# EXPLORING DIAGNOSTIC ACCURACY IN CANCER:

## A NATIONWIDE SURVEY OF 400 LEADING CANCER SPECIALISTS

**Exploring Diagnostic Accuracy in Cancer:**
**A Nationwide Survey of 400 Leading Cancer Specialists**

## Purpose

Published studies indicate misdiagnoses occur anywhere from 15% to 28% of the time, according to *The American Journal of Medicine* and *BMJ Quality and Safety* respectively. The reasons for these misdiagnosis rates are manifold; root causes of diagnostic errors are thought to range from fragmented medical records and time-strapped doctors simply not having enough time with patients, to errors in pathology interpretation, patients not knowing or sharing important pieces of their family medical history, and an inflexible adherence to protocols.

Aside from the obvious health repercussions associated with misdiagnosed conditions, considerable cost issues represent another significant consequence. Seven hundred billion dollars are wasted in the U.S. medical system each year, according to Thomson Reuters. This translates into roughly one-third of the nation's total health care spending – countless billions of which are tied to diagnostic error. As such, it is crucial that diagnostic accuracy begins to receive the significantly increased attention it merits – from policymakers, hospitals, patients, and dedicated physicians alike.

While a modest number of studies address individual elements of misdiagnosis, there remains a shortage of published perspective from physicians that examines diagnostic accuracy more broadly, and that sheds light on major factors impacting diagnostic accuracy across a discipline. Given that over 1.6 million new cancer cases in the U.S. are projected to occur in 2013, according to the American Cancer Society, this lack of physician perspective on diagnostic accuracy may be said to be of particular import in the cancer arena.

To this end, in efforts to draw attention to physicians' valuable perspective on the tools needed to improve diagnostic accuracy rates in cancer cases, the National Coalition on Health Care and Best Doctors conducted a joint survey in late 2012 on the issue. The "Exploring Diagnostic Accuracy in Cancer" survey's purpose was to solicit subjective responses about misdiagnosis from cancer-related specialists nationwide, focusing on several key items:

- ➢ How often participating doctors believe misdiagnoses occur;
- ➢ What physicians feel are the most significant barriers to accurately and completely diagnosing and characterizing cancers;
- ➢ The tools doctors feel would help them best combat misdiagnosis;
- ➢ Which types of cancer doctors believe are most often misdiagnosed;
- ➢ What issues physicians believe most often lead to errors in interpretation of pathology specimens; and
- ➢ Which actions doctors believe would most add to increasing the availability of data on misdiagnosis.

For purposes of the survey, "misdiagnosis" was defined as the incorrect assessment of a patient's illness type or stage.

Participating in this survey were 400 pathologists, medical oncologists and surgical oncologists from Best Doctors' physician database, audited and certified by Gallup®, and ranked by impartial peer review within the best five percent of their specialties. Responses received from the survey's 400 participating physicians represent nationwide perspective from some of the best minds in medicine on this important issue; doctors from 41 states and the District of Columbia are represented in survey responses.

## Key Findings

➢ The largest portion of physicians (38.5%) named "fragmented or missing information across medical information systems" as the most significant barrier to accurately and completely diagnosing and characterizing cancer. Does this speak to the growing need for formally implementing much more cohesive, precise medical records and record-keeping, and a needed shift from outdated paper files to standardized electronic medical records? Quite possibly.

➢ A thought-provoking finding of the survey related to whether time-pressed physicians may underestimate how frequently misdiagnoses occur in today's overburdened health care system. When participating doctors were asked how often they would estimate misdiagnoses/incomplete characterizations occur in oncology, the majority (60.5%) estimated zero to 10% of the time, while another 33.3% estimated 10-20% of the time. Only 4.8% believed misdiagnoses occur 20-30% of the time, and 1.5% estimated 30-40% of the time. (Zero guessed 40-50% of the time.) Interestingly, these numbers counter published studies which show misdiagnosis rates in general reaching up to 28%, and up to 44% for some types of cancer, according to the *Journal of Clinical Oncology*.

➢ In response to the question "What action would you say would most add to increasing the availability of data on misdiagnosis?" the most respondents (29%) called for incentives for hospitals from lawmakers to participate on confidential misdiagnosis data gathering and reporting – an interesting result, and one which appears to seek greater involvement from policymakers and lawmakers in efforts to address misdiagnosis as a public health issue. "Confidential reporting/data sharing on misdiagnosis as part of hospital accreditation" was next with 24.8%, while 23% called for "increased funding from NIH or other sources for the study of misdiagnosis," 16.5% favored "establishing a voluntary misdiagnosis reporting system," and 6.8% cited "a greater number of national events and conferences devoted to misdiagnosis."

➢ When asked what types of cancer conditions physicians believe are most often misdiagnosed or mischaracterized, 21 conditions were named. Leading the top five misdiagnosed cancer conditions by a considerable margin was Lymphoma, followed by Breast Cancer, Sarcomas, Melanoma, and Cancer of Unknown Primary Site.

➢ A notable finding in the survey related to pathology. When asked what tools or technology physicians' hospitals or offices believe would most help improve diagnostic accuracy rates in cancer cases, the most respondents (36%) called for "new or improved pathology tools or resources." This is in line with Best Doctors' own medical case data, which show patients' initial pathology interpretation often requiring changes or improvements. In second place was "new or more readily accessible resources for tumor genetic testing" (17.8%), followed by "new or improved radiology tools and resources" (15%), "nationally integrated electronic medical records" (14%), "increased availability of remote consultations" (11%), and "computerized decision support tools" (6.3%).

➢ The cause leading to the most errors in interpretation of pathology specimens was said by the largest portion (47%) of responding physicians to be "pathologist's lack of subspecialty expertise." This finding is key to note, in that it raises the question of whether there could be an overgeneralization among pathologists, but at the same time the industry is noting an ever-growing number of specialty areas among physicians as a whole.

The incidence of diagnostic errors in general practice is unknok n, although a number of studies have tried to provide estimates. How often would you estimate misdiagnoses/incomplete characterizations occur in oncology?
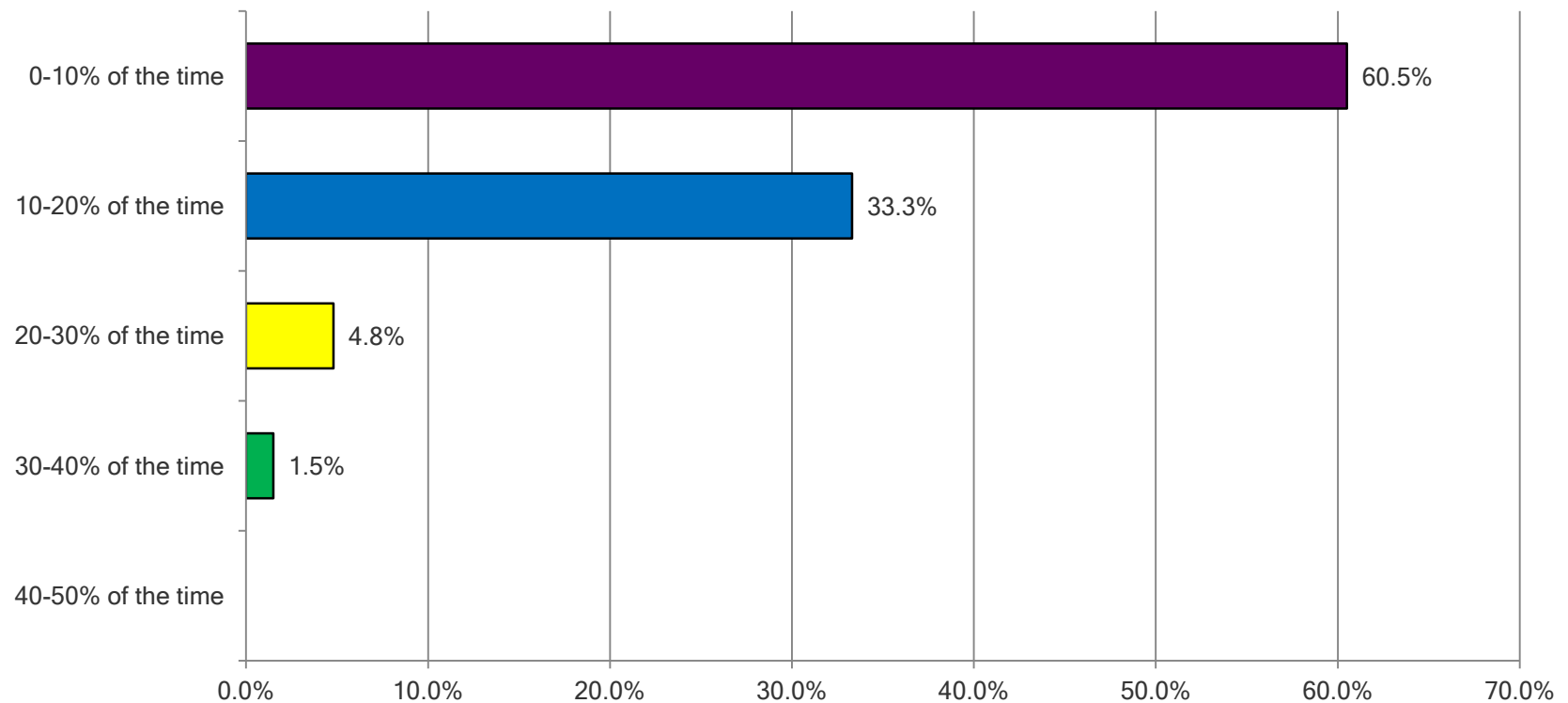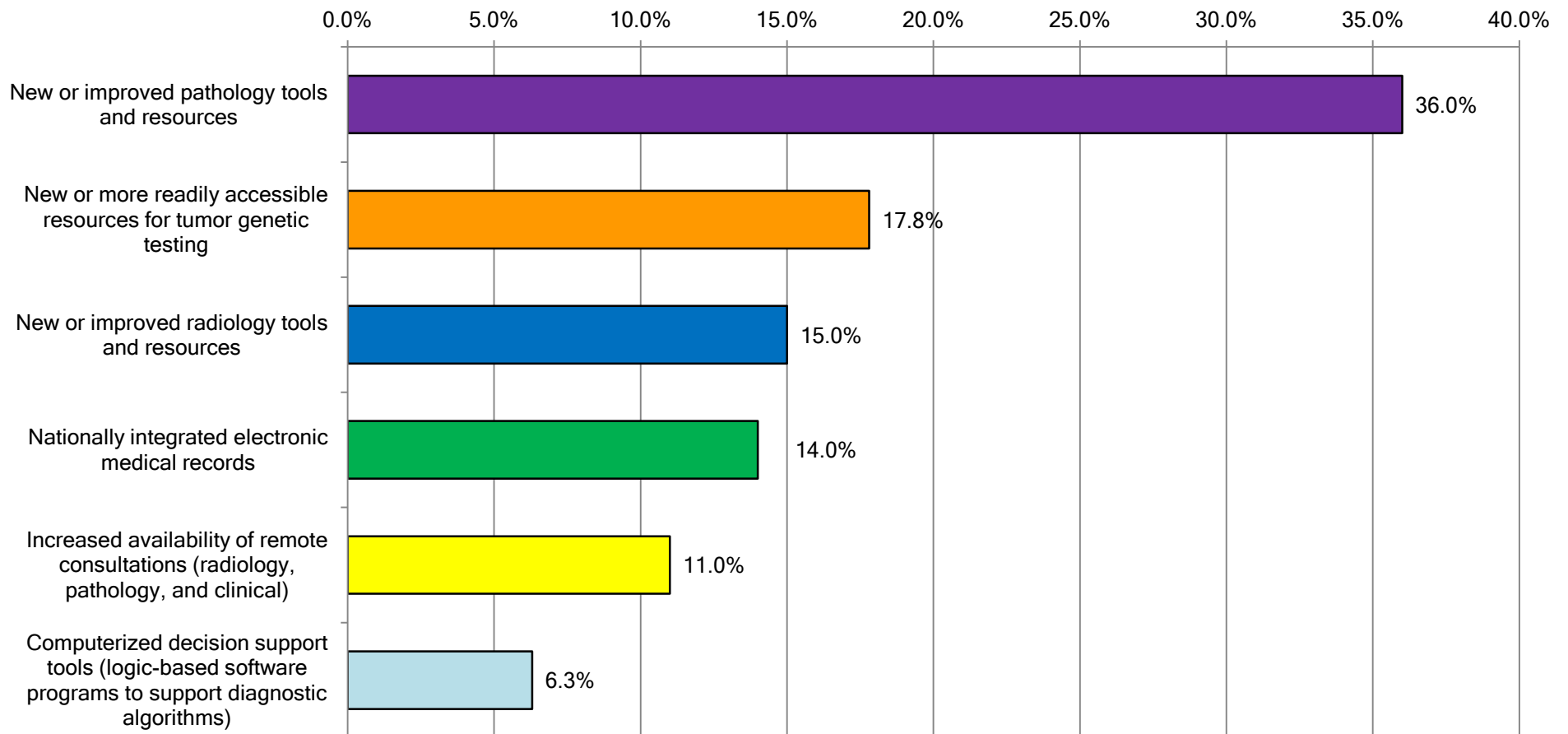
# Of the choices below, which would you say is the most significant barrier to accurately and completely diagnosing and characterizing cancers?
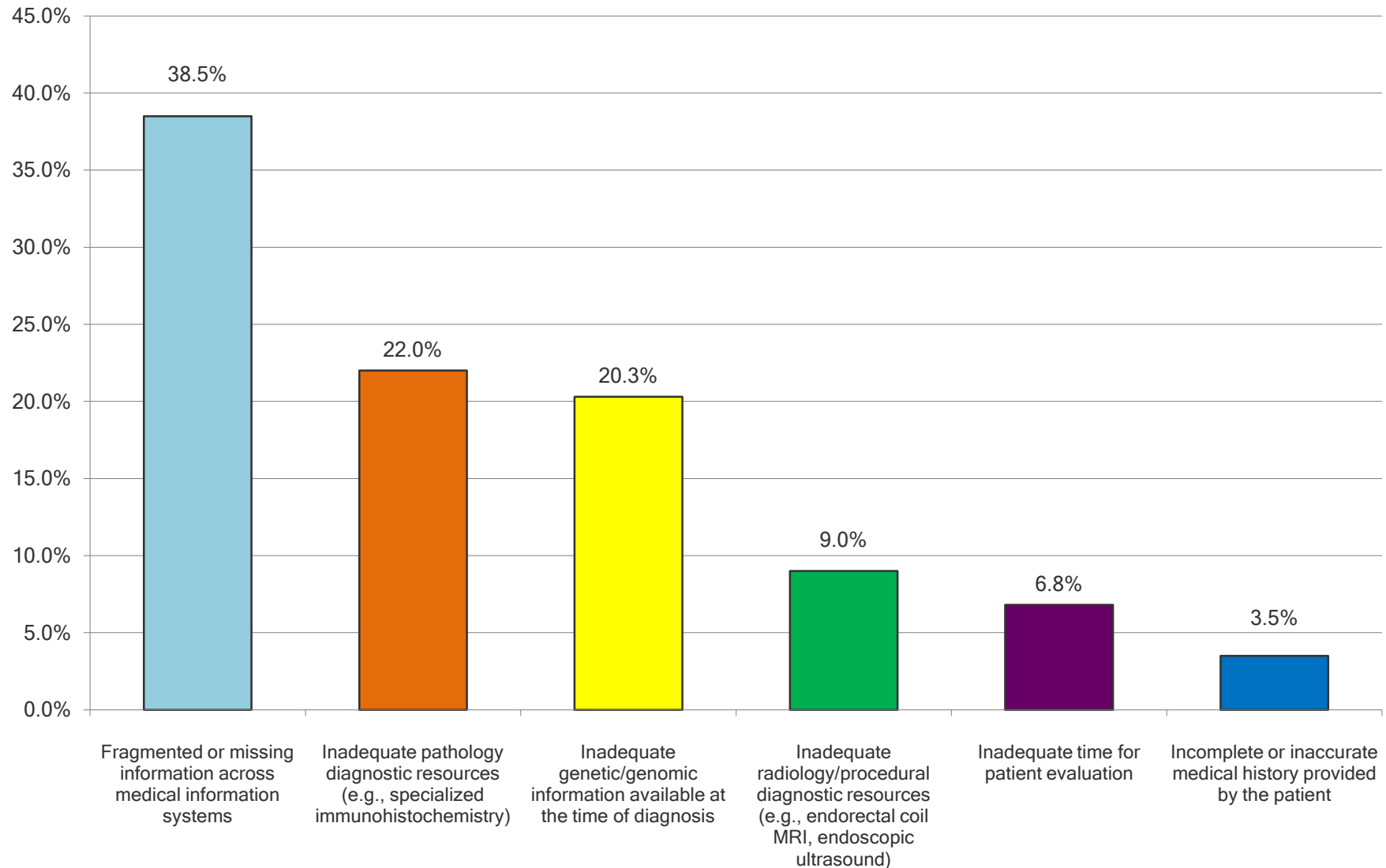
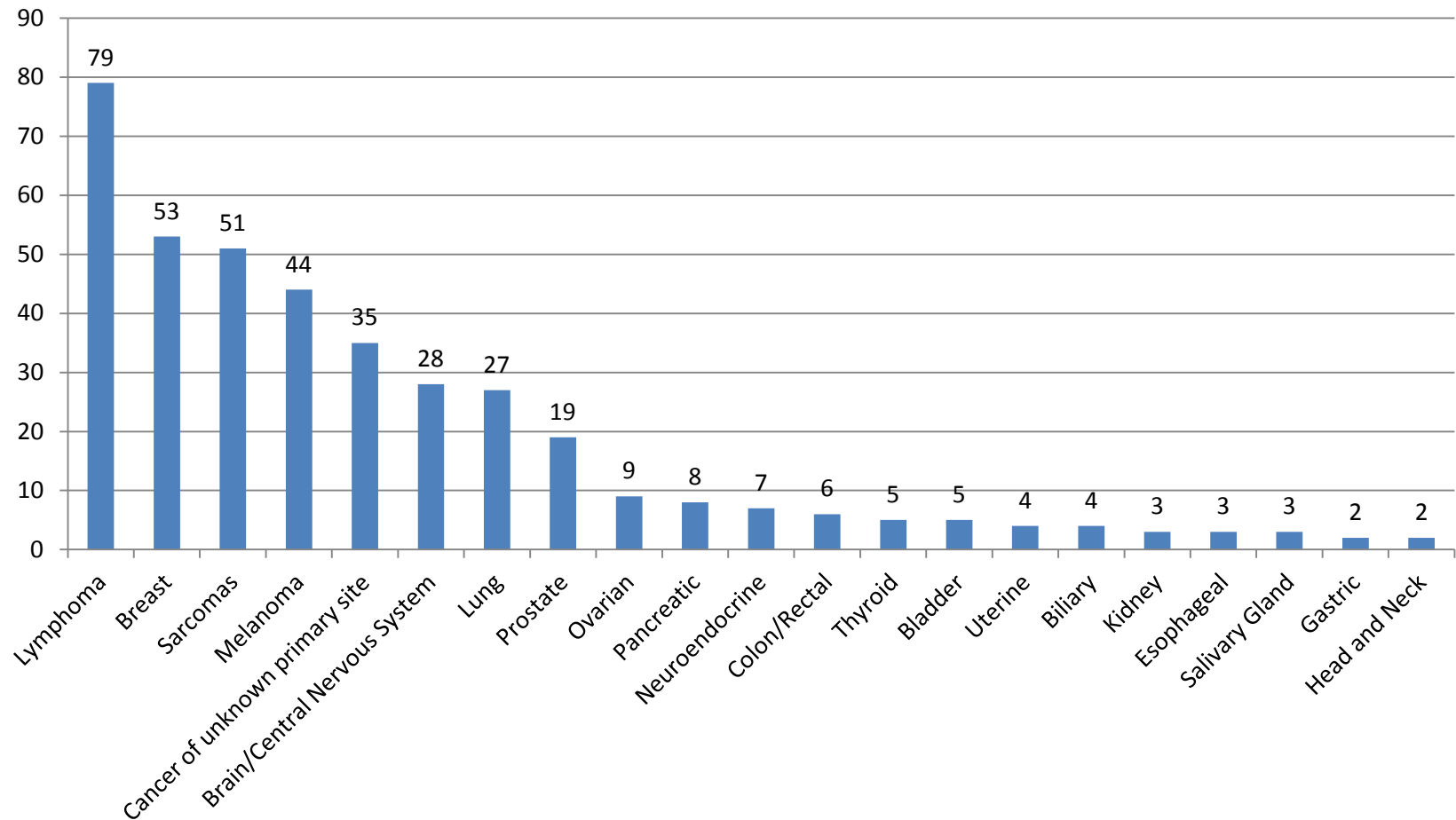# What tools or technology in your hospital or office would you say would MOST help improve diagnostic accuracy rates in cancer cases?

# What types of cancer would you guess are most often misdiagnosed or mischaracterized?



Bar chart data:

| Cancer Type | Value |
|---|---|
| Lymphoma | 79 |
| Breast | 53 |
| Sarcomas | 51 |
| Melanoma | 44 |
| Cancer of unknown primary site | 35 |
| Brain/Central Nervous System | 28 |
| Lung | 27 |
| Prostate | 19 |
| Ovarian | 9 |
| Pancreatic | 8 |
| Neuroendocrine | 7 |
| Colon/Rectal | 6 |
| Thyroid | 5 |
| Bladder | 5 |
| Uterine | 4 |
| Biliary | 4 |
| Kidney | 3 |
| Esophageal | 3 |
| Salivary Gland | 3 |
| Gastric | 2 |
| Head and Neck | 2 |

Question 5:

# Which of the following do you believe leads to the most errors in interpretation of pathology specimens?



| Category | Percentage |
|---|---|
| Pathologist's lack of subspecialty expertise | 47.0% |
| Inadequate sampling of lesion | 39.0% |
| Inadequate clinical information provided | 7.3% |
| Failure to perform proper special stains | 5.3% |
| Poor or inadequate slide preparation | 1.5% |
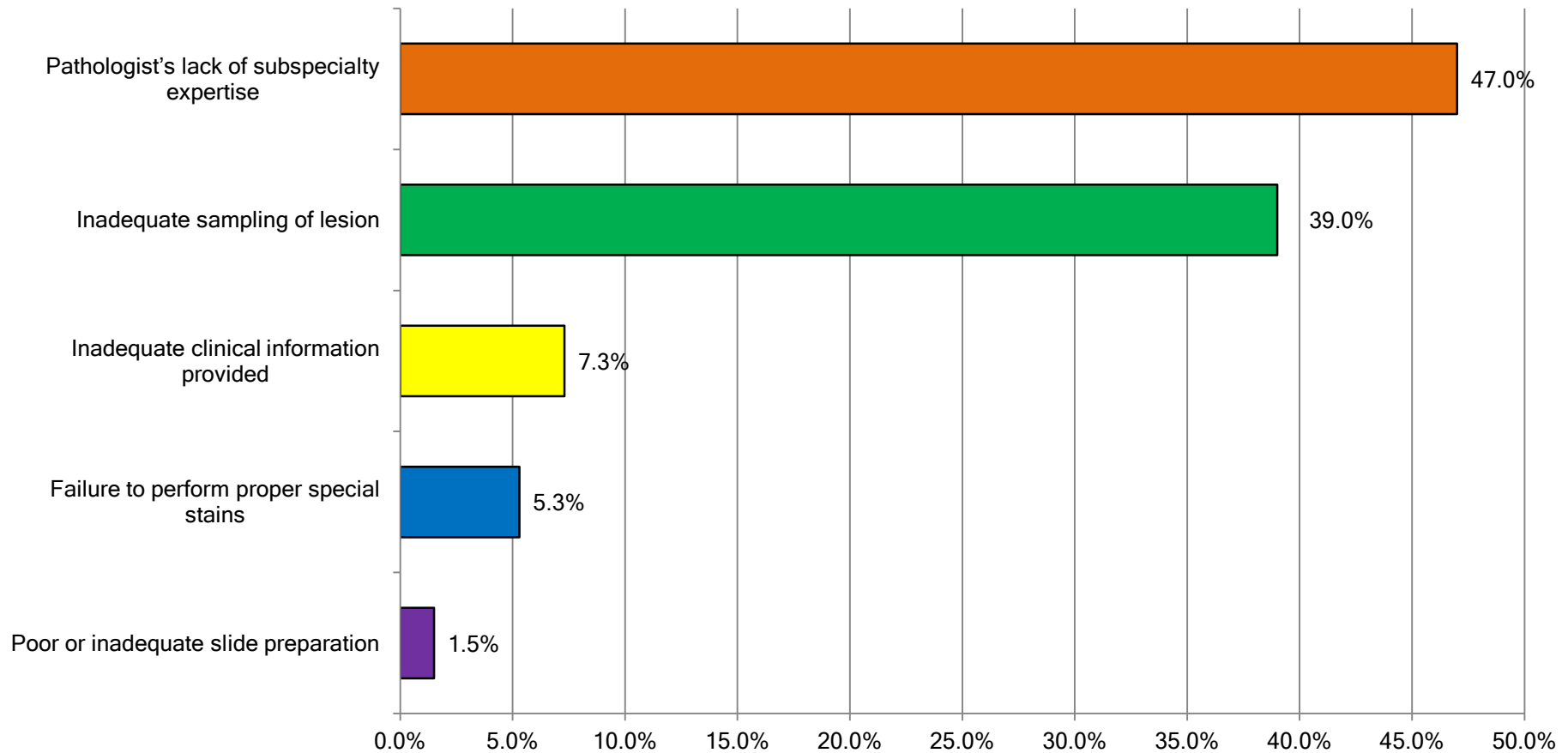
# Which action below would you say would MOST add to increasing the availability of data on misdiagnosis?