



CALIFORNIA
HEALTHCARE
FOUNDATION

SNAPSHOT

The State of Health Information Technology in California: Use Among Physicians and Community Clinics

2008

Introduction

Although California physicians use health information technology (HIT) to a greater extent than their counterparts in other states, most still rely on paper records and manual systems.

The survey results in this snapshot, which encompass physician groups and practices, individual physicians, and community clinics, reveal that doctors in California are far from realizing the full potential benefits of HIT adoption. Among the highlights:

- Only 13 percent of medical practices use electronic health records (EHRs).
- Only 2 percent of independent practice associations and 3 percent of community clinics have fully installed EHRs.
- Thirty-seven percent of individual physicians in California use EHRs compared to 28 percent of physicians in other states. However, 17 percent of California respondents were physicians at Kaiser Permanente, where HIT penetration is relatively high.
- Nearly all physicians who use EHRs said such use helps their practice provide better care.
- Physicians cite cost issues as the biggest barrier to HIT adoption.
- Only about one-quarter of physicians write prescriptions and order refills electronically, and those that do tend to be in larger practices. Practices that perform these tasks manually may experience more preventable errors and their patients may experience more adverse events.
- Only 13 percent of practices use a computerized system to receive drug interaction warnings.
- About one-third of medical groups have at least one chronic disease registry, and 96 percent of community clinics have a diabetes registry.

Larger practices and Kaiser physicians are far more likely than physicians in small practices, solo practices, or community clinics to adopt HIT tools such as EHRs and electronic prescribing. Small practices and clinics face significant financial hurdles to HIT adoption and use. As a result, the patients they serve will not benefit from the safety and quality gains that HIT fosters.

State of HIT in California

CONTENTS

Physician Organizations

Use of EHRs 3

Use of Chronic Disease Management
Systems 9

Electronic Lab Orders, Prescriptions,
and Alerts 11

Individual Physicians

Use of EHRs 15

Electronic Lab Orders, Prescriptions,
and Alerts 25

Community Clinics

Use of EHRs 30

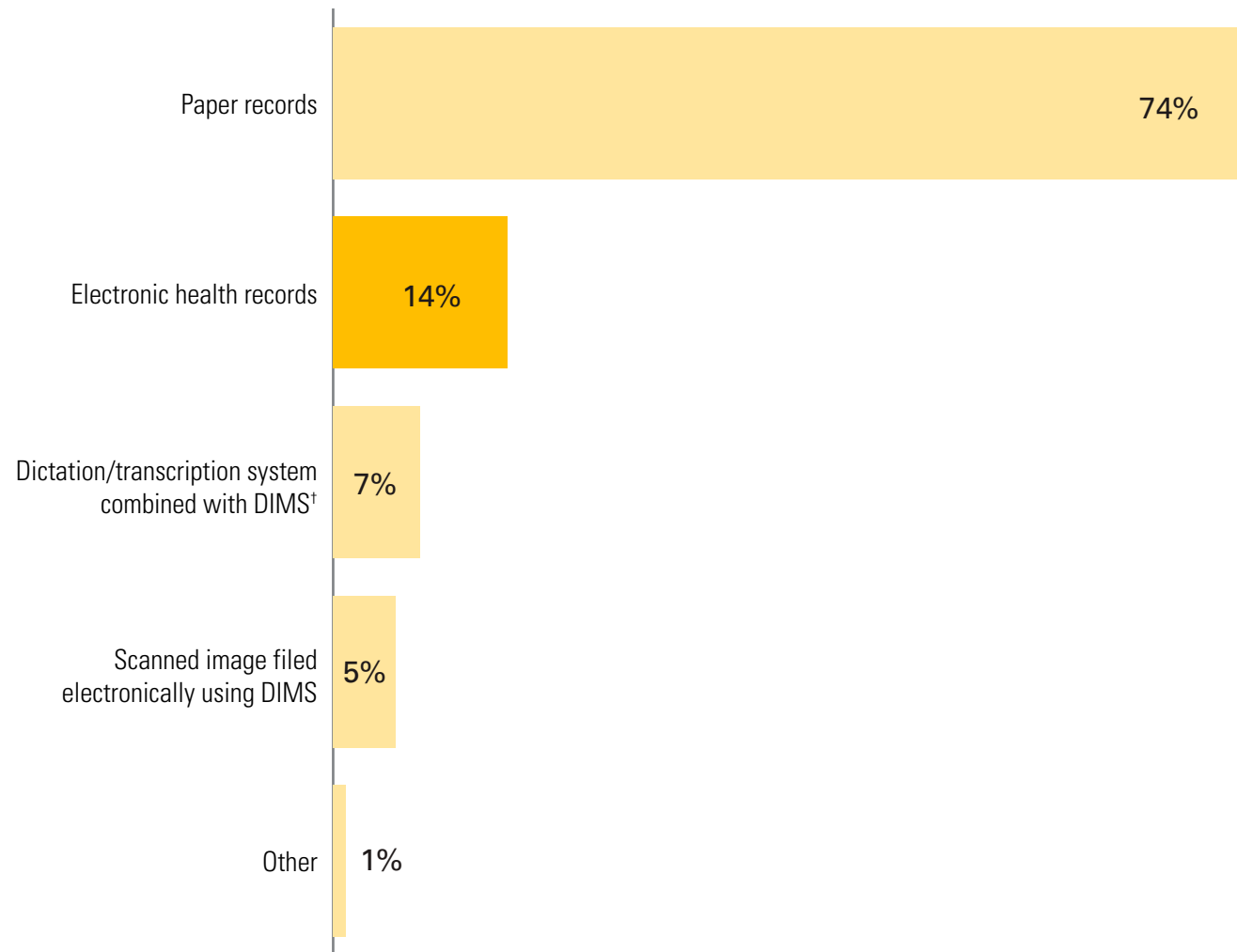
Disease Registries 31

PDA Use and Usefulness 33

Electronic Lab Orders and
Prescriptions 35

Appendix 37

Methods of Storing Records at Physician Practices,* California, 2005



*Physician practice is defined as three or more physicians practicing together with a common billing and medical record system.

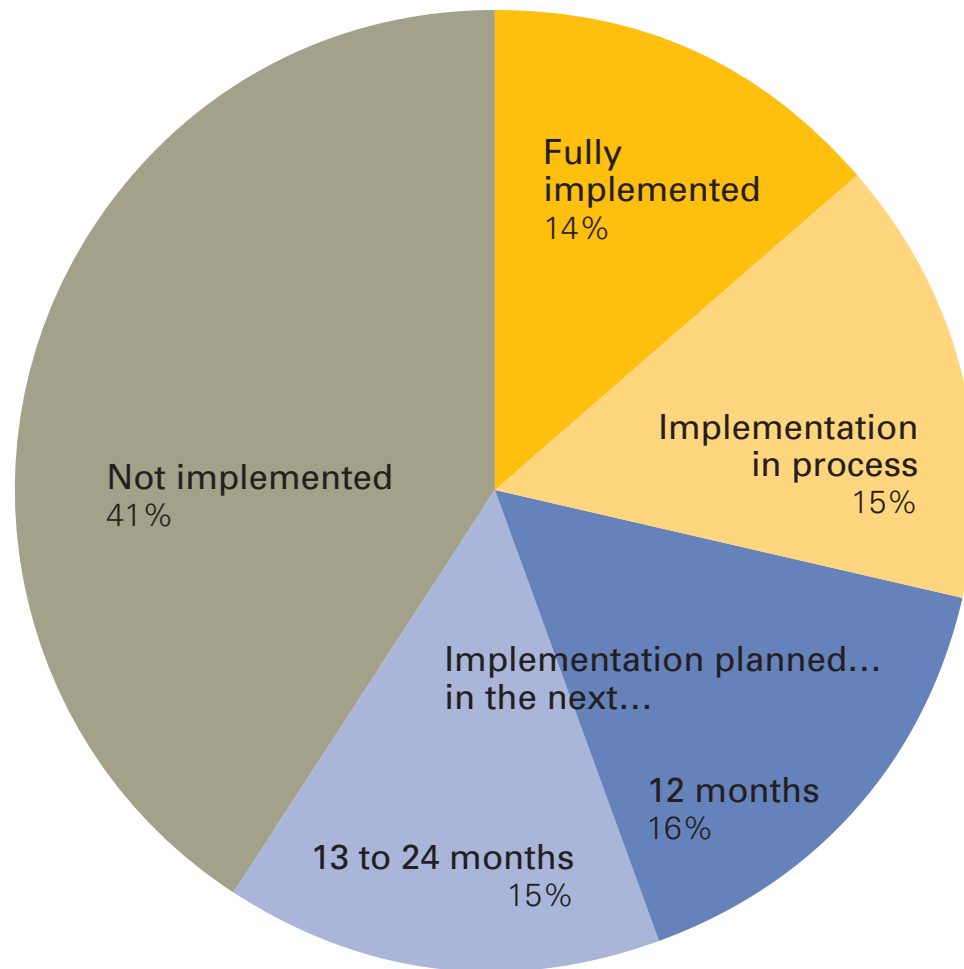
†Document image management system.

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

State of HIT in California Physician Organizations

Only 14 percent of physician practices use electronic health records (EHRs). The vast majority still use paper records.

Extent of EHR Installation at Physician Practices, California, 2005



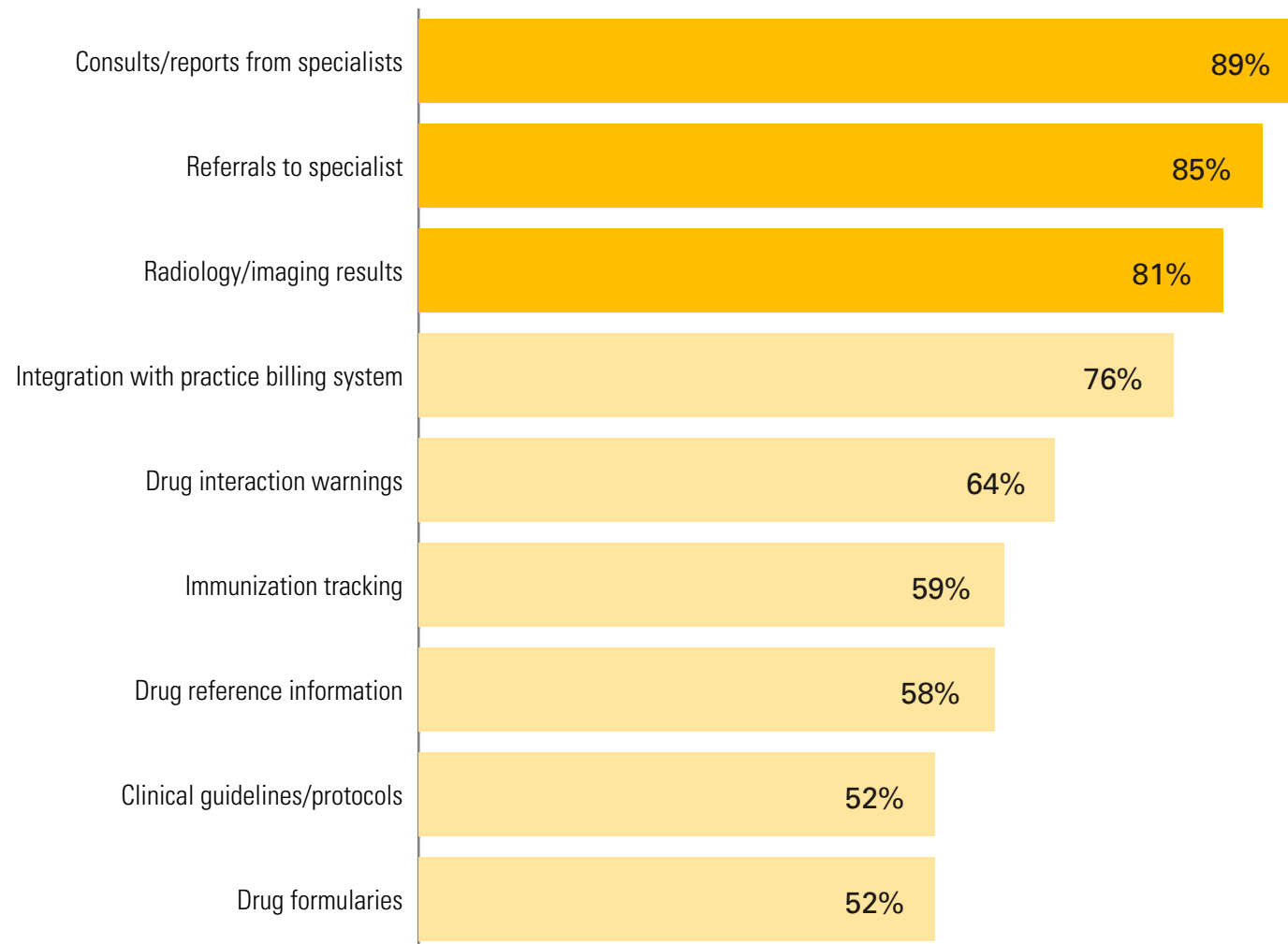
Note: Percentages don't add up to 100 percent due to rounding.

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

State of HIT in California Physician Organizations

Twenty-nine percent of physician practices reported that they have either fully implemented an EHR system for all of their physicians at all locations, or are in the process of implementing one.

Availability of EHR Functions at Physician Practices, California, 2005

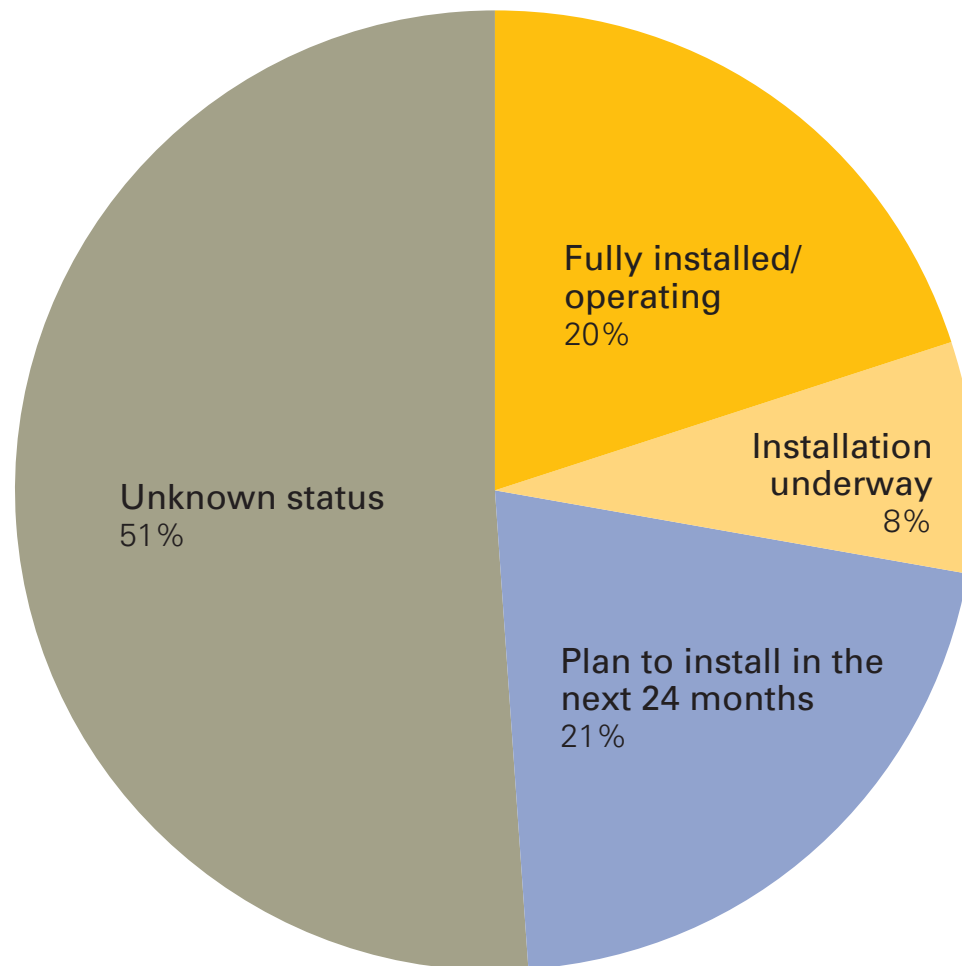


State of HIT in California Physician Organizations

The top three EHR functions that physician practices reported having available to them are consults/reports from specialists, referrals to specialists, and radiology/imaging results.

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

Extent of EHR Installation at Physician Groups,* California, 2007



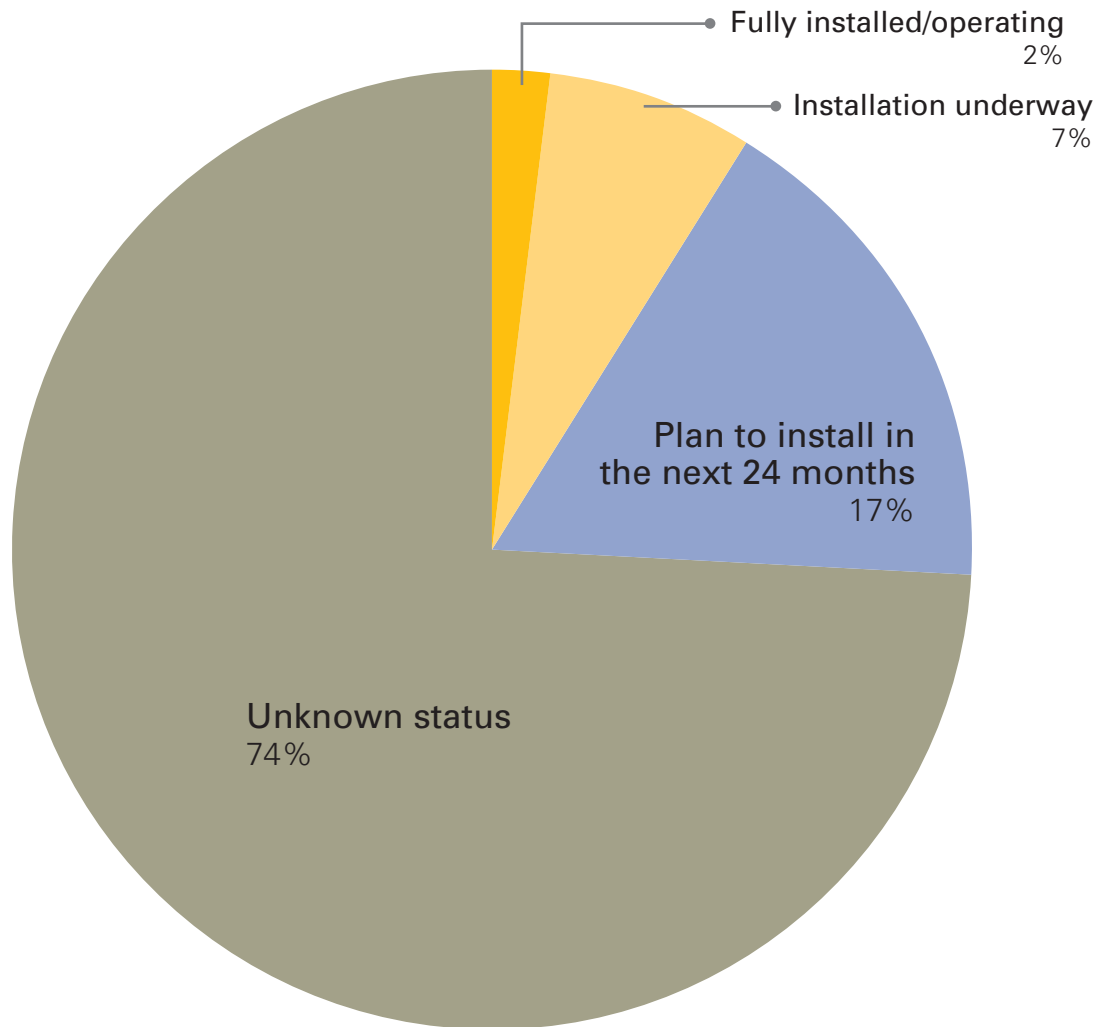
*Physician group is defined as six or more primary care physicians contracting directly with an HMO. Includes independent practice associations.

Source: *Active California Medical Groups. Implementation Status of Electronic Medical Records ("EMRs") & Chronic Disease Registries ("CDRs").* Cattaneo & Stroud, July 2007.

State of HIT in California Physician Organizations

One-fifth of physician groups reported that they have an EHR system fully installed and operating.

Extent of EHR Installation at Independent Practice Associations, California, 2007

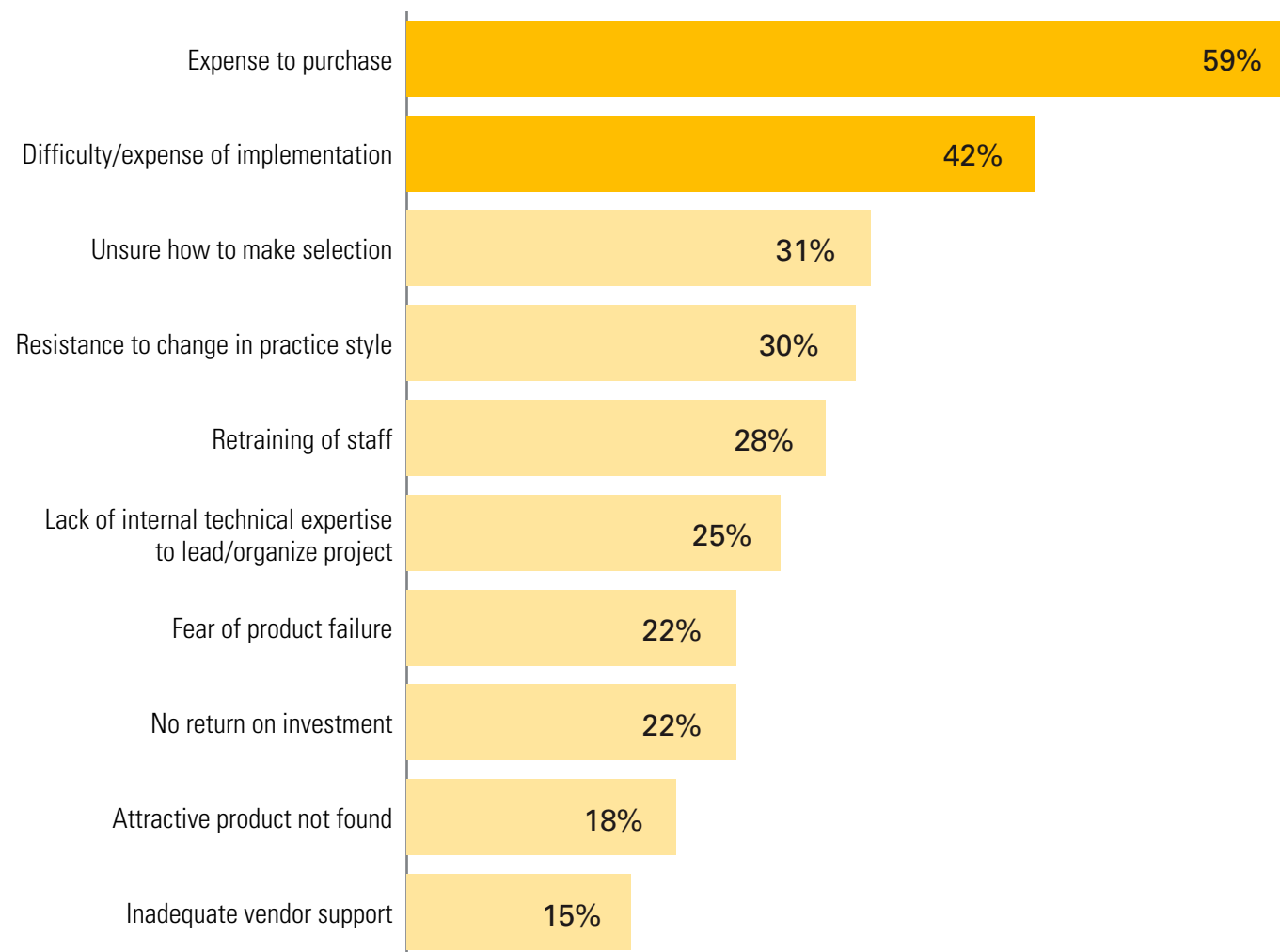


State of HIT in California Physician Organizations

Only 2 percent of independent practice associations reported that they have EHRs fully installed and operating.

Source: Active California Medical Groups. *Implementation Status of Electronic Medical Records ("EMRs") & Chronic Disease Registries ("CDRs")*. Cattaneo & Stroud. July 2007.

Barriers to Use of EHRs Among Physicians,* California, 2005



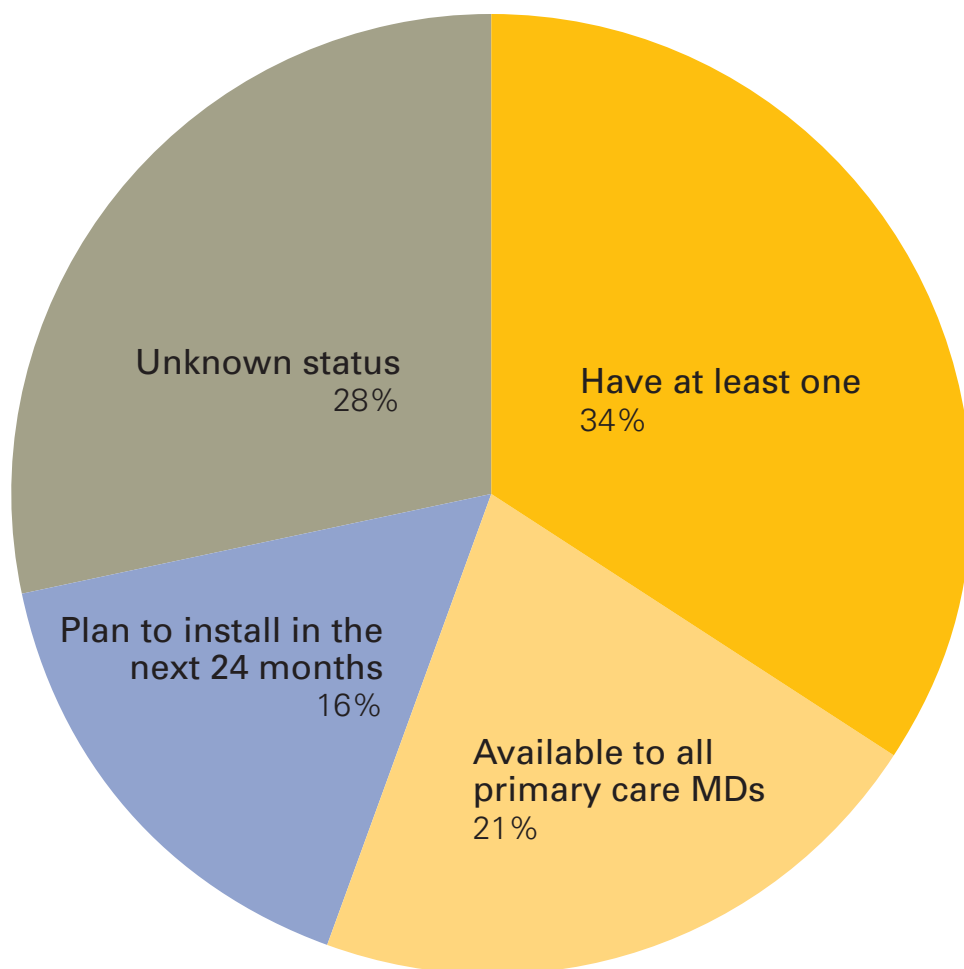
*Includes practices of all sizes.

Source: *Health Information Technology Survey*. Center for Economic Services, California Medical Association. 2005.

State of HIT in California Physician Organizations

Cost issues—including purchase and implementation expenses—top the list of barriers to electronic health record (EHR) use.

Use of Chronic Disease Registries in Medical Groups,* California, 2007



Note: Percentages don't add up to 100 percent due to rounding.

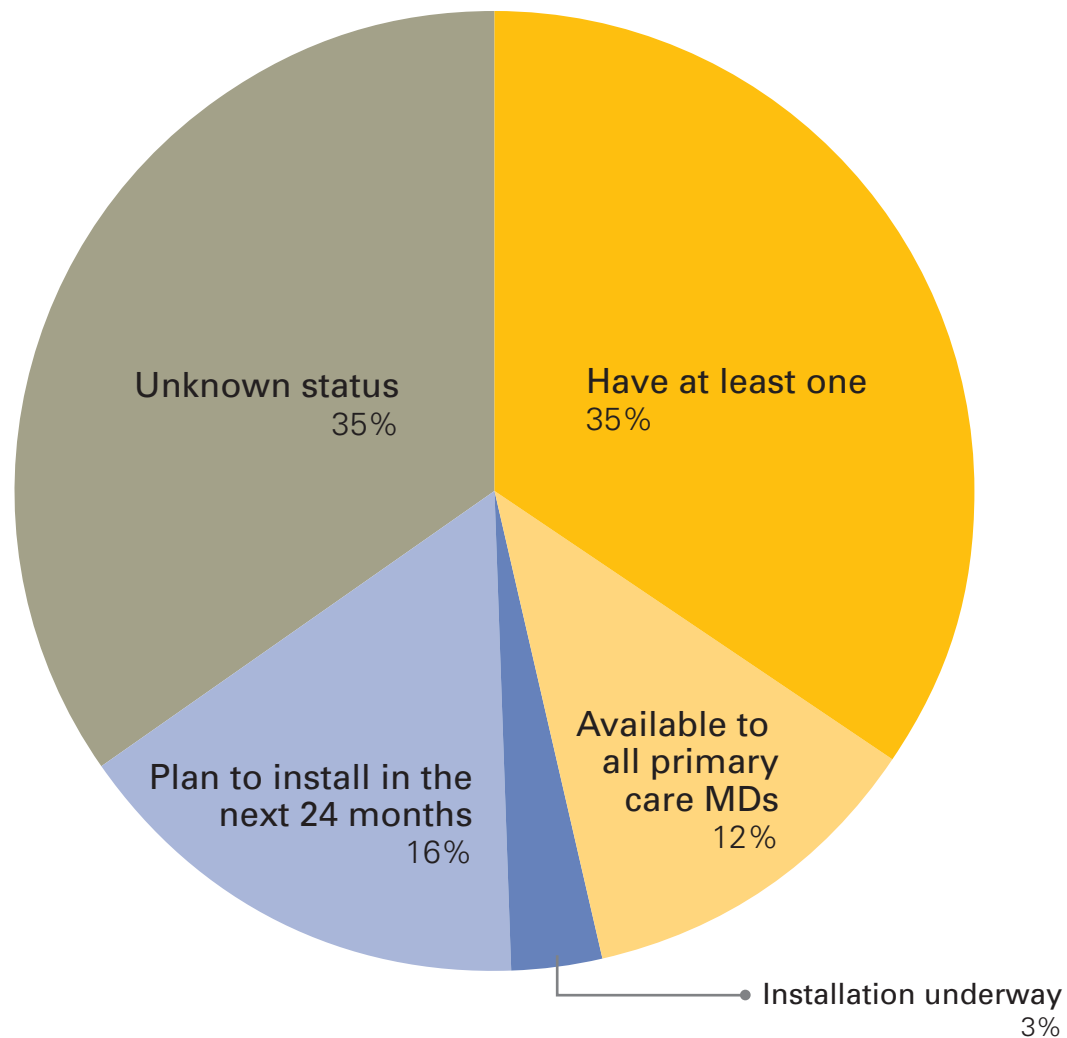
*Medical group is defined as six or more primary care physicians contracting directly with an HMO. Includes independent practice associations.

Source: *Active California Medical Groups. Implementation Status of Electronic Medical Records ("EMRs") & Chronic Disease Registries ("CDRs")*. Cattaneo & Stroud. July 2007.

State of HIT in California Physician Organizations

More than one-third of medical groups have at least one chronic disease registry, although in most groups the registries aren't available to all primary care physicians.

Use of Chronic Disease Registries in Independent Practice Associations, California, 2007



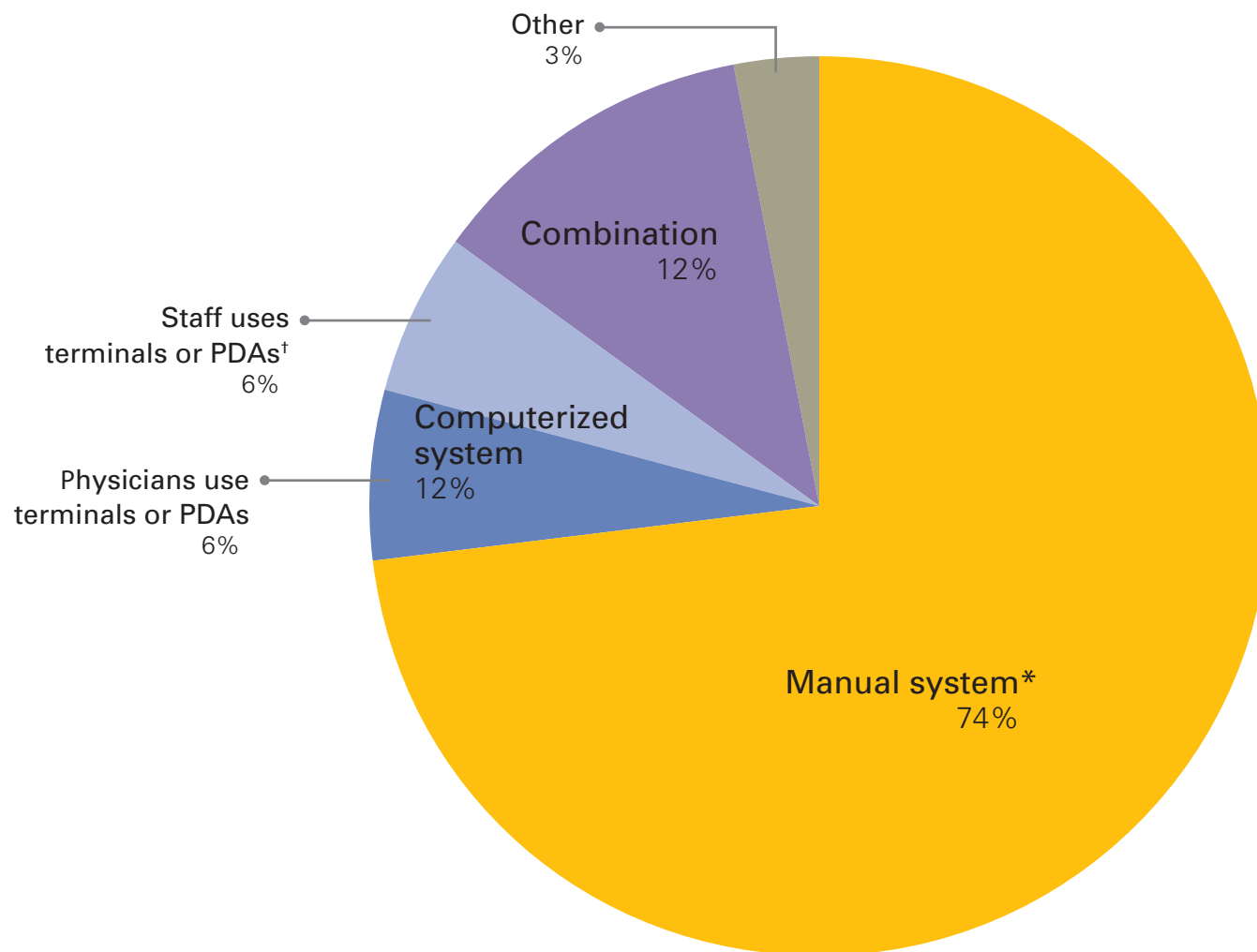
Note: Percentages don't add up to 100 percent due to rounding.

Source: *Active California Medical Groups. Implementation Status of Electronic Medical Records ("EMRs") & Chronic Disease Registries ("CDRs").* Cattaneo & Stroud. July 2007.

State of HIT in California Physician Organizations

More than one-third of independent practice associations have at least one chronic disease registry.

How Medical Practices Submit Clinical Lab Orders, California, 2005



*Paper documents, faxes, and telephone requests.

†Personal digital assistants.

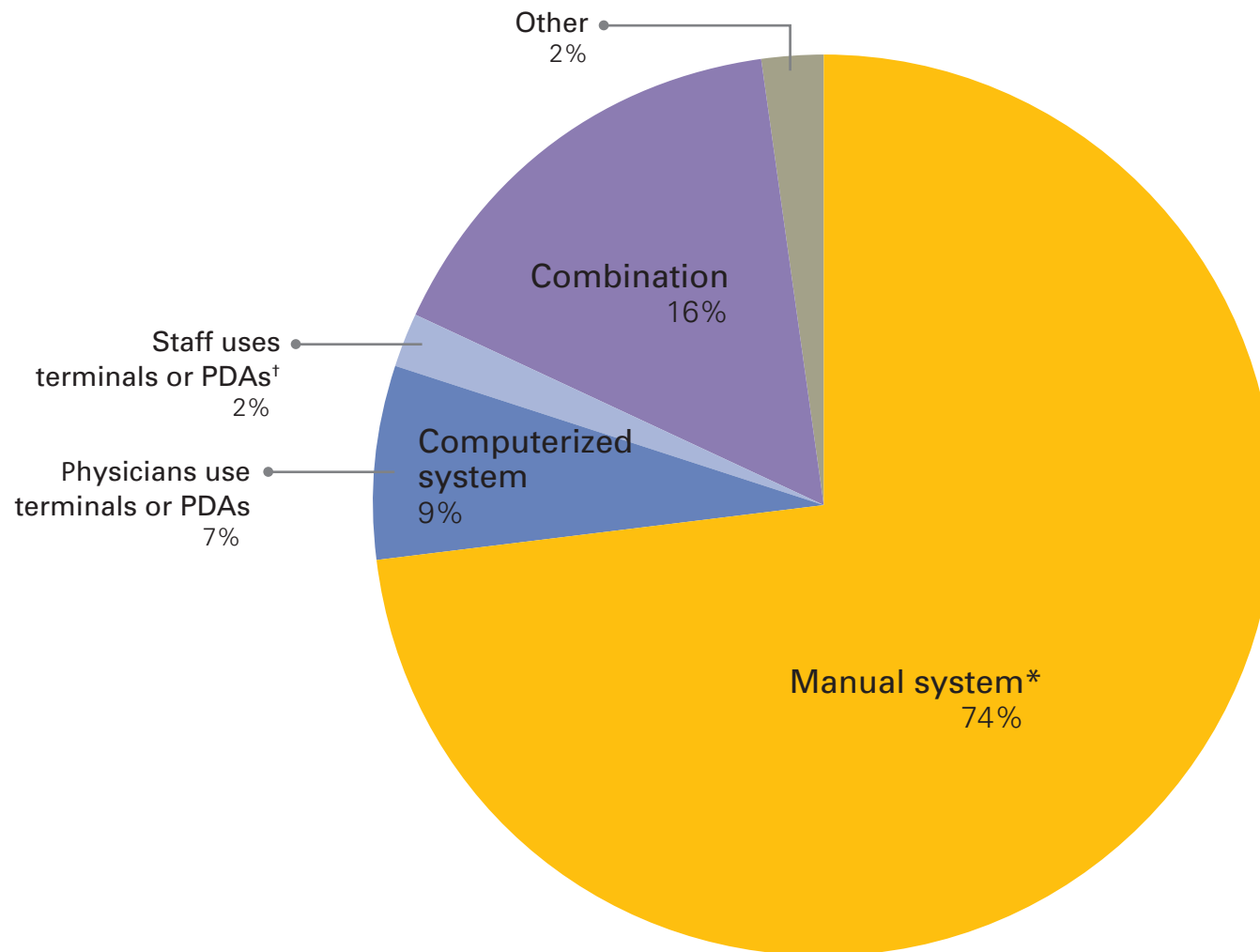
Note: Percentages don't add up to 100 percent due to rounding.

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

State of HIT in California Physician Organizations

Nearly three-quarters of medical practices reported that their clinical laboratory order entry system is manual.

How Medical Practices Write Prescriptions, California, 2005



*Paper documents, faxes, and telephone requests.

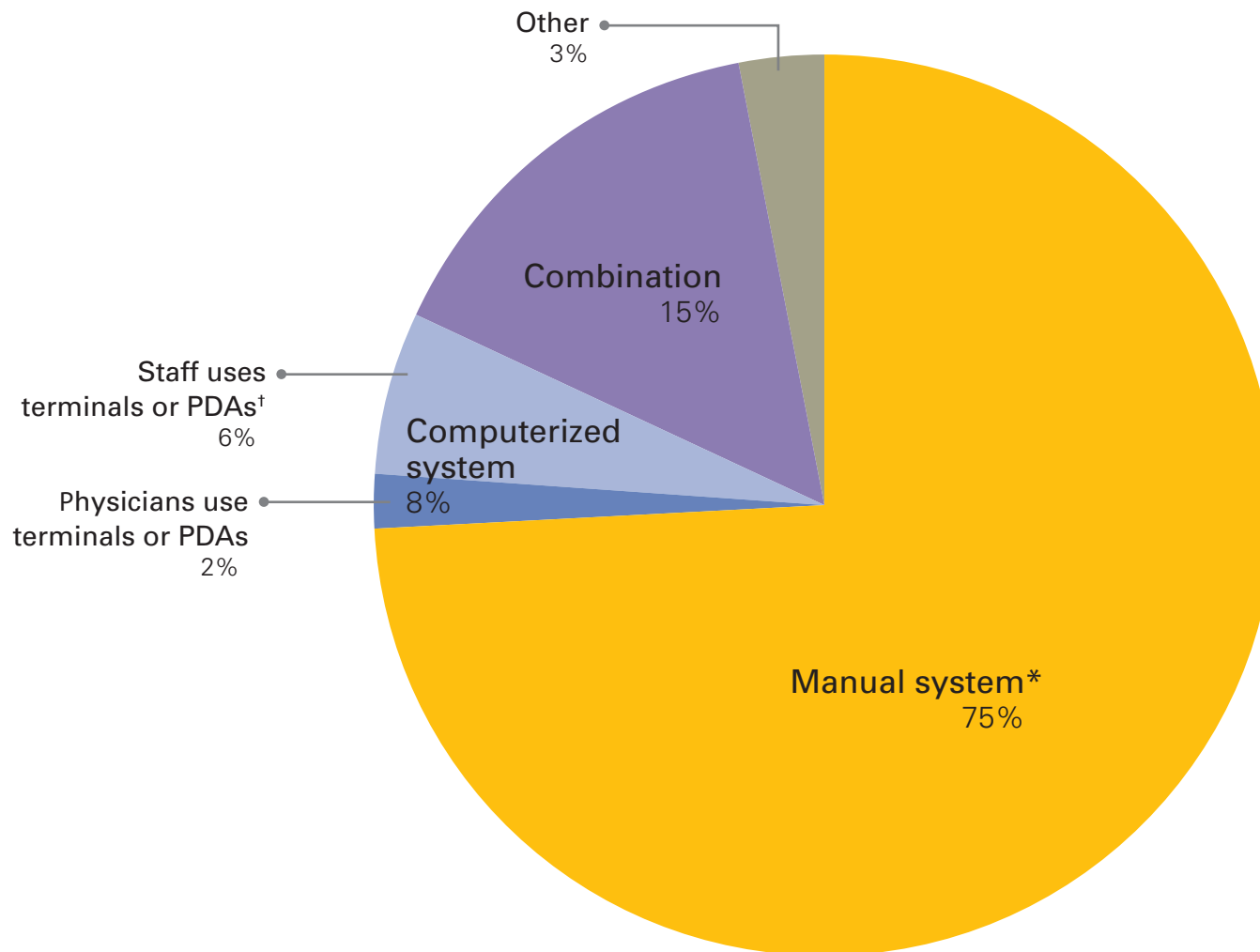
†Personal digital assistants.

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

State of HIT in California Physician Organizations

Nearly three-quarters of physicians in medical practices reported that they use a manual system to write prescriptions.

How Medical Practices Order Prescription Refills, California, 2005



*Paper documents and telephone requests.

†Personal digital assistants.

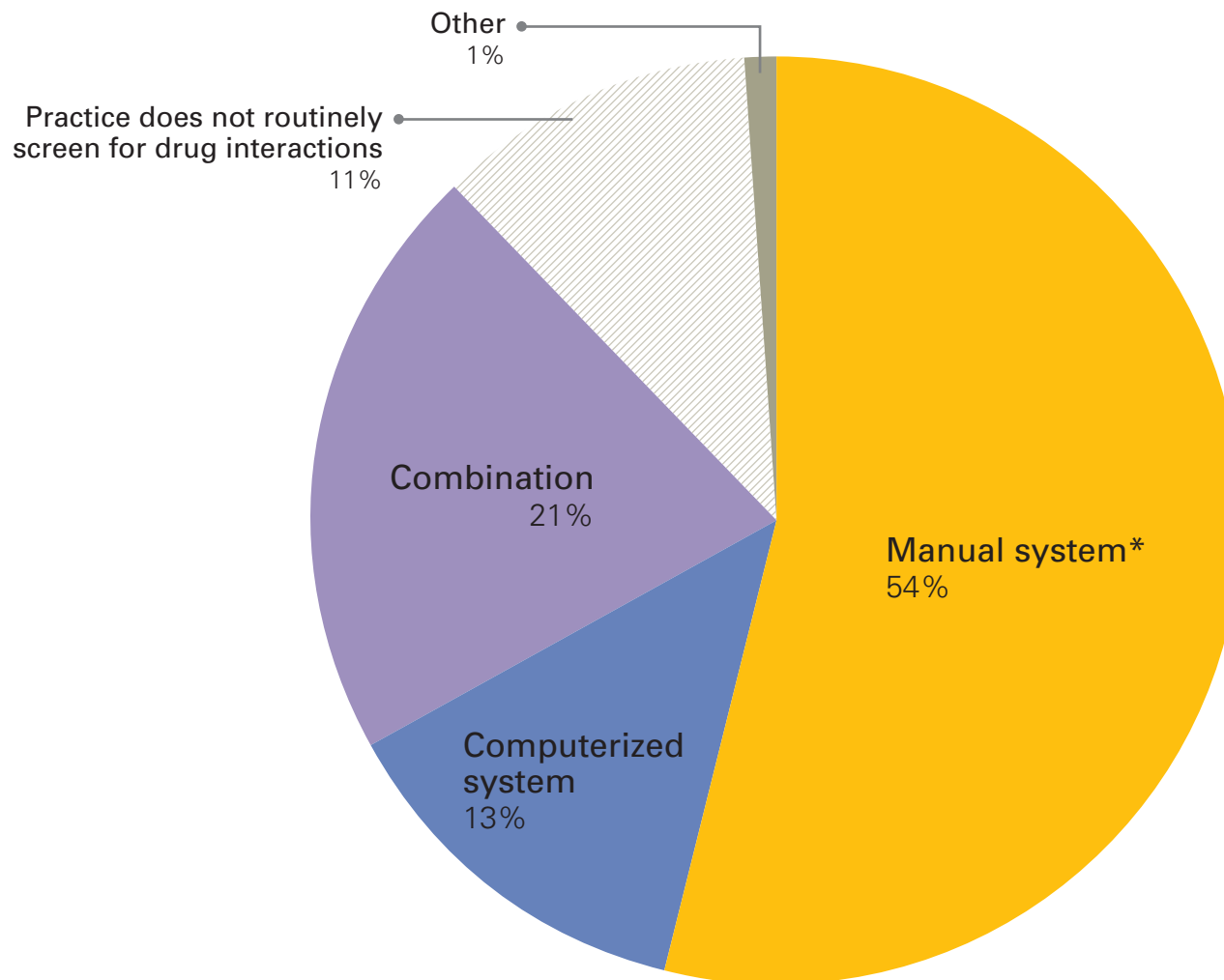
Note: Percentages don't add up to 100 percent due to rounding.

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

State of HIT in California Physician Organizations

Three-quarters of medical practices reported that they use a manual system to order prescription refills.

How Medical Practices Receive Drug Interaction Warnings, California, 2005



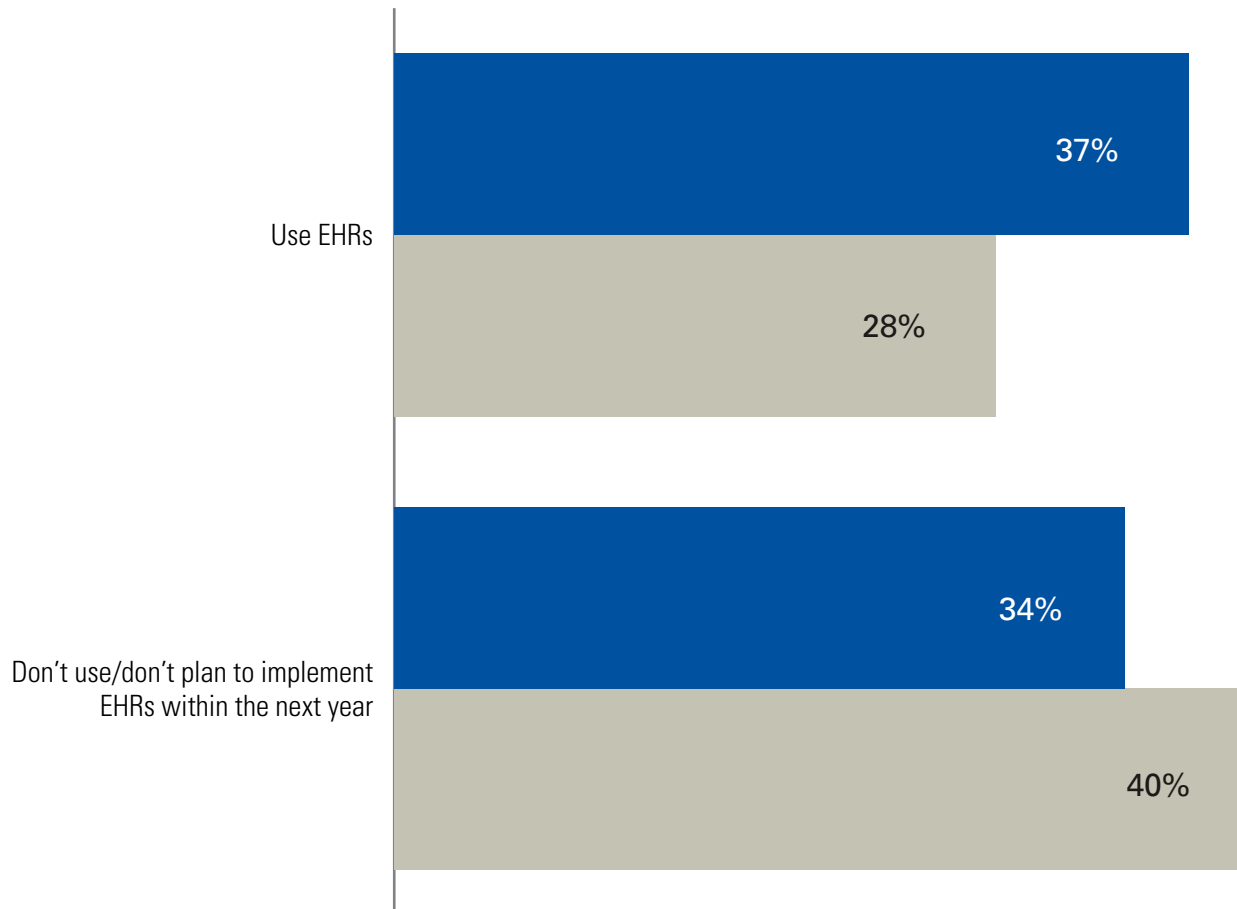
n=124

Source: *Assessing Information Technology in Medical Groups*. Medical Group Management Association Center for Research and the University of Minnesota. 2005.

Thirteen percent of medical practices reported that they use a computerized system to receive drug interaction warnings. More than half indicated they still rely on a manual system.

Individual Physician Use of Electronic Health Records, California vs. U.S., 2007

■ California
■ United States



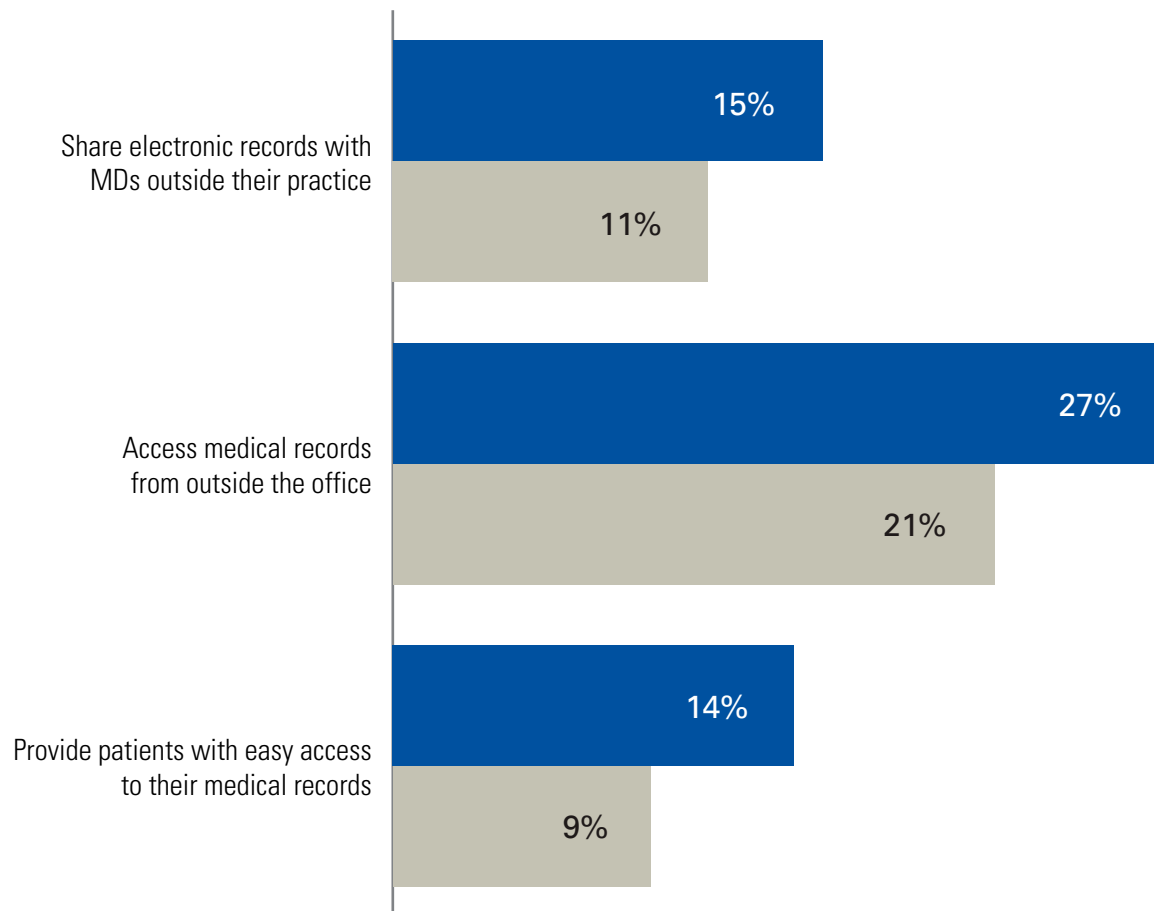
Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

Compared to their counterparts in other states, more physicians in California reported use of EHRs. Seventeen percent of respondents were physicians at Kaiser Permanente, where HIT penetration is relatively high.

Use of EHR Functions, California Physicians vs. Others, 2007

■ California
■ United States

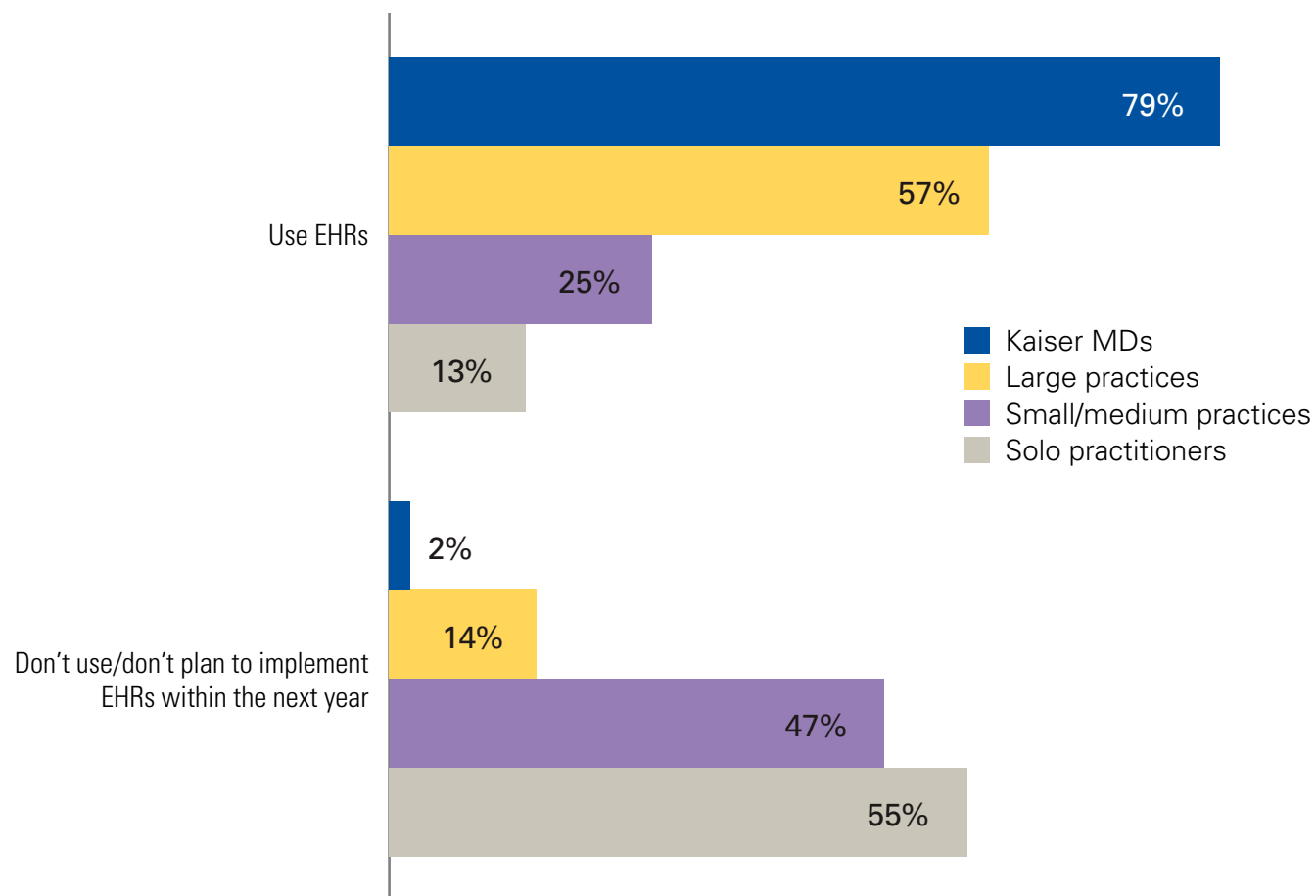


Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians.* Harris Interactive. June 2007.

State of HIT in California Individual Physicians

The EHR systems that California physicians use enable them to perform significantly more functions than systems used by doctors in other states.

Physician Use of EHRs, by Practice Type, California, 2007



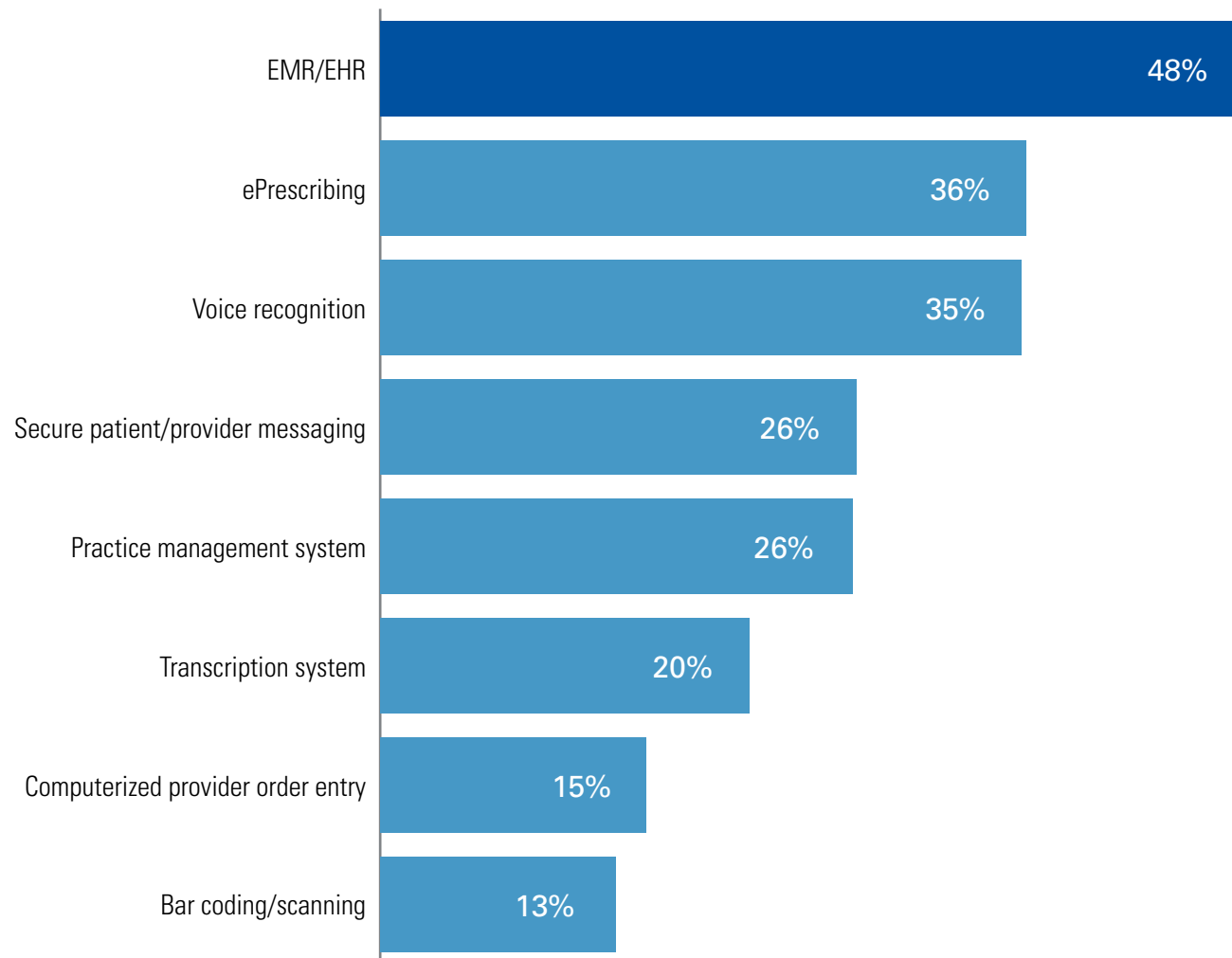
Notes: Large practices are 10 or more physicians; small/medium practices are 2 to 9 physicians (excluding Kaiser).

Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

The larger the medical practice in California, the more likely it uses electronic health records (EHRs). Among practices that don't use this technology, small and medium practices are less likely to be planning to implement EHRs within the next year.

Technologies That Physicians Would Like to Acquire, California, 2005

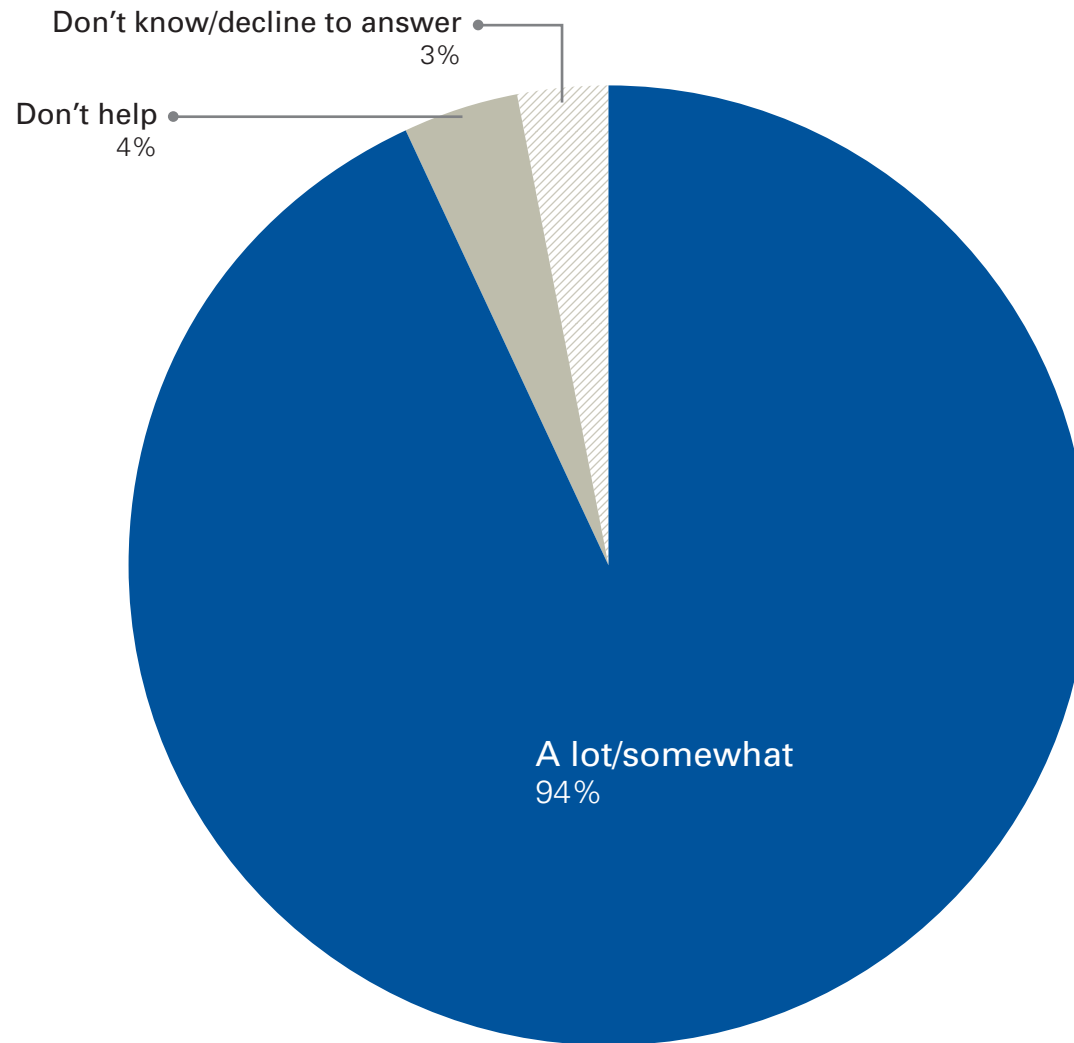


Source: *Health Information Technology Survey*. Center for Economic Services, California Medical Association. 2005.

State of HIT in California Individual Physicians

Almost half of physicians indicated that EHRs ranked first among technologies they would like to acquire in the future.

Extent to Which EHRs Help Physician Practices, California, 2007



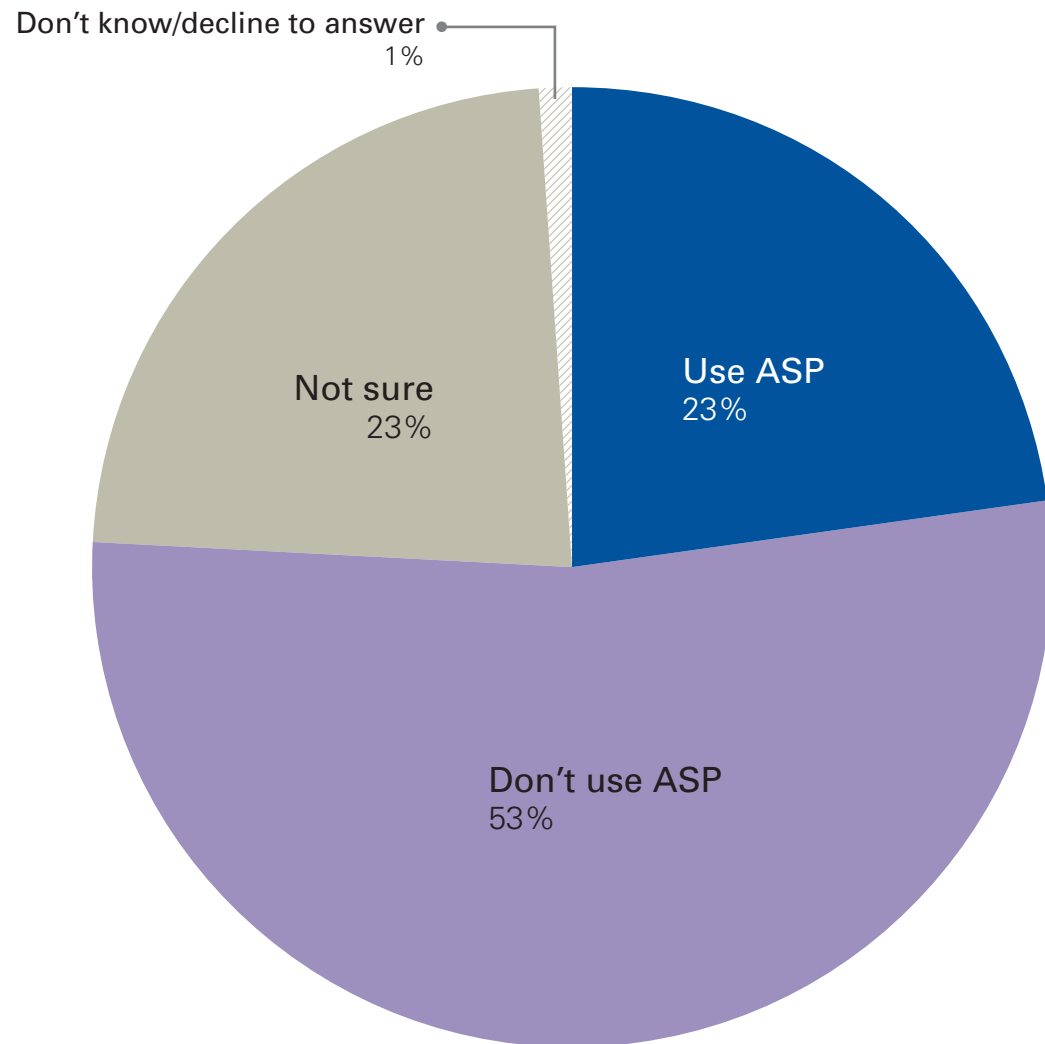
Note: Percentages don't add up to 100 percent due to rounding.

Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

Among physicians who use EHRs, nearly all said such use helps their practice "a lot" or "somewhat" in providing better care.

Physician Use of Application Service Providers to Host EHRs, California, 2007

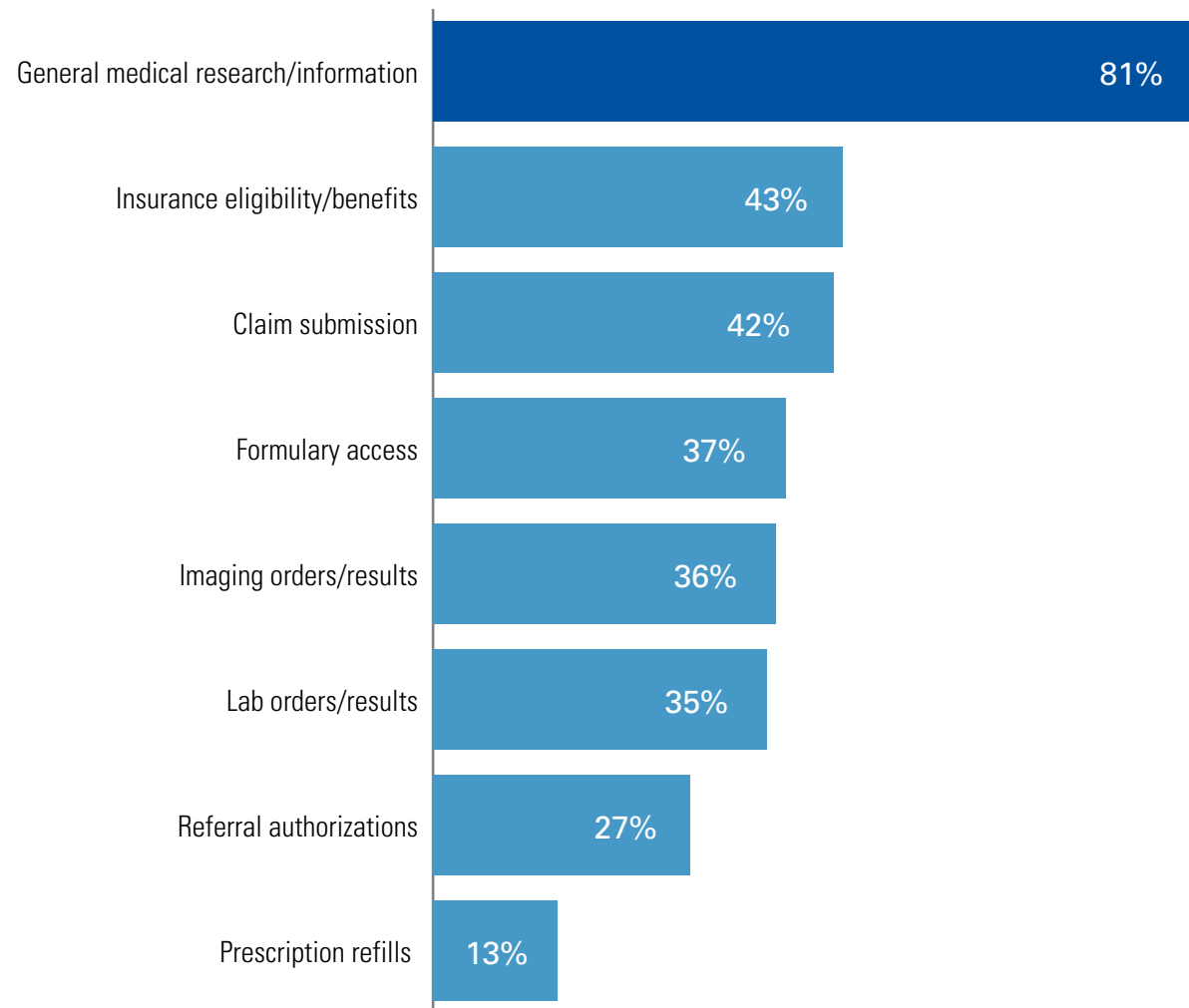


Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians.* Harris Interactive. June 2007.

State of HIT in California Individual Physicians

Nearly one-quarter of physicians who use EHRs in their practice said they rely on an application service provider (ASP—i.e., a third party) to host their records.

Purposes for Which Physicians Use the Internet/ Web Sites/Web Portals, California, 2005

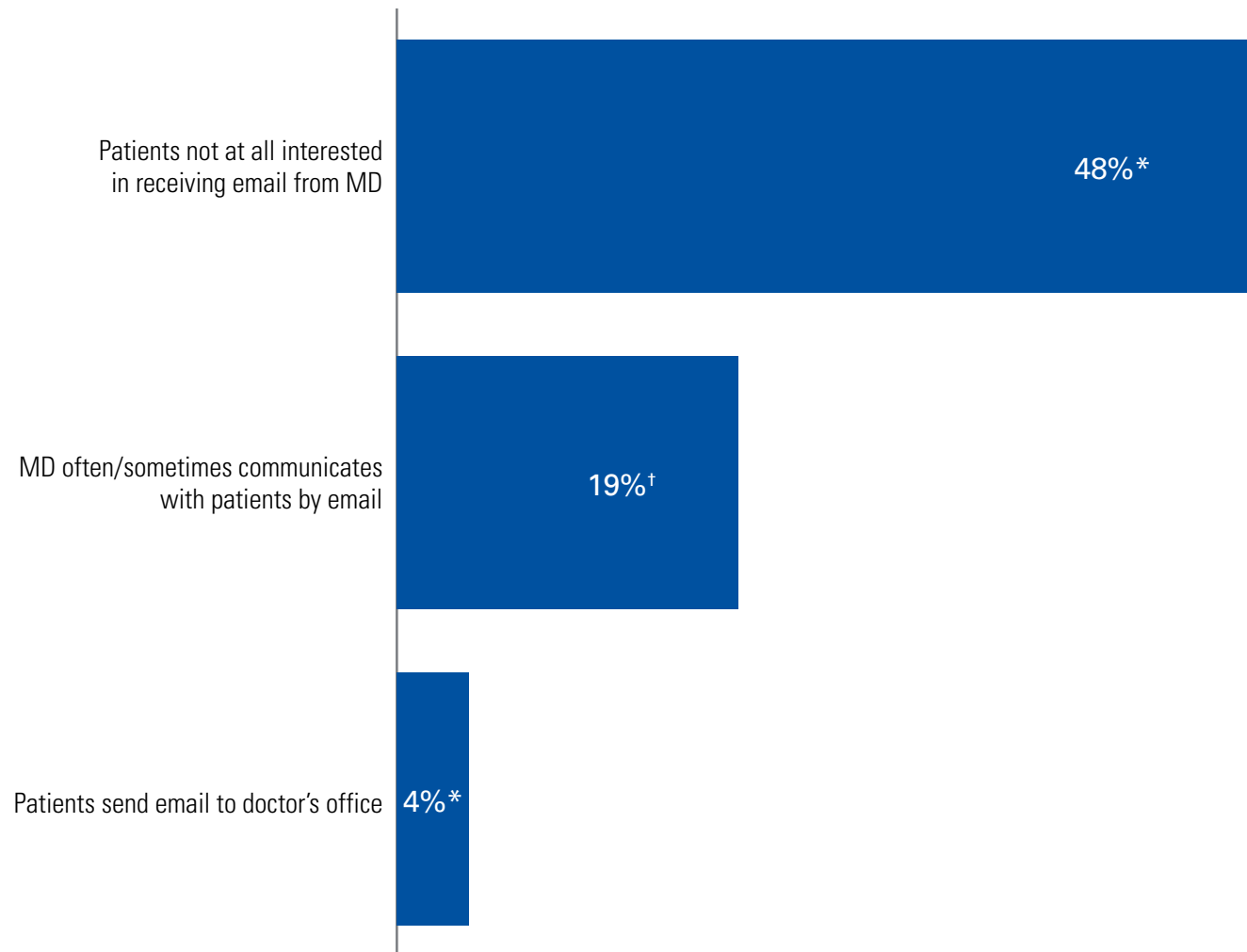


Source: *Health Information Technology Survey*. Center for Economic Services, California Medical Association. 2005.

State of HIT in California Individual Physicians

Most physician practices reported that they use the Internet/Web sites/Web portals for general medical research or to retrieve information.

Use of Email Between Physicians and Patients, California, 2007



Sources:

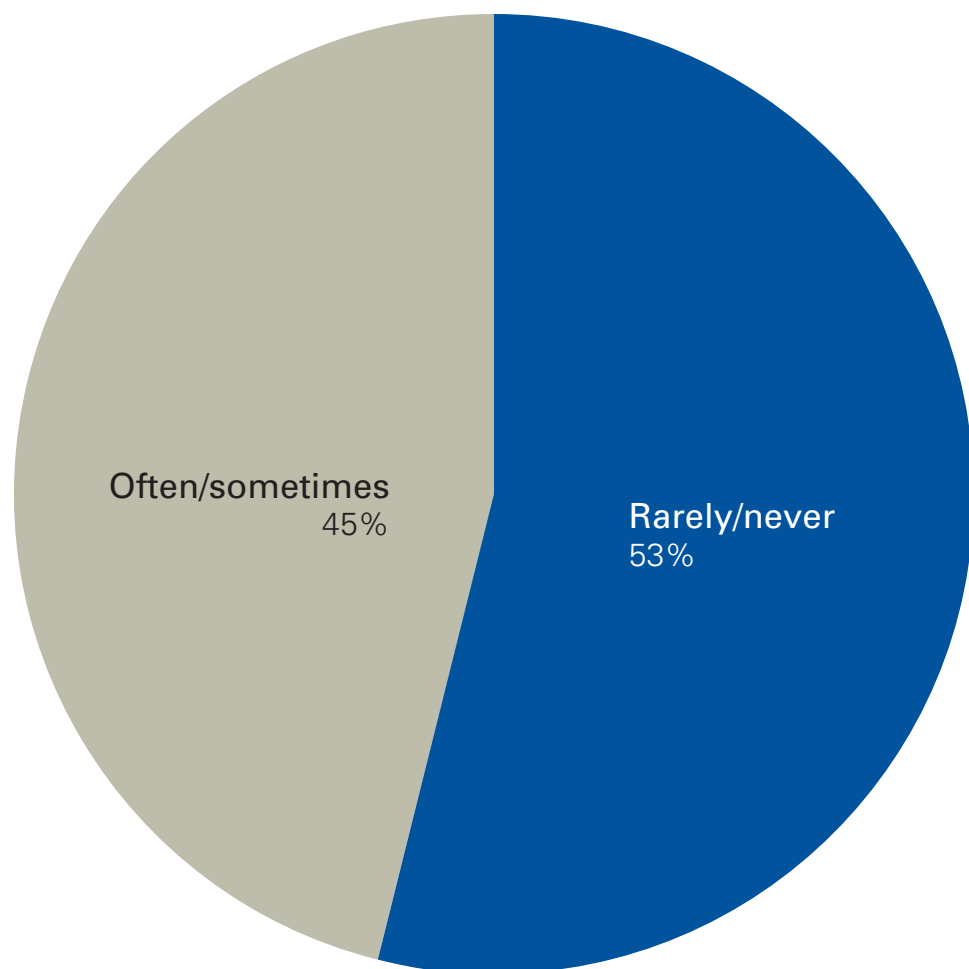
*Custom Study for California HealthCare Foundation. Manhattan Research. 2006/2007.

†Health Perspectives in California. 2007 Survey of Primary Care Physicians. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

While 19 percent of physicians reported that they often or sometimes communicate with patients by email, only 4 percent of consumers reported that they communicate with physicians electronically. Furthermore, nearly half of consumers indicated they were “not at all interested” in receiving email from their doctor’s office.

Physician Use of Email/Web Communications with Other Physicians, California, 2007



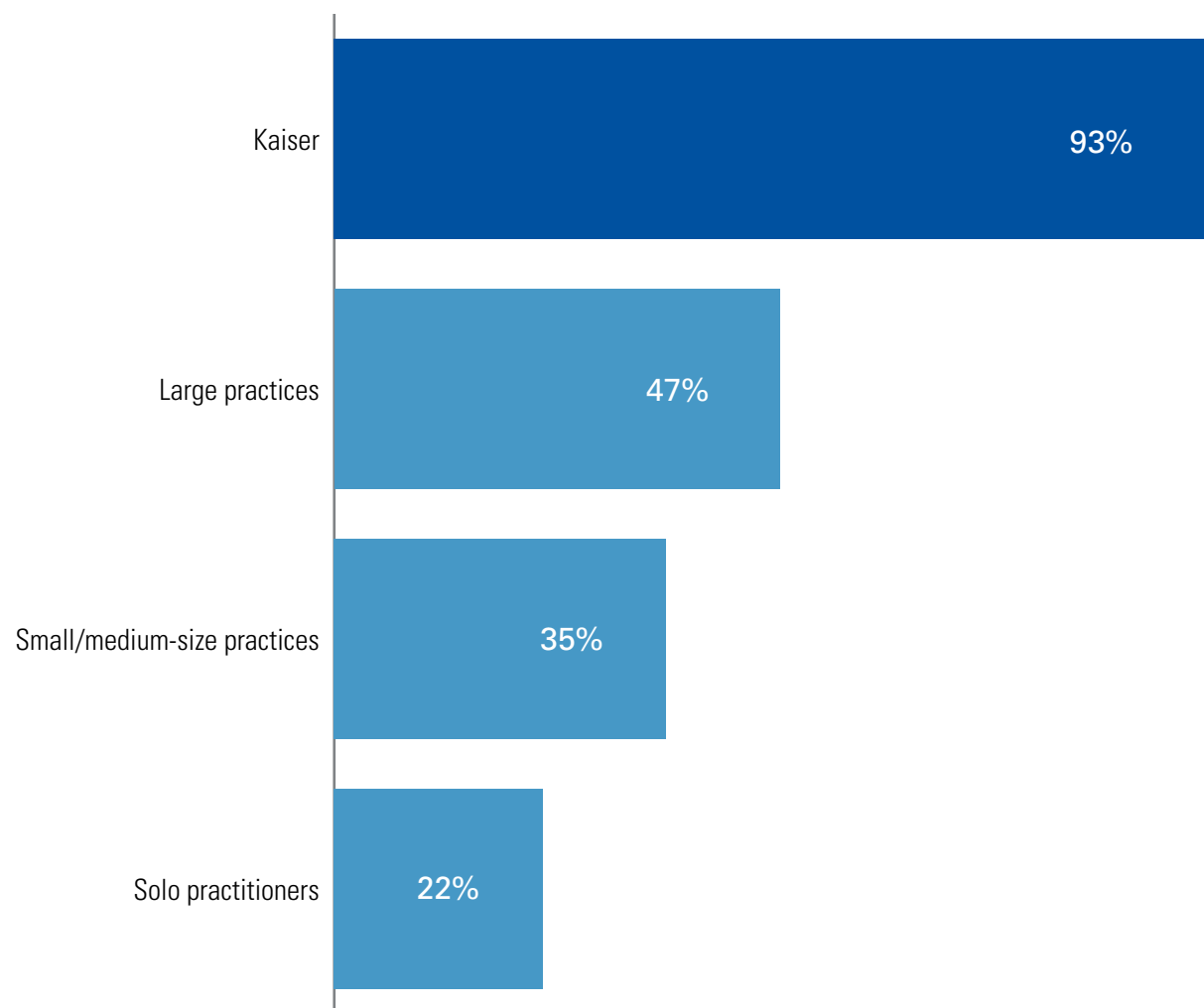
Note: Percentages don't add up to 100 percent due to rounding.

Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

Fifty-three percent of physicians reported that they “rarely” or “never” communicate with other doctors by email or a Web-based messaging system.

Often/Sometimes Communicate Electronically with Other MDs, by Practice Type, California, 2007



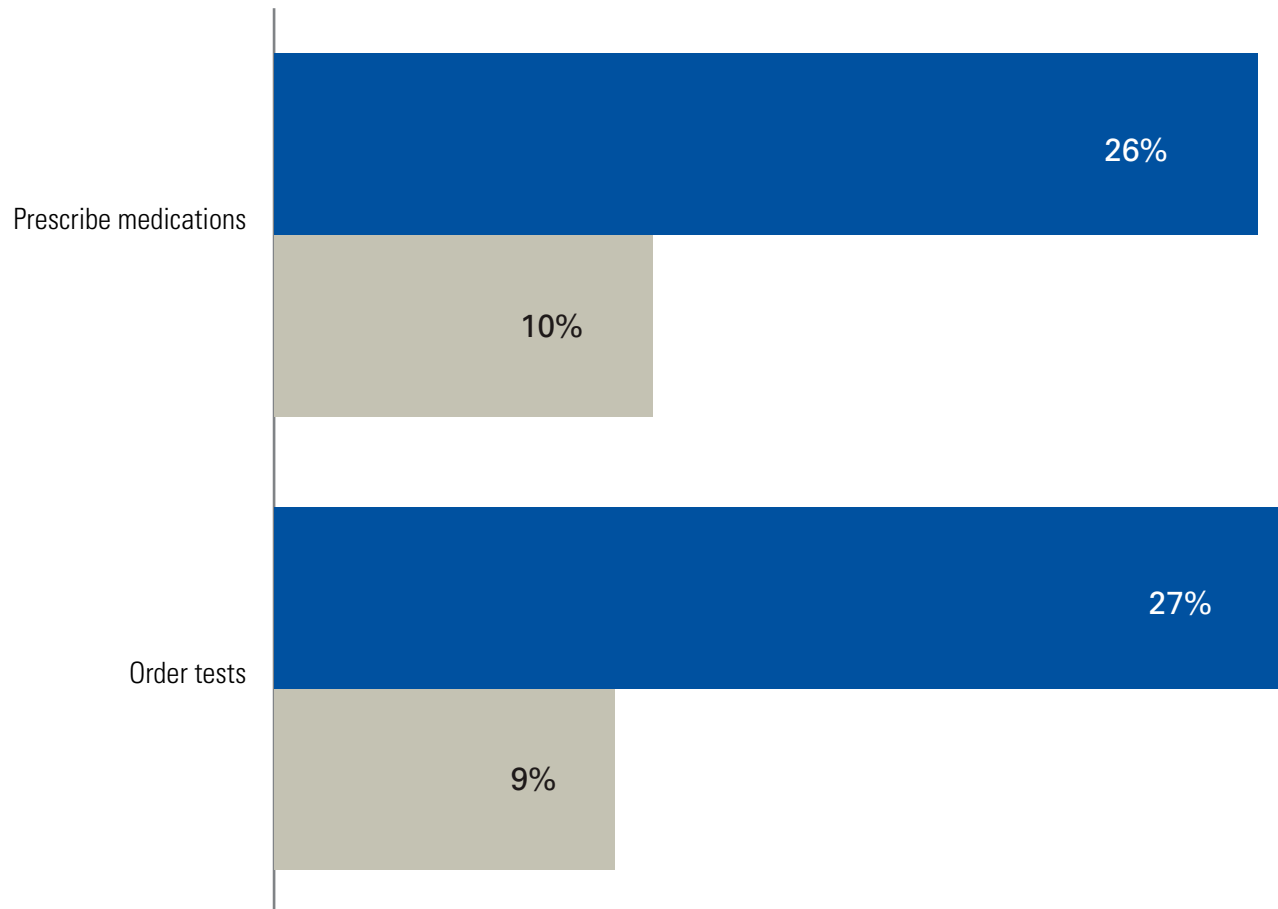
Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

Physicians who “often” or “sometimes” communicate with other physicians by email or a Web-based messaging system are more likely to be at Kaiser Permanente or in a large practice.

Physician Use of Electronic Prescribing and Test Ordering, California, 2007

■ Routinely
■ Occasionally

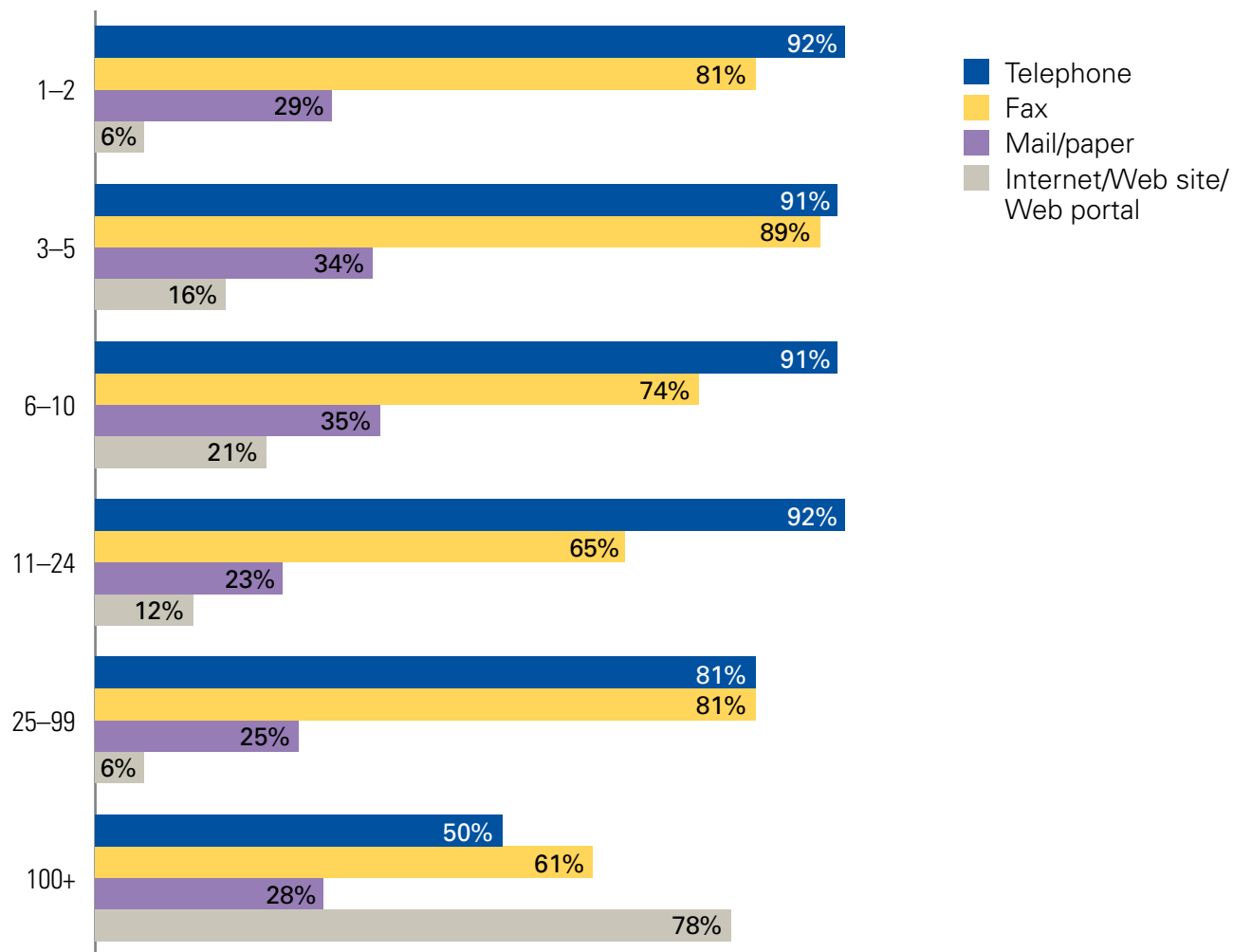


State of HIT in California Individual Physicians

More than one-quarter of physicians reported that they “routinely” prescribe medications and order tests electronically.

Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians.* Harris Interactive. June 2007.

Primary Tools Used by Medical Practices for Prescription Refills, by Number of MDs in Practice, California, 2005



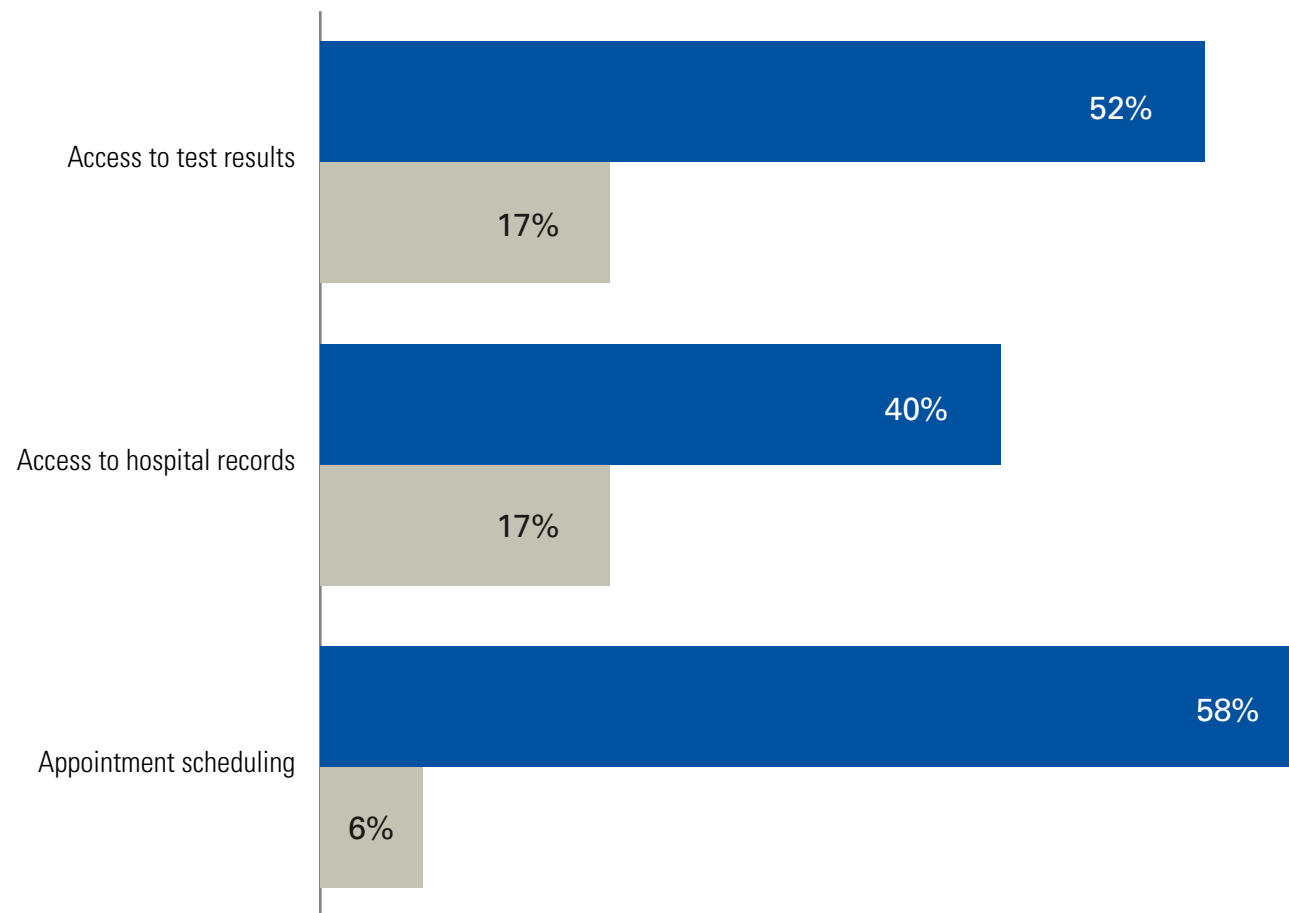
Source: *Health Information Technology Survey*. Center for Economic Services, California Medical Association. 2005.

State of HIT in California Individual Physicians

In all but the largest medical practices, telephone, fax, and mail/paper are still the primary tools used to authorize and manage prescription refills.

Physicians' Electronic Access to Test Results and Hospital Records and Use of Online Appointment Scheduling, California, 2007

■ Routinely
■ Occasionally

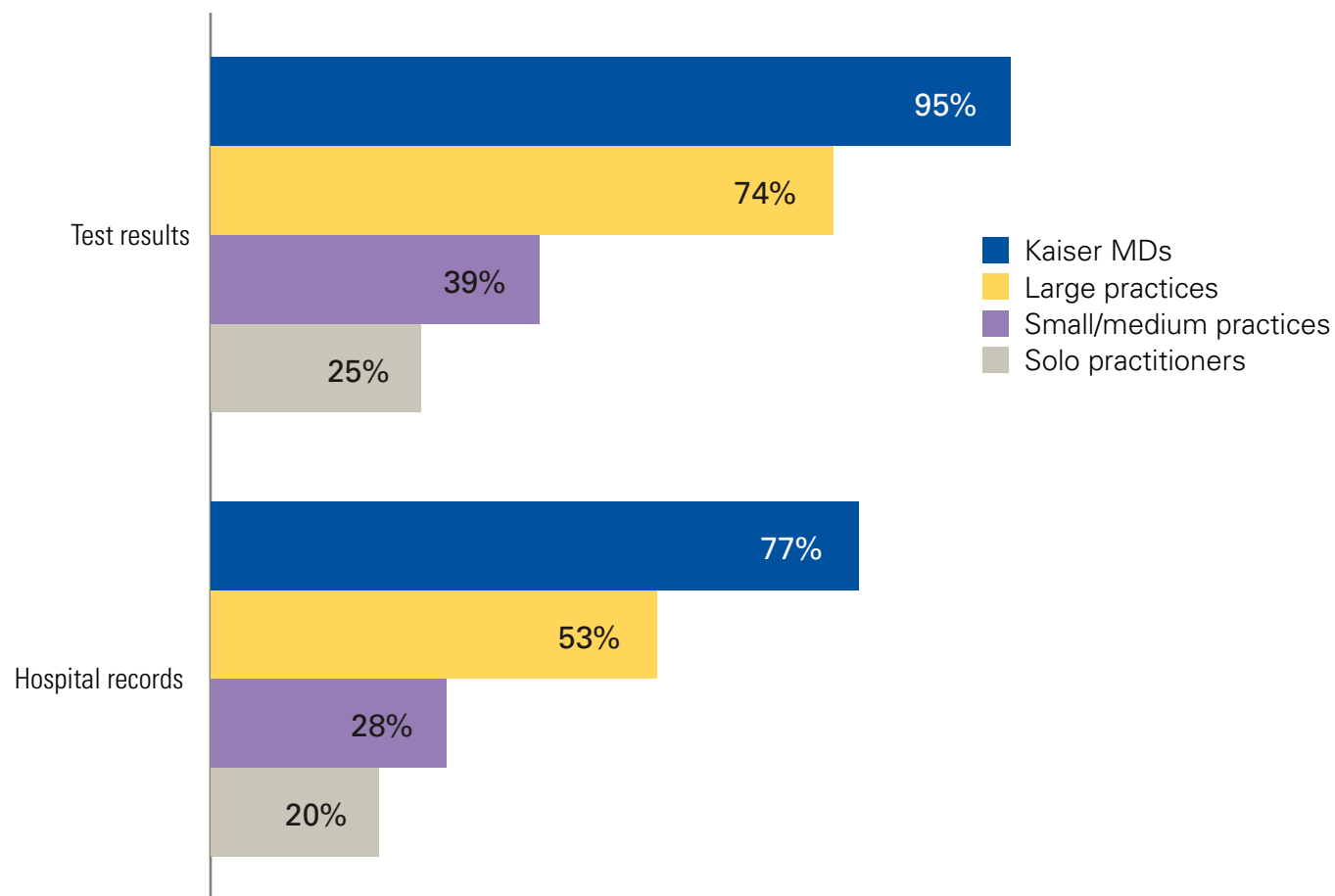


Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

More than half of physicians reported that they routinely have electronic access to patients' test results and that they routinely schedule appointments electronically.

Physicians' Electronic Access to Test Results and Hospital Records, by Practice Type, California, 2007



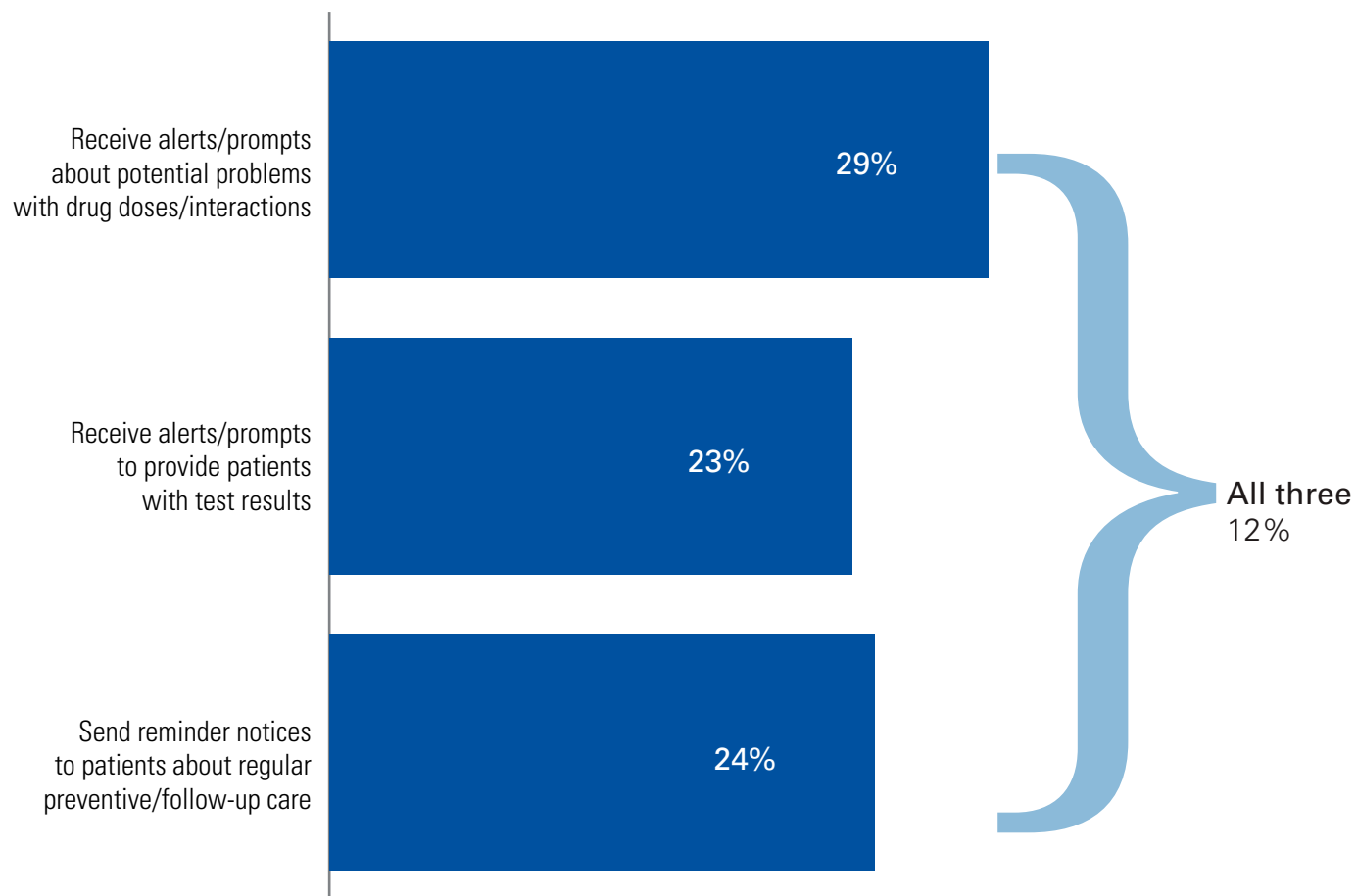
Notes: Large practice is 10 or more physicians; small/medium practice is 2 to 9 physicians (excluding Kaiser).

Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians*. Harris Interactive. June 2007.

State of HIT in California Individual Physicians

The largest number of physicians who reported that they have electronic access to patients' test results and hospital records were doctors at Kaiser Permanente, followed by those in large practices.

Physician Use of Electronic Alerts and Reminders, California, 2007

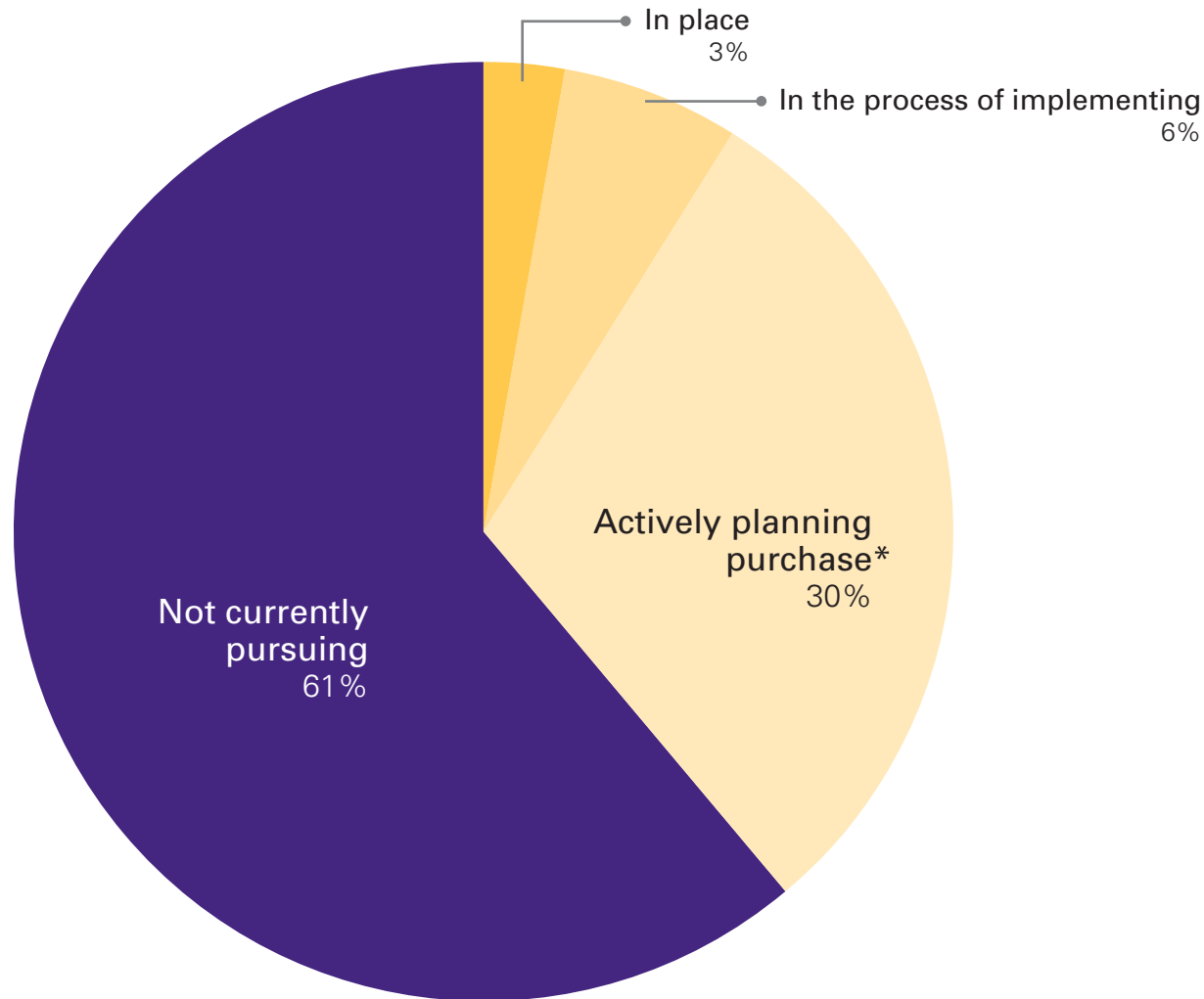


State of HIT in California Individual Physicians

About one-quarter of California physicians reported that they use electronic alerts/reminders for at least one of the three purposes cited. Only 12 percent reported routine use for all three purposes, compared to 7 percent of physicians in other states (not shown).

Source: *Health Perspectives in California. 2007 Survey of Primary Care Physicians.* Harris Interactive. June 2007.

Use of EHRs at Community Clinics, California, 2005



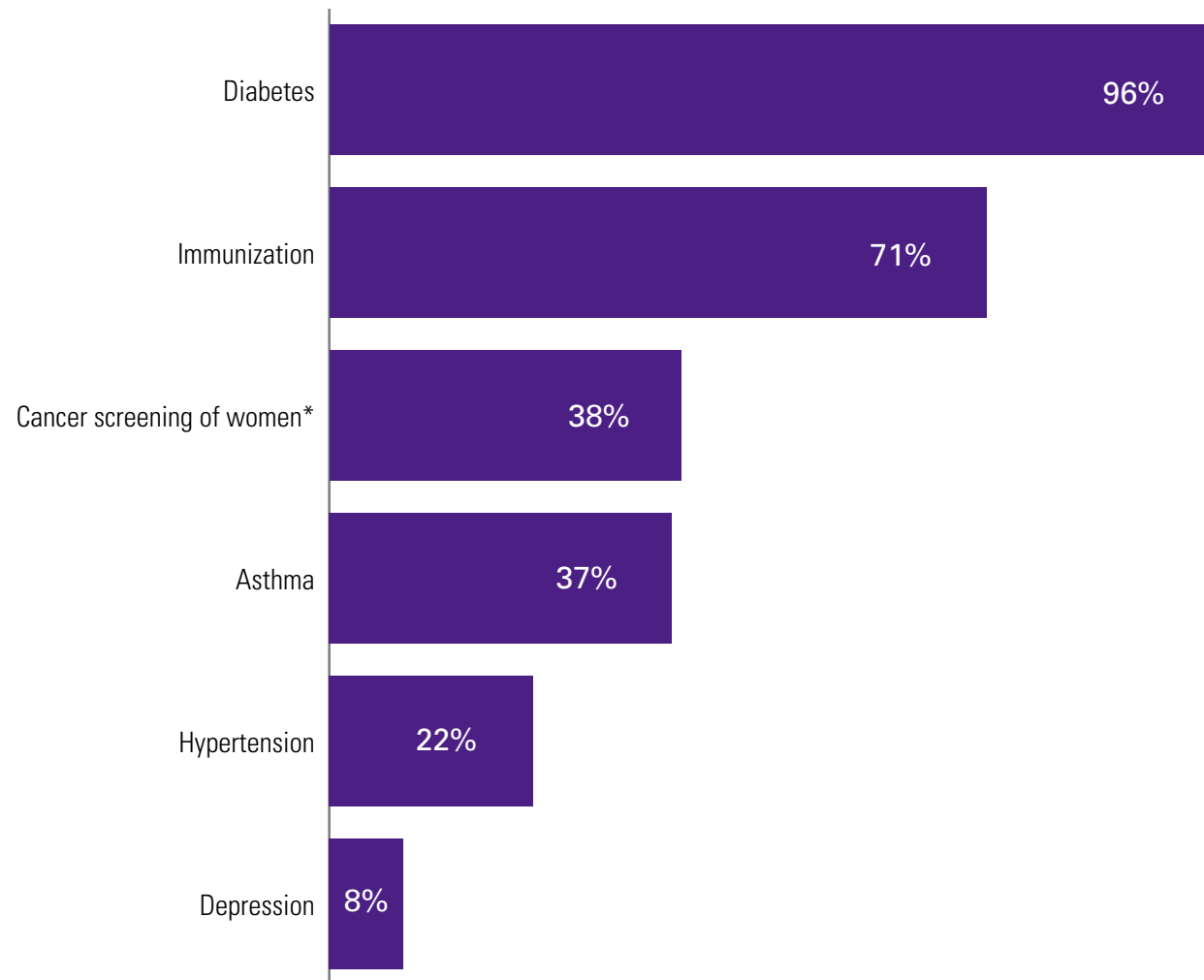
*E.g., has an operating EHR planning committee, is writing a request for proposals (RFP) from EHR vendors, or has issued an RFP.

Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

State of HIT in California Community Clinics

Very few community clinics reported that they have electronic health records (EHRs) in place. Sixty-one percent said their clinic is not pursuing the implementation of EHRs.

Community Clinics with Disease Registries in Place, California, 2005



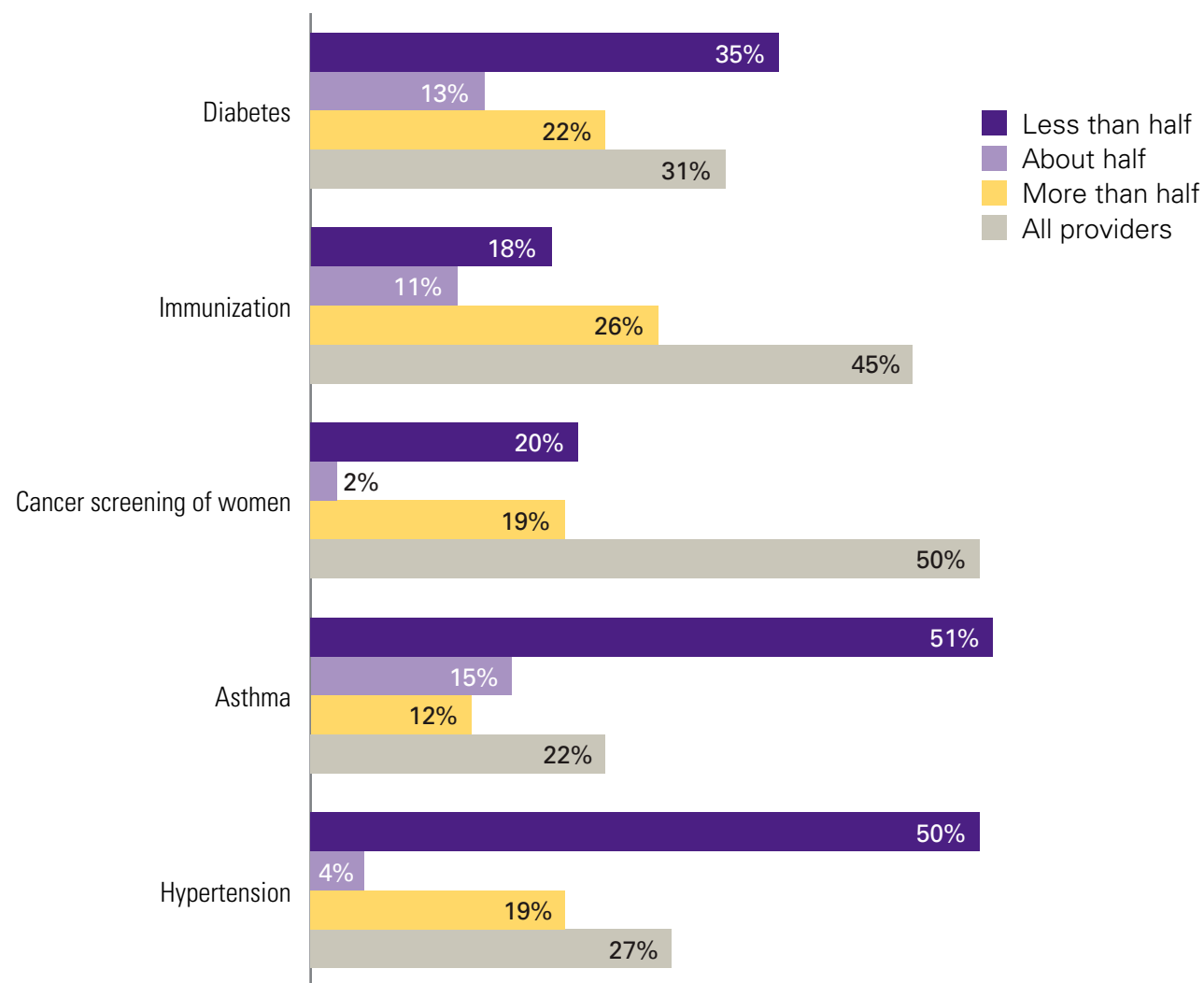
*E.g., Pap smears.

Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

State of HIT in California Community Clinics

The vast majority of community clinics reported that they don't maintain a disease registry for asthma, cancer screening of women, hypertension, or depression. However, many do maintain registries for diabetes and/or immunization.

Providers at Community Clinics Using Disease Registries, California, 2005

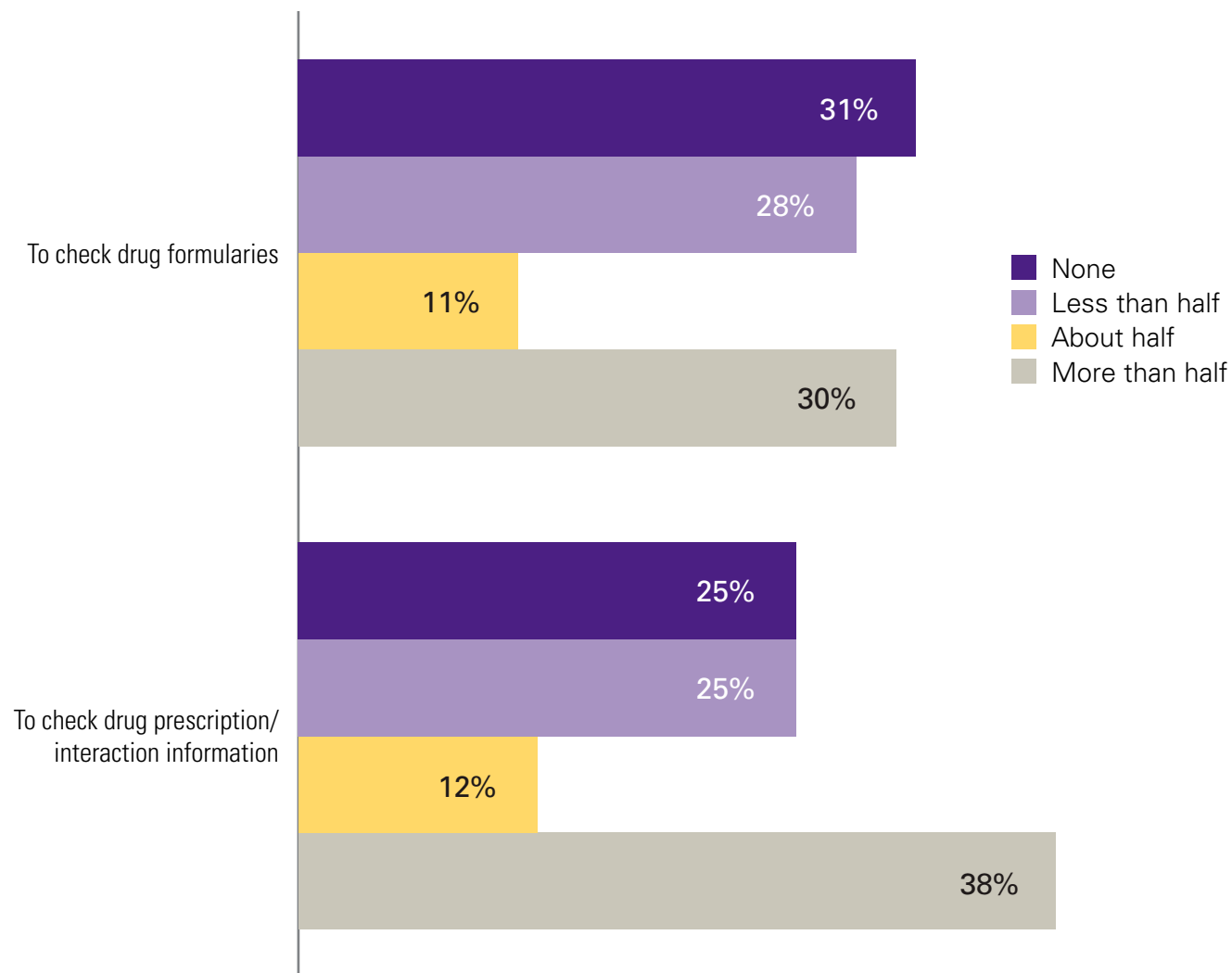


Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

State of HIT in California Community Clinics

Community clinics reported relatively low use of disease registries for diabetes, even though they also reported relatively high implementation of such registries.

Providers at Community Clinics Using PDAs for Particular Tasks, California, 2005

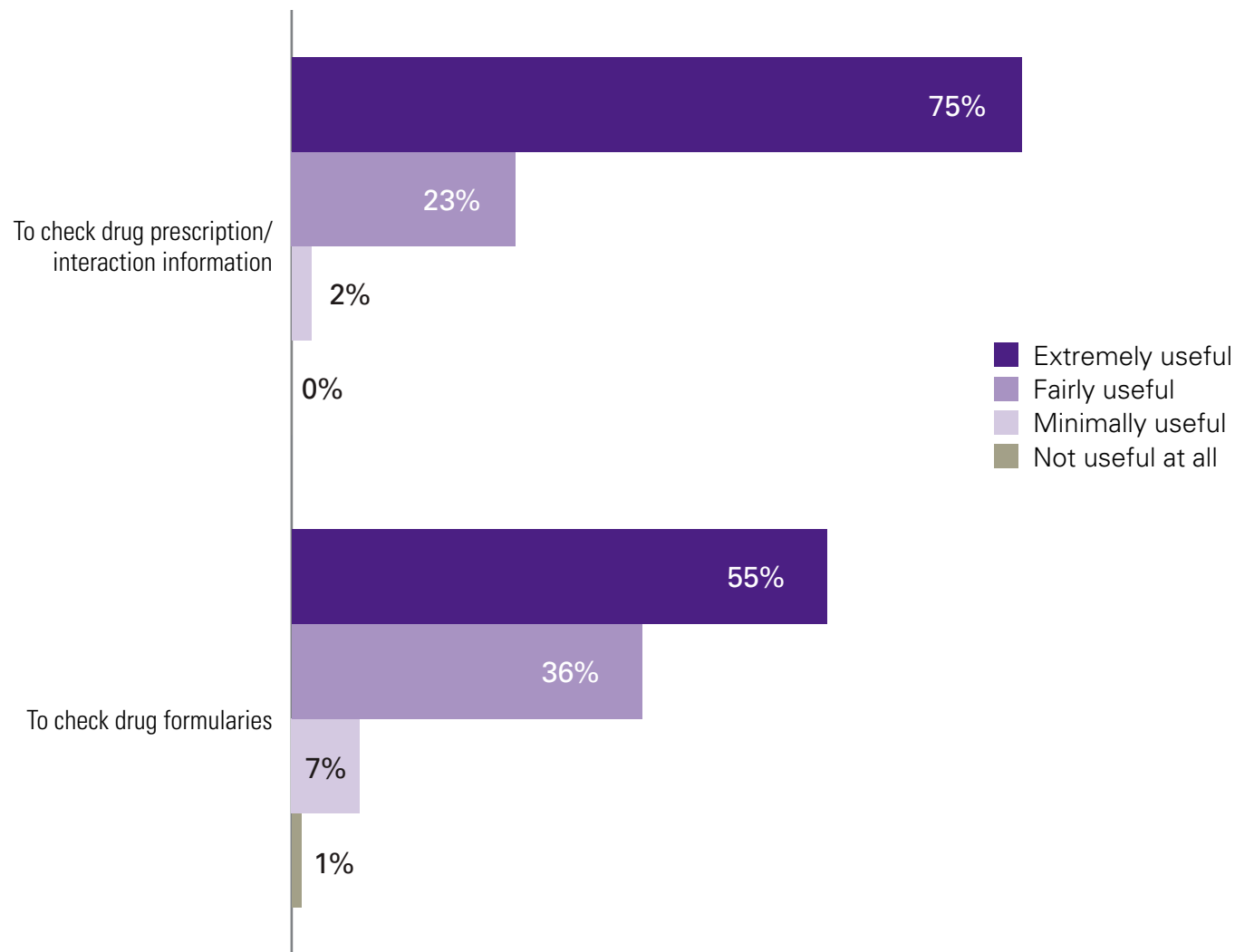


Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

State of HIT in California Community Clinics

Use of personal digital assistants (PDAs) to check drug formularies or drug prescription/interaction information isn't widespread among providers at community clinics.

Usefulness of PDAs for Particular Tasks at Community Clinics, California, 2005

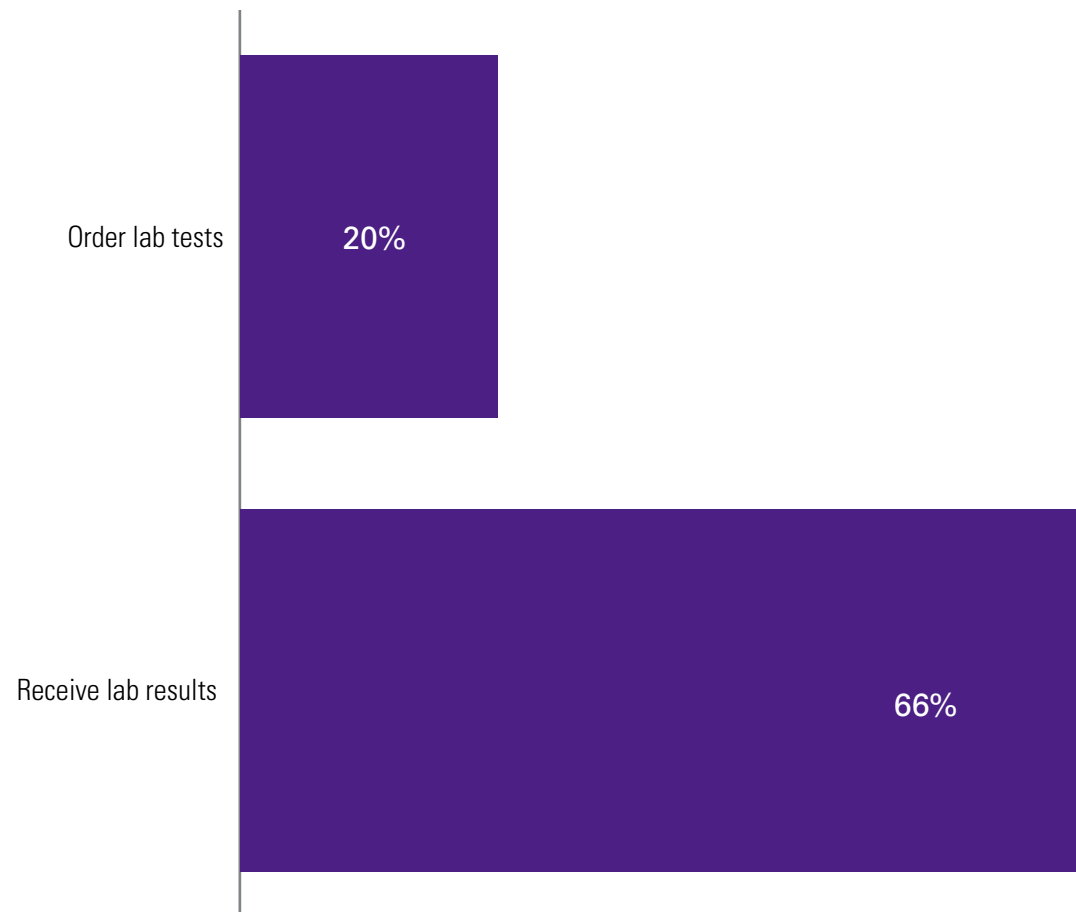


Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

State of HIT in California Community Clinics

Three-quarters of community clinics reported that providers who use a personal digital assistant (PDA) consider it to be “extremely useful” for checking drug prescription or interaction information. Fifty-five percent indicated that providers consider it to be “extremely useful” for checking drug formularies.

Community Clinics Ordering Lab Tests and Receiving Results Electronically, California, 2005

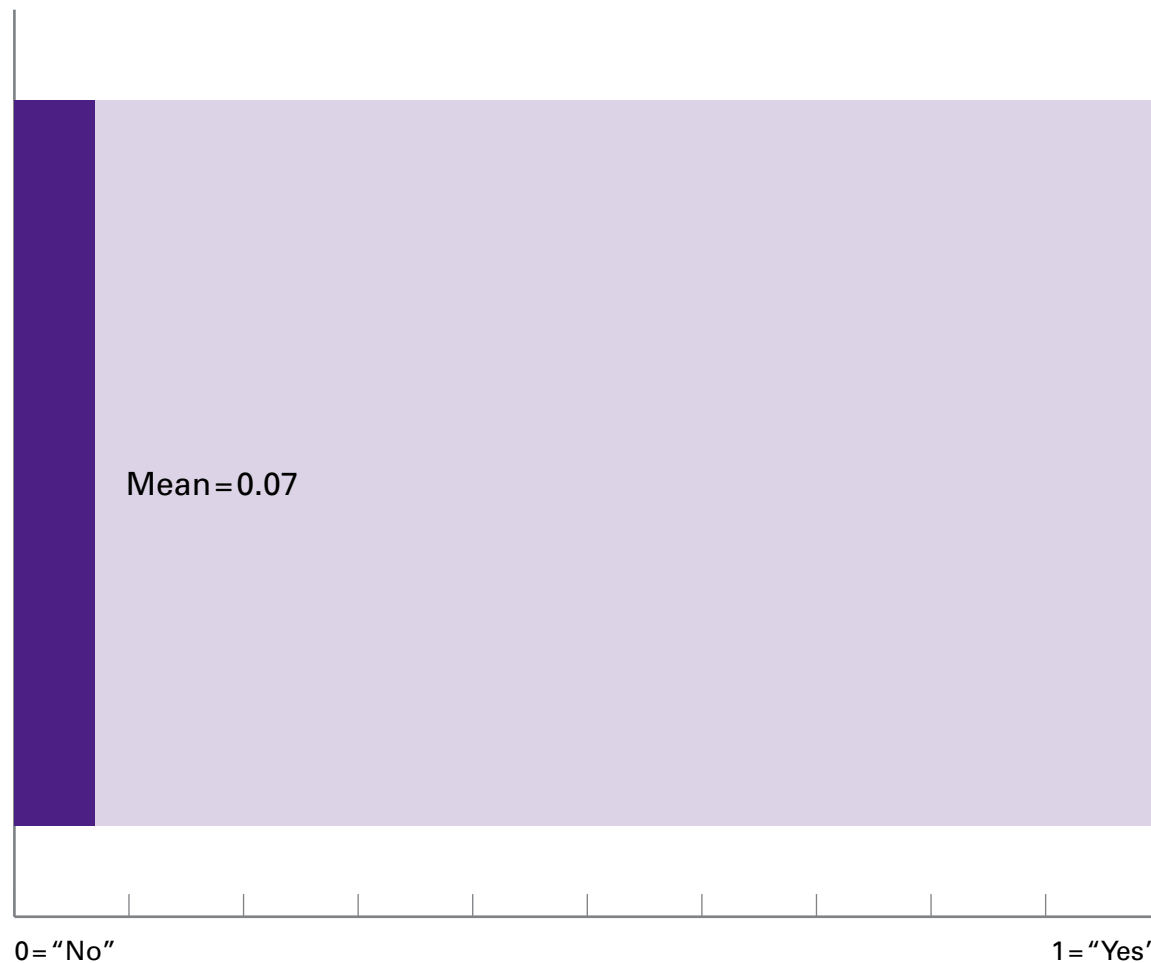


Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

State of HIT in California Community Clinics

Twenty percent of community clinics reported that they use an electronic link other than faxes to order lab tests. Two-thirds indicated that they use such a link to receive lab results.

Average Number of Community Clinics Ordering Pharmacy Prescriptions Electronically, California, 2005



State of HIT in California Community Clinics

Very few community clinics reported that they use an electronic data link other than faxes to order pharmacy prescriptions.

Source: 2005 Information Management Assessment. Medical Director Survey. Community Clinics Initiative.

Sources, Methodologies, and Definitions

The slides in this presentation are based on data from eight independent sources, which used diverse methodologies to collect the data between 2005 and 2007.

In 2005, the **Medical Group Management Association**, in collaboration with the University of Minnesota, surveyed medical group practices in the United States. It drew a stratified random sample of group practices—defined as three or more physicians practicing together with a common billing and medical record system—from a national database of 34,490 practices it had assembled for previous research. MGMA placed the sample into 16 cells (four regions and four practice sizes) and then randomly selected 50 percent of group practices in each cell. MGMA surveyed these practices in three stages: (1) It sent a Web-based survey to all of those that had an email address; (2) it sent a paper survey to those that did not have an email address and to those that did not respond to MGMA's request to complete the Web survey; and (3) it later conducted a shorter telephone survey of 749 group practices, randomly selected from the 16 cells to identify potential biases in the responses of participants in the Web-based and paper surveys. The telephone response rate was 94 percent. The total number of Web-based, paper, and telephone responses was 3,358, 177 of which were from group practices in California.

Harris Interactive, a market research firm, surveyed primary care physicians and pediatricians by mail on behalf of the California HealthCare Foundation between February and May of 2007. Harris drew a sample of 1,000 physicians from the current American Medical Association master file of all doctors practicing in California. Of the survey forms sent to these physicians, 119 were returned due to invalid addresses or ineligibility; Harris sent 49 replacement forms to physicians, which yielded a valid sample of 930. Harris received 361 completed surveys, a 39 percent response rate. It weighted the data by gender, years in practice, office or hospital setting, and specialty to come up with a representative statewide sample. It compared the California-only data to a national sample it had drawn in 2006 using the same methodology. The national survey took place from February to June of 2006 and obtained a 51 percent response rate. Throughout this report, Harris data include responses from California physicians in both the 2006 and 2007 surveys.

In 2006, **Cattaneo & Stroud**, a health care consulting firm, surveyed 302 medical groups in California. "Medical group" was defined as six or more primary care physicians contracting directly with an HMO. Two hundred and forty-seven groups, or 82 percent, responded. The survey asked about the implementation status of electronic medical records and chronic disease registries.

In December 2005, the **California Medical Association** surveyed the use of information technology by physicians in the state. CMA broadcast its survey via e-mail, fax, and placement on the association's Web site, giving physicians one month to respond to 212 items, which took about 20 minutes to complete. Three hundred fifty-nine physicians or physician staff responded. Because CMA broadcast the survey to a nonrandom sample of unknown size, it is not possible to compute a response rate. While most of the respondents (59 percent) were in practices comprising one or two physicians, practices of all sizes responded. Roughly equal proportions of primary care physicians and medical and surgical specialists participated.

Manhattan Research, which focuses on the health care market, surveyed 601 California adults (ages 18 and older) on behalf of the California HealthCare Foundation between August and September 2007. Manhattan aggregated these data with 407 responses obtained from its 2006 CyberCitizen® Health survey, for a total sample of 1,008. The survey entailed an in-depth, random-digit-dial telephone interview. Manhattan told participants it was researching their use of the Internet and other communication tools. It weighted the data for—and benchmarked them to—age, gender, education, and region using normative data from the latest U.S. census. The survey data are representative of both online and offline adults.

Evaluators for the **Community Clinics Initiative**, a grant-making program that supports community health clinics in California, conducted an e-mail survey in 2005 of clinic medical directors and executive directors to assess clinics' information technology capabilities. The survey gathered data from 177 California clinics, a 77 percent response rate.

State of HIT in California Appendix

GIVE US YOUR FEEDBACK

Was the information provided in this report of value? Are there additional kinds of information or data you would like to see included in future reports of this type? Is there other research in this subject area you would like to see?

We would like to know.



PLEASE CLICK HERE
to give us your feedback.
Thank you.

FOR MORE INFORMATION



CALIFORNIA
HEALTHCARE
FOUNDATION

California HealthCare Foundation
1438 Webster Street, Suite 400
Oakland, CA 94612
510.238.1040
www.chcf.org