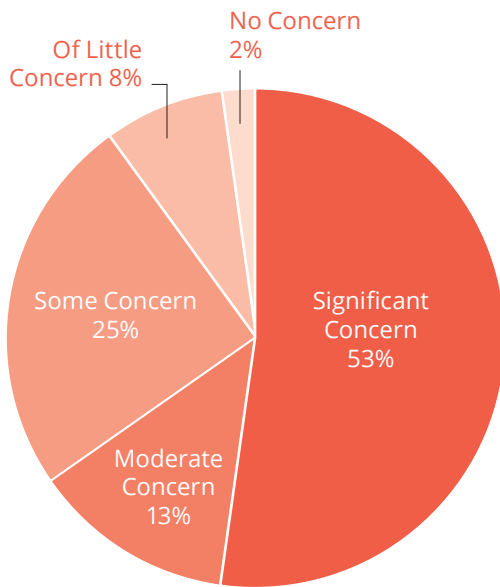
THE BEST  
DRESSED LAB  
TUBE POSTER

# SPECIMEN LABELING ERROR CONCERNS

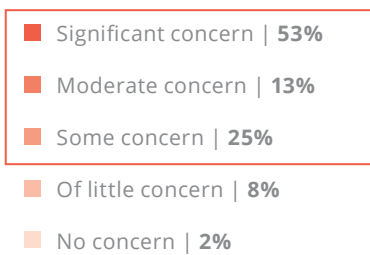
When asked how much of a concern specimen labeling errors are for their laboratory, **91%** of lab contacts found specimen labeling errors to be a concern. Additionally, over half of lab contacts surveyed claimed that specimen labeling errors are a significant concern for their labs, with an astounding **92%** of Lab Supervisors confirming these findings.

Specimen labeling errors continue to be a significant area of concern for lab professionals, yielding nearly identical findings to those of 2017.

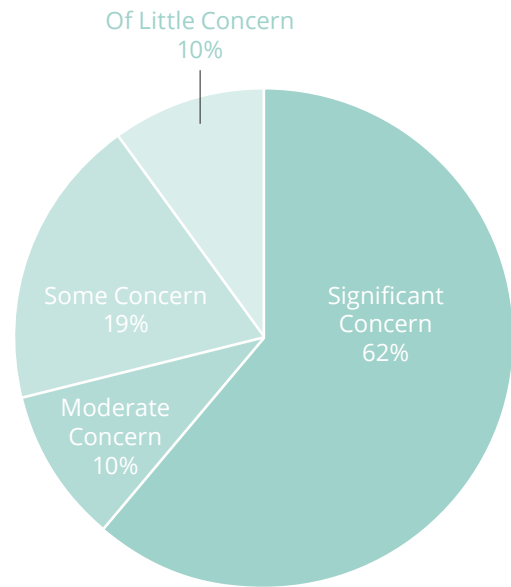
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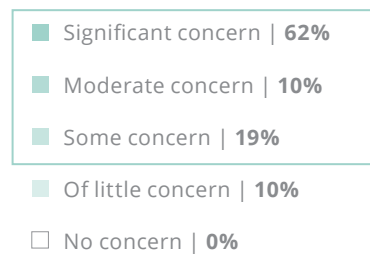
**ALL RESPONDENTS**  
SPECIMEN LABELING ERROR LEVEL OF CONCERN



Source: TechValidate survey of 130 users of PDC Healthcare Laboratory Labels. Published Dec. 6, 2018 TVID: A58-641-E8E



**LAB SUPERVISORS**  
SPECIMEN LABELING ERROR LEVEL OF CONCERN



Source: TechValidate survey of 21 users of PDC Healthcare Laboratory Labels. Sample comprised of Laboratory Supervisors at organizations. Published: Jan. 21, 2019 TVID: D59-F77-7A4

# BARCODE SCANNING OF SPECIMENS

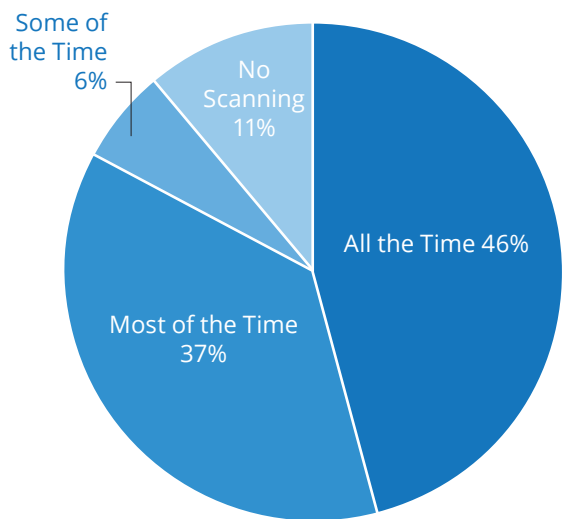
## CONSISTENT BARCODE SCANNING OF SPECIMENS IS ESSENTIAL FOR PATIENT IDENTIFICATION & SAFETY

When asked if their hospitals scan barcodes on laboratory specimens for patient identification, an average of only **46%** laboratory contacts claimed that they consistently scan barcodes, while an overwhelmingly **43%** use barcoding inconsistently, and **11%** never scan barcodes for lab specimens. This means **54%** of barcoding is either inconsistent or nonexistent.

When isolating Laboratory Supervisors, the results are even more concerning. Only **33%** of Lab Supervisors indicated that their hospital scans barcodes all the time. This means that **67%** of Lab Supervisors think that staff are not scanning barcodes consistently or at all.

These results are consistent with those of 2017's and show little improvement; making them more troubling since numerous studies, including the CDC's Laboratory Medicine Best Practices policy, conclude that effective and consistent barcoding significantly reduces specimen identification errors.

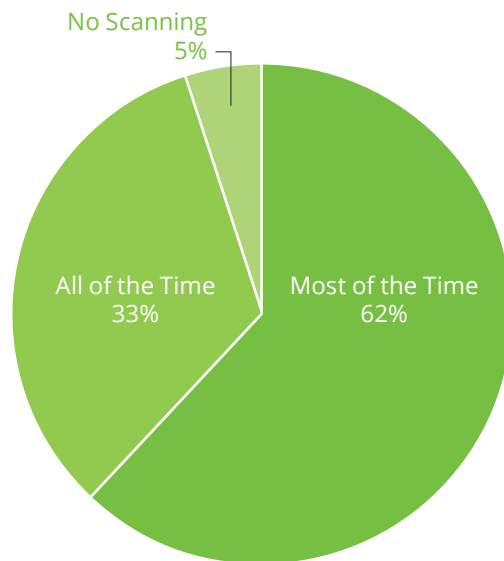
**TIP**  
 READ WHY BLOOD TUBE LABEL ALIGNMENT MATTERS



**ALL RESPONDENTS**  
 BARCODE SCANNING FREQUENCY

- Yes, all the time | **46%**
- Yes, most of the time | **37%**
- Yes, some of the time | **6%**
- No, no barcode scanning for lab specimen | **11%**

Source: TechValidate survey of 127 users of PDC Healthcare Laboratory Labels. Published Jan 21, 2019 TVID: E67-019-EA1



**LAB SUPERVISORS**  
 BARCODE SCANNING FREQUENCY

- Yes, most of the time | **62%**
- Yes, all of the time | **33%**
- No, no barcode scanning for lab specimen | **5%**
- Yes, some of the time | **0%**

Source: TechValidate survey of 21 users of PDC Healthcare Laboratory Labels. Sample comprised of Laboratory Supervisors at organizations. Published Jan 21, 2019 TVID: 953-6B3-4F1

# CONCLUSION

Based upon the data of this survey, it's apparent that specimen labeling errors remain problematic, and a pronounced concern for laboratory management with little improvement noted between 2017 and 2018. Specimen labeling errors continue to threaten all healthcare facilities, no matter the size or the amount of specimens processed. No laboratory is immune to the risks and consequences resulting from specimen labeling errors.

Improving patient safety and reducing specimen errors continue to be top priorities among laboratories, with **91%** of surveyed labs affirming specimen labeling errors are a key concern for their laboratories. Mislabeled, unlabeled, incomplete, misaligned, and inconsistent bar coding can jeopardize your laboratory by compromising patient safety, increasing lab and hospital costs, and wasting valuable staff time and resources. Shedding light on such a vital and prevalent issue will help your facility gain awareness, so tools can be employed to help reduce specimen labeling errors and protect your patients' safety.



## THE PATH FORWARD

PDC is committed to working with our customers to publish a series of helpful articles and videos for best practices in specimen labeling to address widespread concerns and help educate laboratory personnel on ways to prevent and reduce specimen labeling errors.

PDC would like to thank those who participated in our Laboratory survey.

To learn more, visit [www.pdchealthcare.com/lab](http://www.pdchealthcare.com/lab) or read our blog at [blog.pdchealthcare.com](http://blog.pdchealthcare.com).

Sign up today for our newsletter to get best practices, helpful tips, and timely articles curated specifically for hospital laboratories to help you reduce errors and improve patient safety and workflow efficiency.

**SIGN UP TODAY**

# REFERENCES

- <sup>1</sup> Martin, H., Metcalfe, S. & Whichello, R. (June 2015). Specimen labeling errors: A retrospective study. *Online Journal of Nursing Informatics (OJNI)*, 19 (2), Available at <http://www.himss.org/ojni>
- <sup>2</sup> "Identification Errors Involving Clinical Laboratories: A College of American Pathologists Q-Probes Study of Patient and Specimen Identification Errors at 120 Institutions," *Archives of Pathology and Laboratory Medicine*, 2006; Vol. 130, No. 8: 1106-1113
- <sup>3</sup> <https://www.himss.org/specimen-labeling-errors-retrospective-study> 4 <https://www.cms.gov/Regulations-andGuidance/Legislation/CLIA/Downloads/CLIAbrochure13.pdf>

## ABOUT PDC

With more than six decades of experience, PDC is a trusted leader in identification and patient safety solutions. Over 90% of hospitals rely upon PDC products today. Our extensive portfolio of identification solutions ensures positive patient identification, reduces medical errors, and helps reduce risk. PDC's wristbands, labels, and patient safety solutions also help organizations improve workflow efficiencies and fiscal performance, while maintaining compliance with important patient safety regulations.

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