Office of Oregon Health Policy and Research	OREGON HEALTH CARE QUALITY CORPORATION *A nonprofit partnership for quality improvement*

Oregon Electronic Health Record Survey
Ambulatory Practices and Clinics
Fall 2006

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SURVEY HIGHLIGHTS

The latest available national data for 2006 indicate that nationally **29.2% of office-based non-federal physicians** were using an electronic medical records system. The rates of adoption increase with practice size, ranging from 24.0% for solo practices to 46.5% for practices of eleven or more physicians.

The Oregon Electronic Health Records (EHR) survey asked ambulatory practices and clinics about their use of EHRs and electronic practice management (EPM) systems serving their clinicians in the fall of 2006. The survey responses indicate that Oregon is ahead of the national trends in EHR adoption with an estimated **53% of non-federal clinicians** working in practices or clinics where EHRs are present.

Highlights of the Oregon survey results include:
- Excellent survey response from Oregon practices/clinics: 58.4% overall with 50% to 61% in the practice groups of primary interest.
- EHRs are present in **26.8% of the practices/clinics** serving **52.8% of clinicians** (non-federal) or 55.0% with Veterans Administration clinicians.
- EPMs are present in 66.5% of the practices/clinics serving 82.8% of clinicians.
- 86% of EHR practices/clinics also have an EPM.

Higher rates of EHR adoption are associated with:
- Kaiser, OHSU and VA practices/clinics (100%).
- Health system operated and affiliated practices and clinics (52.2%).
- Practices with larger numbers of clinicians (>50%).
- Practices with more than one location (>30%).
- Multi specialty and mixed primary care practices (>40%).

Lower rates of EHR adoption are associated with:
- Solo clinician practices (19.3%)
- Practices with 2 to 4 clinicians (25.1%)
- Public/other types of clinics that are not Federally Qualified Health Centers (FQHCs)/Safety Net Clinics (20.4%).

Clinicians include physicians, physician assistants and nurse practitioners.

EHR System capabilities include electronic charts, test ordering and reports management, e-prescriptions, consultation referrals and reports, clinical decision support, disease management support and quality reports.

EPM System capabilities include patient scheduling, registration, eligibility, coverage contracts, billing, electronic claims submission, claims tracking, accounts receivable, workflow management tools and reports.

EHR products are provided by more than 30 different commercial vendors.
- Eight vendors provide products used by the majority (74%) of clinicians who use an EHR.
- Over 50% of practices and clinics with EHRs are using products **not yet certified** by the recently established Certification Commission for Healthcare Information Technology (CCHIT) affecting about one-third of clinicians.

Many practices/clinics reported they plan to adopt an EHR within the next two years, but there are differences based on the type of practice/clinic:
- Health system practices/clinics contemplate the greatest levels of EHR adoption within the next two years (91% of organizations, 98% of clinicians).
- FQHCs/Safety Net clinics contemplate high adoption within the next two years (71% of organizations, 77% of clinicians).
- Small clinician practices contemplate the lowest levels of adoption within the next two years for solo practices (34% of practices, 34% of clinicians) and practices with 2-4 clinicians (55% of practices, 56% of clinicians).

For private practices owned by physicians:
- EHRs are present in 27.0% of the practices/clinics serving 35.6% of clinicians with adoption rates range from 21.0% for solo practices to 46.6% for practices with ten or more clinicians.
- Ten vendors provide EHR products to 153 of 276 practices with an EHR that are used by 75% of private practices clinicians.

For practices/clinics that reported they **are not** planning to invest in EHR systems in the foreseeable future (beyond two years):
- The major concern is that EHR systems are too expensive (64% of practices).
- Many practices indicated they were satisfied with their paper records systems (48% of practices).
- In narrative comments many respondents indicated concerns about the cost vs. benefits of EHRs, or that their practices are too small to benefit, or that clinicians planned to retire within a few years.

Oregon Ambulatory EHR Survey 2006

Background

In 1991 the Institute of Medicine (IOM) called for the elimination of paper-based records within ten years, a goal that has clearly not reached.[1] The IOM reinforced the essential role that information technologies could play in addressing patient safety issues and improving quality.

In 2003, the IOM described the key capabilities of an electronic health record system.[2] The overall capabilities include:
- longitudinal collection of electronic health information for and about persons including information about the individual and health care provided to the individual,
- immediate electronic access to person- and population-level information by authorized, and only authorized users,
- provision of knowledge and decision-support that enhance the quality, safety, and efficiency of patient care, and
- support of efficient processes of health care delivery.

National EHR Adoption Rates: Adoption of EHRs in ambulatory care setting has been slow, especially in small practices. The latest available survey data from the National Ambulatory Medical Care Survey (NAMCS) for 2006 shows that nationally **29.2% of nonfederal office based physicians** were using some form an electronic medical records (EMR) system.[3] The Western region of the United States has the highest percentage (42.3%) of physicians reporting use of a full or partial EMR, compared to 23.5% in the Northeast, 23.5% in the Midwest and 24.2% in the South.

The NAMCS identified several factors related to EMR use including:
- EMR use declined with increased physician age.
- EMR use increased as the size of the practice increased as measured by the number of physicians.
- EMR use was much higher among health maintenance organizations (75.8%) compared with physicians in private practice (28.0%) and other types of ownership (33.5%).
- EMR use was higher in multi-specialty practices (34.5%) than in solo and single-specialty practices (28.0%).

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[1] Institute of Medicine. 1991. *The Computer-Based Patient Record; An Essential Technology for Health Care*, eds. Dick RS, Steen EB, Washington DC National Academy Press.

[2] Institute of Medicine. 2003. *Key Capabilities of an Electronic Health Record System: Letter Report*. Committee on Data Standards for Patient Safety. Washington DC. Available at http://www.nap.edu/catalog/10781.html.

[3] Hing E, Burt CW, Woodwell D, Electronic medical record use by office-based physicians and their practices: United States, 2006. Advance Data No. 393, October 26, 2007, Centers for Disease Control and Prevention, National Center for Health Statistical, Accessed November 8, 2007 at http://www.cdc.gov/nchs/data/ad/ad393.pdf.

Figure 1 from the CDC report shows the trend of NAMCS use rates from 2001 through 2006 for office-based physicians with Any EMR. Use rates for 2005 and 2006 are also shown for Comprehensive EMR systems that include the four functions of computerized prescription orders, computerized orders for tests, test results (lab or imaging) and clinical notes.

Figure 1. Percentage of office-based physicians using electronic medical records and using comprehensive electronic medical record systems: United States, 2001–2006

NOTES: EMR is electronic medical record. Trend for "Any EMR" is significant. "Any EMR" is medical records that are either fully or partially electronic. Comprehensive EMR system includes four minimum features: computerized orders for prescriptions, computerized orders for tests, test results (lab or imaging), and clinical notes. Includes nonfederal, office-based physicians who see patients in an office setting. Excludes radiologists, anesthesiologists, and pathologists.
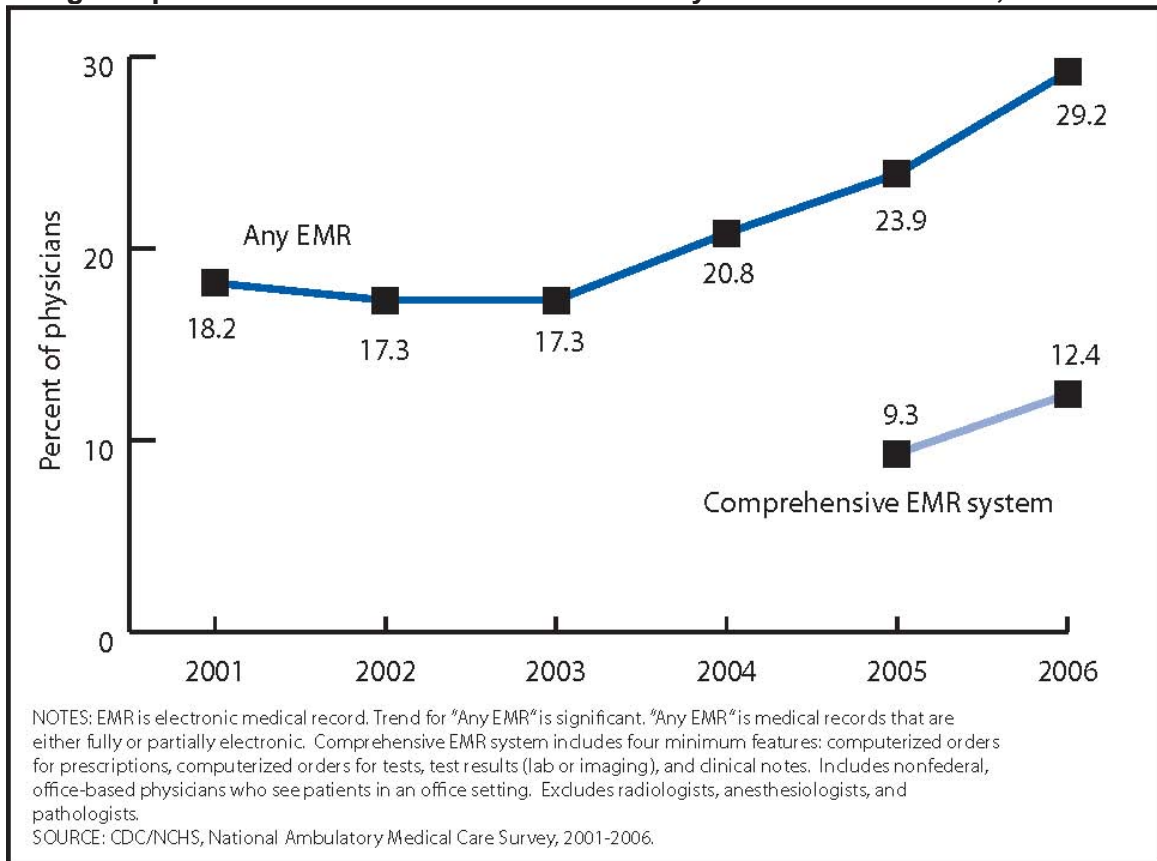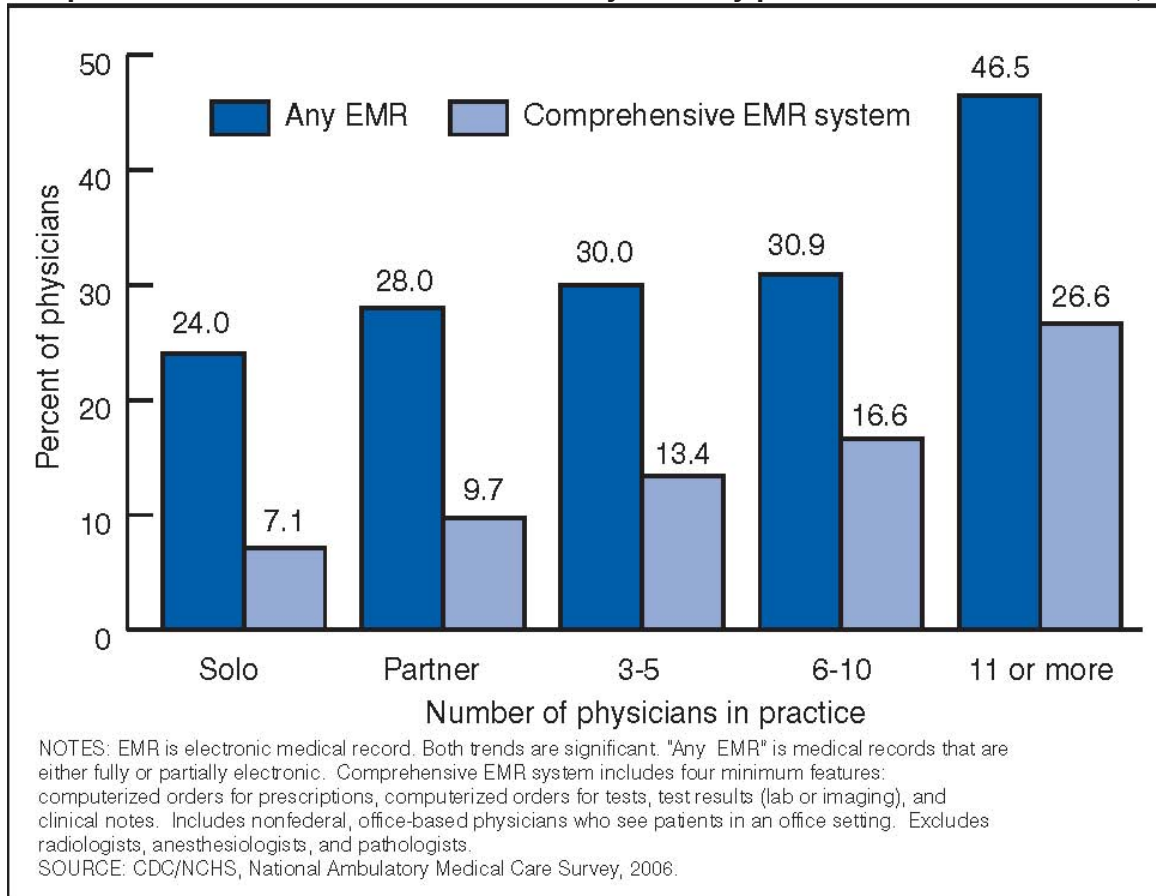SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey, 2001-2006.

Figure 2 shows the 2006 use rates by practice size with rates ranging from 16.0% for solo practices to 46.1% for practices of eleven or more physicians.

Figure 2. Percentage of physicians using electronic medical records and using comprehensive electronic medical record systems by practice size: United States, 2006

NOTES: EMR is electronic medical record. Both trends are significant. "Any EMR" is medical records that are either fully or partially electronic. Comprehensive EMR system includes four minimum features: computerized orders for prescriptions, computerized orders for tests, test results (lab or imaging), and clinical notes. Includes nonfederal, office-based physicians who see patients in an office setting. Excludes radiologists, anesthesiologists, and pathologists.
SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey, 2006.

A 2005 survey by Medical Group Management Association (MGMA) of U.S. office-based group practices with three or more physician practicing together with a common billing and medical record system, (n = 3,606, 21.1% response rate, January-February 2005). MGMA found that an estimated 14.1% of those practices were using an EHR.[4] EHR use rates ranged from 12.5% for practices with three to five physicians to 19.5% for practices with 21 or more physicians. MGMA did not estimate the number of physicians using EHRs in the survey practices. MGMA also reported that 11.5% of practices had EHRs implemented for all physicians in all locations, 12.7% of practices were in the implementation process, 34% of practices planned to implement within 24 months and 41.8% of practice had no plans to implement an EHR within 24 months. The survey inquired about fourteen possible benefits of EHRs. Nine of the benefits had mean

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[4] Gans D, Kralewshi J, Hammons T, Dowd B. Medical groups' adoption of electronic health records and information systems. Health Affairs, 24(5): 1323-1333, September-October 2005.

ratings that ranked between important and extremely important. The survey also inquired about fifteen possible barriers to implementing EHRs. Among practices without an EHR, the six greatest barriers in rank order were:

- lack of capital resources to invest in an EHR,
- concern about physicians' ability to input into the EHR,
- concern about loss of productivity during transition to EHR and inability to easily input historic medical record data into EHR, and
- lack of support from practice physicians and insufficient return on investment from EHR system.

EHR Adoption Surveys in Other States: A 2005 Massachusetts survey (n = 1,345, 71% response rate, June-November 2005) of office-based practices found in that state found that 23% of practices representing 45% of physicians were using an EHR[5]. EHR use rates ranged from 14% in solo practices to 52% for practices with seven or more physicians. An estimated total of 45% of Massachusetts physicians had EHRs.

A 2005 Florida survey (all ambulatory primary care physicians plus a stratified sample of specialty physicians, n = 4,203, 28.2% response rate, February-May 2005) found that 23.7% of physicians were supported by EHRs.[6] EHR use rates ranged from 13.8% in solo practices to 72.8% in practices with 50 or greater physicians. The study also noted routine office computer use (80%) for administrative functions.

A 2007 Nebraska survey (Nebraska physicians, n = 1,274, 47.8% response rate, February-May 2007) of office-based practices found that 23% of physicians had a fully implemented EHR, 17% were in the implementation process, 16% were in the process of selecting an EHR, 32% were still evaluating the need for an EHR in their practice and 11% of physicians had no plans to implement an EHR.[7]

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[5] Simon SB, Kaushal R, Cleary PD, Jenter CA, Volk LA, Poon EG, Orav EJ, Lo HG, Williams DH, Bates DW, Correlates of electronic health records adoption in office practices: a statewide survey. J Am Med Informatics Association, 2007; 14:110-117 (January/February 2007).

[6] Menachemi N, Brooks RG. EHR and other IT adoption among physicians: results of a large-scale statewide analysis. Journal of Healthcare Information Management, 20(3): 79-87.

[7] Galt K, Johnson S, EHR Nebraska Research Team. How many physicians have adopted electronic health records in Nebraska, an update on the Nebraska Medical Association project. June 27, 2007 accessed October 3, 2007 at http://chrp.creighton.edu/documents/nma_publication_and_report.pdf.

Oregon Survey Goals

The Oregon 2006 Electronic Health Records (EHR) Survey of Ambulatory Practices and Clinics has multiple goals, including:
- determine the extent of EHR adoption in Oregon's ambulatory practices and clinics,
- identify the characteristics of practices and clinics using and not using EHRs including the relationship with electronic practice management (EPM) systems
- identify the EHR and EPM systems used by practices and clinics,
- identify concerns of practices and clinics regarding the future adoption of EHR systems, and
- provide health policy makers with relevant information about the extent of EHR usage.

Survey Methods

Survey Distribution and Returns: The 2006 survey was mailed on August 2006 to a list of 2,403 Oregon ambulatory clinics and physician practices. The ambulatory clinics and practices list was compiled from several sources including data maintained by the Office for Oregon Health Policy and Research (OHPR), an Oregon Health and Sciences University (OHSU) clinic survey list, the Oregon 2005 EHR survey list, and a medical supply vendor list. The list of 2,403 included multiple locations for clinics and practices representing 2,054 organizational entities.

The survey was fielded between August 20, 2006 and November 2, 2006 using a three-wave protocol:
- first mailing: transmittal letter dated August 11, 2006 and the two-page survey form shown in Appendix B.
- second mailing: reminder postcard to all recipients one week after first mailing, and
- third mailing: complete survey packet mailed to non-respondents abut two weeks following the postcard reminder.

Survey recipients had the option the option of completing an online survey or the paper survey version on or by mail with a postage-paid return envelope. Respondents were strongly encouraged to use the electronic survey version. Survey responses returned by mail were entered into the online survey application by OHPR staff. Responses received after the online survey was closed were entered directly into the data file by OHPR staff.

Data Cleaning: Data cleaning and editing was completed in several stages.

Initial data cleaning and editing included:
- Since the survey instrument did not request an address or zip code (a survey design oversight) OHPR added City and ZIP codes to data file using information from the mailing list file, information contained in the submitted responses and other OHPR data sources.
- Multiple responses from the same organization were eliminated or consolidated. Multiple responses occurred when respondents tried to complete the survey in multiple

online sessions from different computers. Some respondents completed both online and mail-in responses. The most complete response to the survey questions was used. For identical duplicate responses, the survey with the earliest date was used.

Second stage data cleaning and editing included:
- Reviewing Other EHR responses to verify that they were real EHR systems.
- Consolidated multiple responses from several organizations.
- Updated number of clinicians for several organization based on additional information.
- Excluded 65 clinics from initial analyses due to missing information on the number of clinicians.

The data from the second stage cleaning/editing was used to produce preliminary results in January 2007.

Final data cleaning and editing included:
- Reviewing missing zip codes. Adding zip codes where possible from other sources including the survey responses, provider and health system directories and online searches.
- Reviewing missing values for number of clinicians and practice locations. Filled-in missing data where possible from other sources.
- Reviewing clinician numbers and practice locations for health systems for scope and consistency. Updating responses based on information from health system website provider listings and discussions with some systems.
- Consolidated multiple responses from the same organizations and clarifying inconsistent responses with practices/clinics.
- Reviewing other responses for EPM and EHR systems, and coding additional systems.
- Coded responses for practice type, practice size and specialty categories.

Survey Characteristics

Key Definitions

Clinicians: The survey focuses on clinicians providing ambulatory care in practices and clinics. Clinicians include physicians (MDs and DOs), physician assistants (PAs) and nurse practitioners (NPs).

Practice Types: Clinics and practices surveyed are categorized into nine functional categories identified as **practice types** defined as follows:
- **Clinician Names:** Practices identified by the name of individual clinicians, e.g., Joseph Doakes, MD, Drs Smith and Jones.
- **Clinic/Practice Names:** Practices identified other names, e.g., Albany Clinic, Pacific Medical Group.
- **FQHCs/Safety Net Clinics:** Federally qualified health centers (FQHCs) as identified on the Oregon Primary Care Association website at http://www.orpca.org/FQHC/index.php including the affiliated clinics of the FQHCs.

- **Public/Other Clinics:** Public health departments, school-based clinics, tribal clinics and college health centers that are not on the FQHC list.
- **Health System Practices:** Clinics and practices identified as part of or affiliated with hospitals and health systems excluding clinics operated by Kaiser Permanente, Oregon Health & Sciences University (OHSU) and the Veterans Affairs.
- **Kaiser/OHSU/VA:** Clinics and practices operated by Kaiser Permanente, OHSU and the VA.
- **Community Hospitals:** Community hospitals that did not have specific identified ambulatory clinics or practices.
- **Ambulatory Surgery Centers (ASCs):** Freestanding ASCs serving a spectrum of physicians in a community. Note some ASCs are operated in connection with the ambulatory practice of a physician group or practice. Those ASCs are considered as part of practices in the Clinic/Practice Names practice type.
- **Unidentified:** Clinics and practices that submitted responses anonymously that could not be categorized.

Primary Practice Types of Interest: Survey results reported **by practice type** in the Appendix C tables use these nine practice types. Summary results discussed in the body of this report usually exclude the three practice types for Community Hospitals, ASCs, and Unidentified. Community Hospitals are excluded since the sample is small (two organization responses) and not the primary focus of the EHR survey. ASCs (seven organization responses) are excluded since they are not the principal sites where ambulatory care is provided on a continuing basis and may double count the clinicians who maintain their own practices and use the ASCs selectively. Unidentified responses (34 organizations) are excluded since they cannot be categorized by practice type.

Specialty Categories: Respondents were asked to indicate the specialties and sub-specialties of the clinicians in the practice or clinic using 31 check boxes or other. For the analysis of practices/clinics by specialty mix, the following **specialty categories** were utilized;
- **Mixed Primary Care:** includes combinations of family medicine/practice/internal medicine along with pediatrics and/or obstetrics/gynecology.
- **Multiple/Multi-Specialty:** multiple specialties that would include primary care specialties and other specialties.
- **FP, IM, GP, geriatrics:** practices limited to combinations of family medicine/practice, internal medicine, general practice and/or geriatrics.
- **Pediatrics & specialties:** practices limited to pediatrics and pediatric specialties.
- **Obstetrics/Gynecology:** practices limited to obstetrics, gynecology and related specialties.
- **Medicine/other specialties:** practices limited to medicine specialties (cardiology, endocrinology, nephrology, gastroenterology) along with dermatology, neurology and occupational medicine.
- **Psychiatry, addiction:** practices limited to psychiatry, behavioral health and addiction medicine.
- **Surgery & specialties:** practices limited to general surgery and surgical-related specialties including cardiac surgery, ENT, neurosurgery orthopedics, pediatric surgery, plastic surgery and urology.

- **Imag, path, anesth, crit care, emerg:** practices <u>limited</u> to imaging-diagnostic radiology, pathology, anesthesiology, critical care, hospitalists and emergency medicine.
- **Ophthalmology, optometry:** practices <u>limited</u> to ophthalmology and other eye-related specialties.
- **Other specialties:** practices limited to physical medicine and rehabilitation, rehabilitation, physiatry and public health.

Regions and Counties: For the analysis of EHR use throughout Oregon regions and counties are reported in the following region/county groupings based on health care market areas:
- Regions:
    o **Central Oregon:** Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco and Wheeler counties.
    o **Eastern Oregon:** Baker, Gilliam, Malheur, Morrow, Umatilla, Union and Wallowa counties.
    o **Northwestern Oregon:** Clatsop, Columbia and Tillamook counties.
    o **Portland Metro Area:** Clackamas, Multnomah, Washington and Yamhill counties.
    o **Southwestern Oregon:** Coos, Curry, Douglas and Josephine counties.

- Counties, County Clusters
    o Jackson County.
    o Klamath County.
    o Lane County.
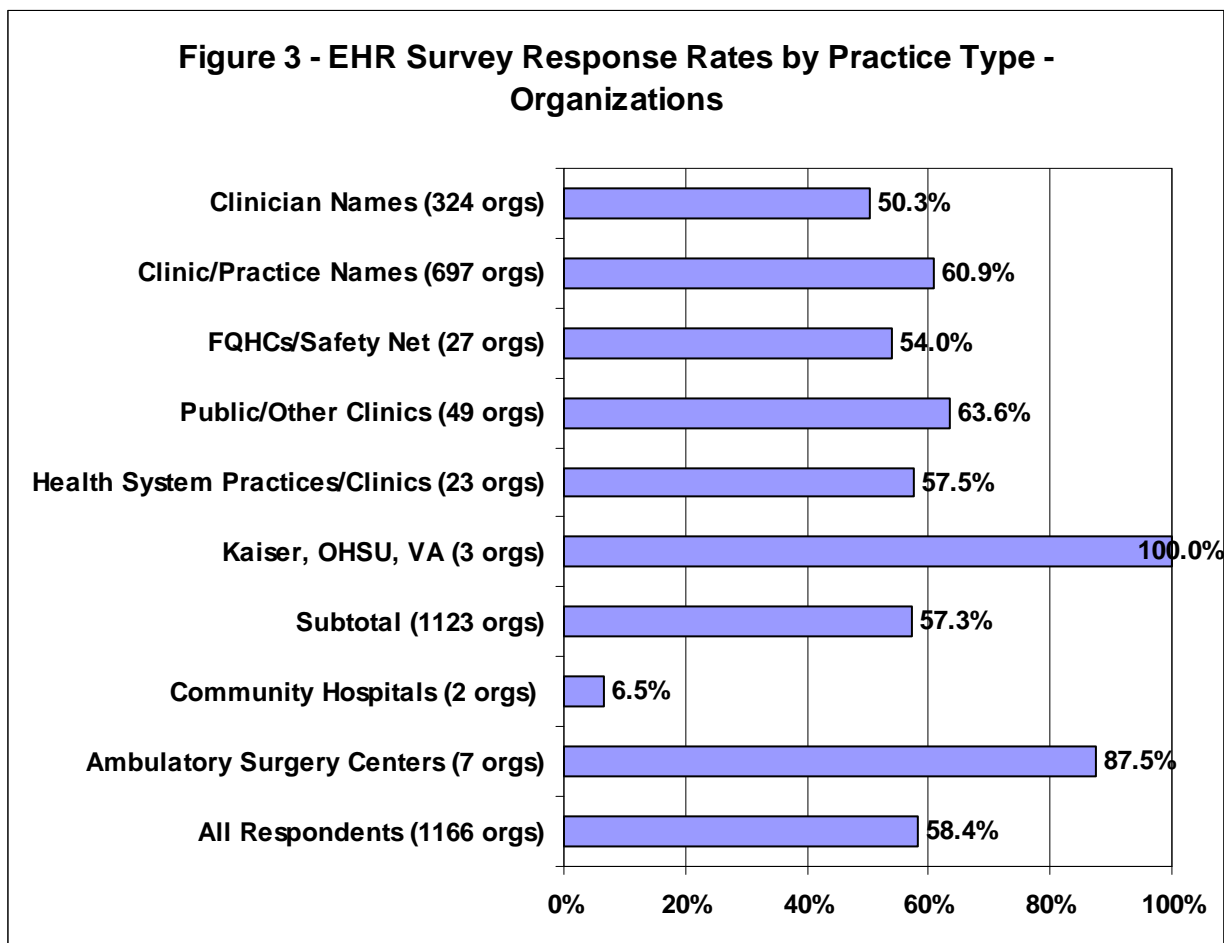   o Linn, Benton, Lincoln counties.
    o Marion and Polk counties.

Unit of Analysis

The primary unit of analysis are the for practices/clinics organizations since they are assumed to be the primary focus of decision making about the adoption of EHR and EPM systems. The number of clinicians, number of locations and other factors are considered to be attributes of an organizational entity. Multiple practices, clinics or locations operated by an organization (e.g., Oregon Clinic, Legacy Clinics, PeaceHealth Medical Group, Providence Medical Group) are considered to be under the auspices of a single organizational entity. The number of locations for an organizational entity represents the number of separate physical locations. Multiple specialty practices operating in the same facility are considered to be operating in one location.

For clinics and practices operated by Federally Qualified Health Centers (FQHCs), public health departments, school districts, colleges and tribes survey responses were treated in a different manner. If a safety net practice or clinics had multiple locations that seemed to operate as single organizational entity, it was treated as a single organization with multiple locations (e.g., Virginia Garcia, Valley Family Health Care in Ontario). If the same county operated a mental health clinic and a general clinic, they were treated as two entities given the different functional nature of the programs. Multnomah and Clackamas County clinics were treated as separate entities since the decision making and phasing of EHR implementations seems to be on a clinic by clinic basis.

Survey Response Rate

Overall, 58.4% of practices and clinics receiving the survey submitted responses. Figure 3 shows the response rates for each practice type. For practice types with twenty or more responses (99% of total responses), the response rates are in a relatively narrow range of 50% to 64%. Of the largest practice type categories of responses, the lowest response rate is from the Clinician Names type at 50% which tend to be the smallest practices. For the respondents, Appendix C, Tables 2, 3-1 and 3-2 shows that the Clinician Names practice type has the smallest number of clinicians per practice (1.3 clinicians) and 63.2% of practices have four or fewer clinicians.

Figure 3 - EHR Survey Response Rates by Practice Type - Organizations

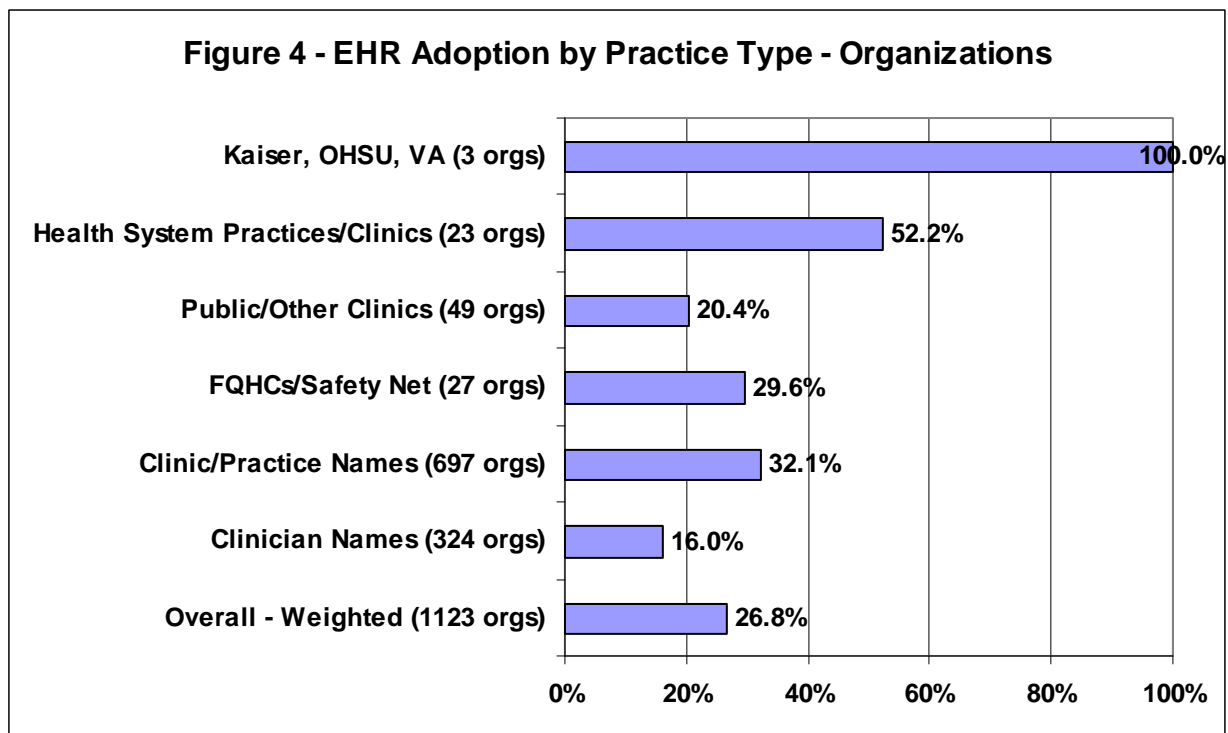| Practice Type	Response Rate
Clinician Names (324 orgs)	50.3%
Clinic/Practice Names (697 orgs)	60.9%
FQHCs/Safety Net (27 orgs)	54.0%
Public/Other Clinics (49 orgs)	63.6%
Health System Practices/Clinics (23 orgs)	57.5%
Kaiser, OHSU, VA (3 orgs)	100.0%
Subtotal (1123 orgs)	57.3%
Community Hospitals (2 orgs)	6.5%
Ambulatory Surgery Centers (7 orgs)	87.5%
All Respondents (1166 orgs)	58.4%

Source: Appendix C, Table 1.

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EHR Adoption – All Organizations

EHR adoption rates are shown for organizations of primary interest in this section on the basis of the number of organizations and the number of clinicians with the practices and clinics. Adoption rates for just the clinician organizations are shown in the next section. Given the design of the survey, there is an implicit assumption that all clinicians within the practice or clinic use the EHR system.

Adoption by Type of Practice Organization: Figure 4 shows that the EHR adoption rates by practice type across all organizations. The overall organization adoption rate for the organizations of primary interest is 27.5% (n = 1,123 organizations). The overall weighted adoption rate (adjusting for variable response rates) is **26.8%**. The highest rates of organization adoption are for practices/clinics operated by health systems (52.2%) and Kaiser, OHSU, VA (100%). The lowest adoption rates are for Clinician Name practices (16.0%) and the Public/Other Clinics (20.4%).

Figure 4 - EHR Adoption by Practice Type - Organizations

Practice Type	Adoption Rate
Kaiser, OHSU, VA (3 orgs)	100.0%
Health System Practices/Clinics (23 orgs)	52.2%
Public/Other Clinics (49 orgs)	20.4%
FQHCs/Safety Net (27 orgs)	29.6%
Clinic/Practice Names (697 orgs)	32.1%
Clinician Names (324 orgs)	16.0%
Overall - Weighted (1123 orgs)	26.8%

Source: Appendix C, Tables 4-1, 4-2.

Calculation of a non-federal organizational adoption rate by excluding the VA from the overall rate lowers the number of organizations to 1,122 with the overall organization adoption rate remaining as 27.5%

Figure 5 shows that the EHR adoption rate by practice type for 7,907 clinicians at the organizations of primary interest. The overall weighted clinician adoption rate is **55.0%**. The highest rates of clinician adoption are for practices/clinics operated by health systems (95.1%) and Kaiser, OHSU, VA (100%). The lowest adoption rates are for Clinician Name practices (16.8%) and the FQHC/Safety Net Clinics (34.6%). As shown for both organizations and clinicians, adoption rates for the Clinic/Practice Names type is twice that of the Clinicians Names type.

Figure 5 - EHR Adoption by Practice Type - Clinicians

Practice Type	Adoption Rate
Kaiser, OHSU, VA (2104 clinicians)	100.0%
Health System Practices/Clinics (917 clinicians)	95.1%
Public/Other Clinics (313 clinicians)	42.2%
FQHCs/Safety Net (82 clinicians)	34.6%
Clinic/Practice Names (1473 clinicians)	37.7%
Clinician Names (72 clinicians)	16.8%
Overall - Weighted (7907 clinicians)	55.0%
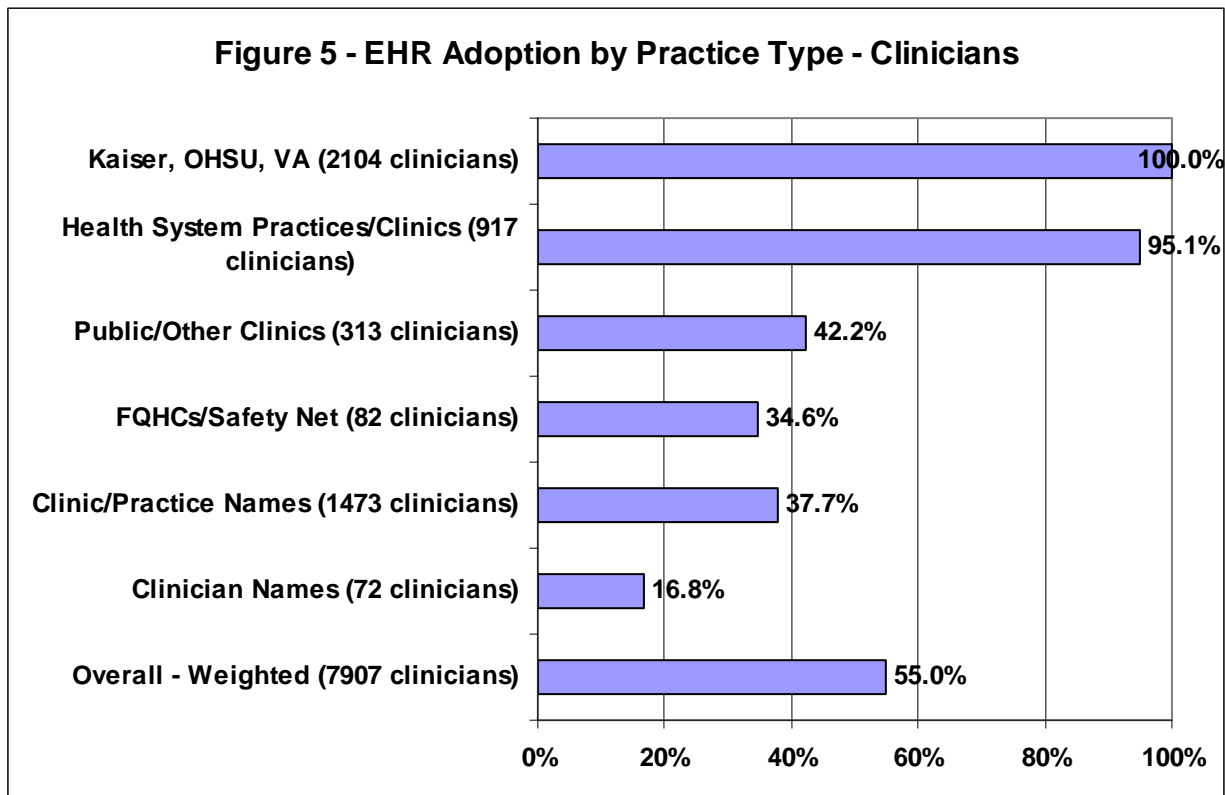
Source: Appendix C, Tables 5-1, 5-2.

Calculation of a non-federal clinician weighted adoption rate by excluding the VA clinicians from the overall rate lowers the total number of clinicians to 7,360 with an overall adoption rate **52.8%**

Adoption by Size of Practice: Figure 6 shows EHR adoption rates by practice size for organizations providing practice size information. The overall organization adoption rate is 27.0% (n = 1,151 organizations). The highest rates of organization adoption are for practices/clinics with 50 or more clinicians (68.4%) and 10 to 19 clinicians (54.7%). The combined rate of adoption for practice with 10 or more clinicians is 50.4%. The lowest adoption rates are for solo practices (19.3%) and practices with 2 to 4 clinicians (25.1%). Generally, the adoption rate increases with practice size. The lower rate for practices with 20 to 49 clinicians (25.9%) is an exception to the trend of greater adoption with larger practices.

Figure 6 - EHR Adoption by Practice Size - Organizations

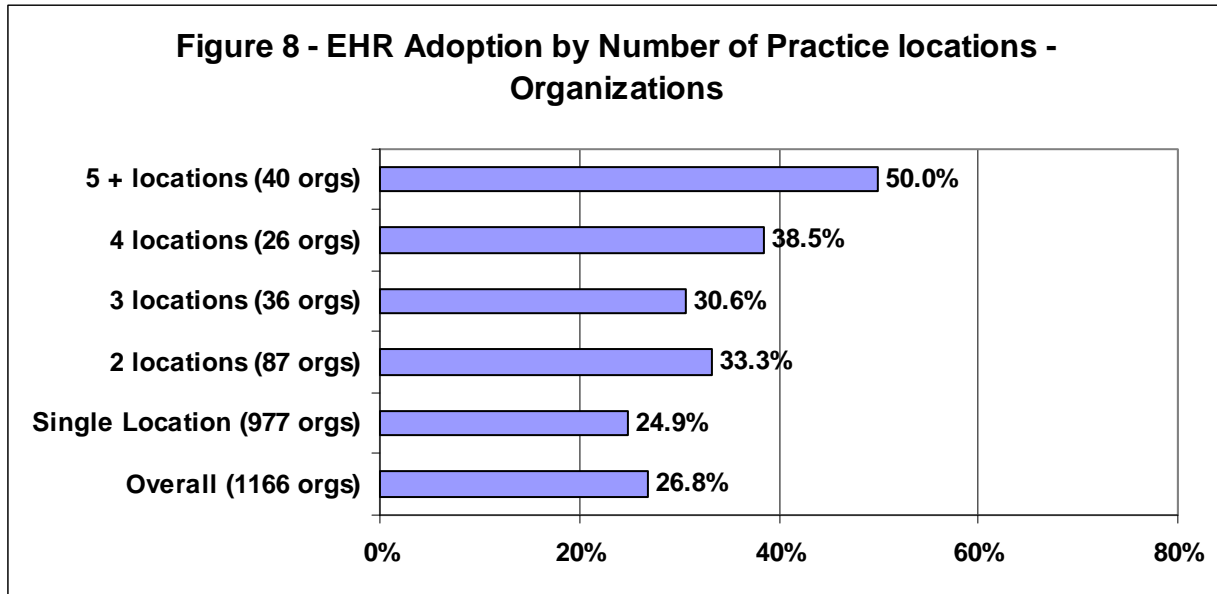| Practice Size	Adoption Rate
50 + (19 orgs)	68.4%
20 to 49 (27 orgs)	25.9%
10 to 19 (75 orgs)	54.7%
5 to 9 (176 orgs)	35.2%
2 to 4 (399 orgs)	25.1%
Solo (455 orgs)	19.3%
Overall (1151 orgs)	27.0%
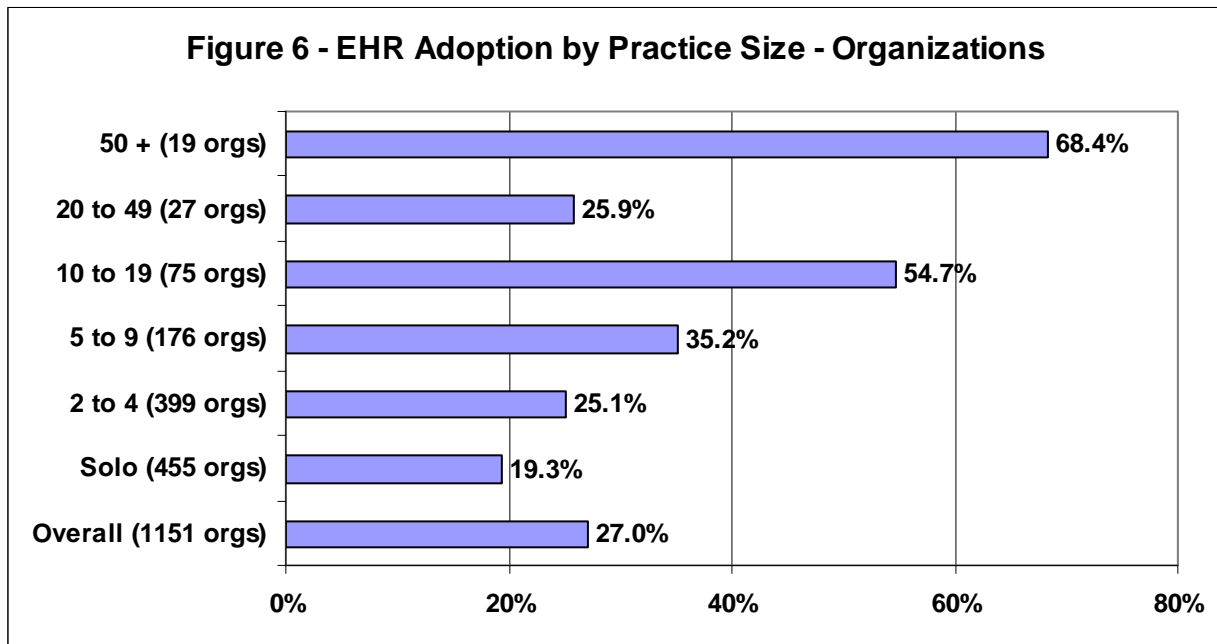
Source: Appendix C, Tables 6-1, 6-2.

Figure 7 shows EHR adoption rates by practice size for clinicians at organizations (1,151 organizations) providing practice size information. The overall clinician adoption rate is 58.4% (n = 8,144 clinicians). The highest rates of clinician adoption are for practices/clinics with 50 or more clinicians (88.6%) and 10 to 19 clinicians (54.7%). The combined rate of adoption for practice with 10 or more clinicians is 72.7%. Practices with 10 or more clinicians represent 67.5% of the surveyed clinicians. The lowest adoption rates are for solo practices (19.3%), practices with 20 to 49 clinicians (21.3%) and practices with 2 to 4 clinicians (25.4%). Generally, the clinician adoption rate increases with practice size. The lower rate for practices with 20 to 49 clinicians is an exception to the trend of greater adoption with larger practices.

Figure 7 - EHR Adoption by Practice Size - Clinicians

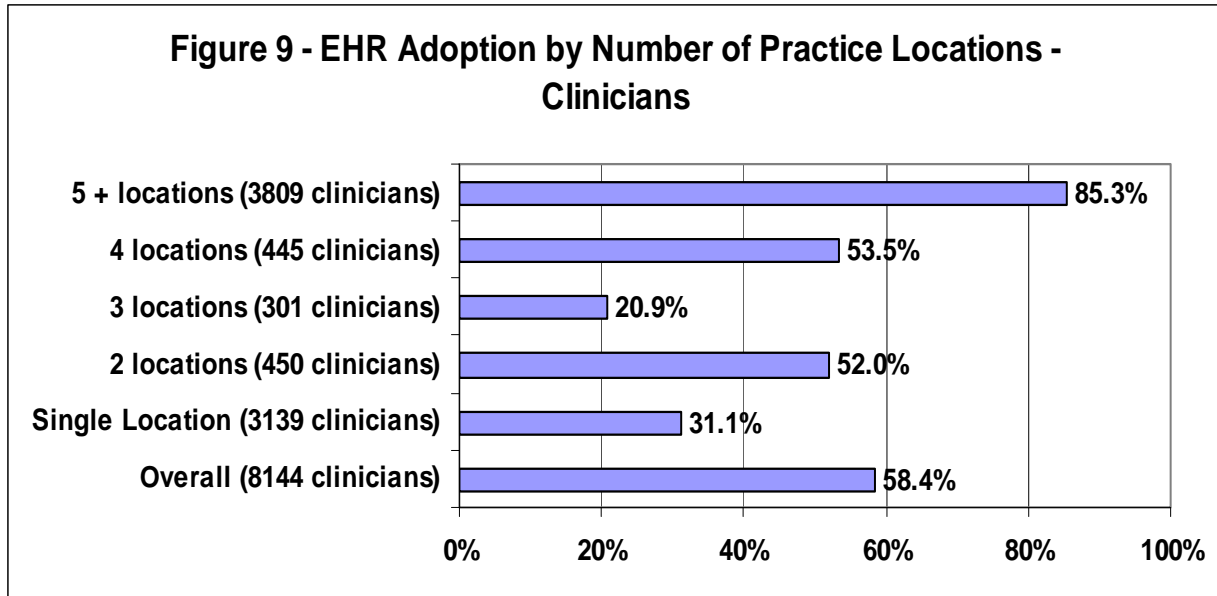| Practice Size	Adoption Rate
50 + (3712 clinicians)	88.6%
20 to 49 (802 clinicians)	21.3%
10 to 19 (981 clinicians)	54.7%
5 to 9 (1104 clinicians)	35.9%
2 to 4 (1090 clinicians)	25.4%
Solo (455 clinicians)	19.3%
Overall (8144 clinicians)	58.4%
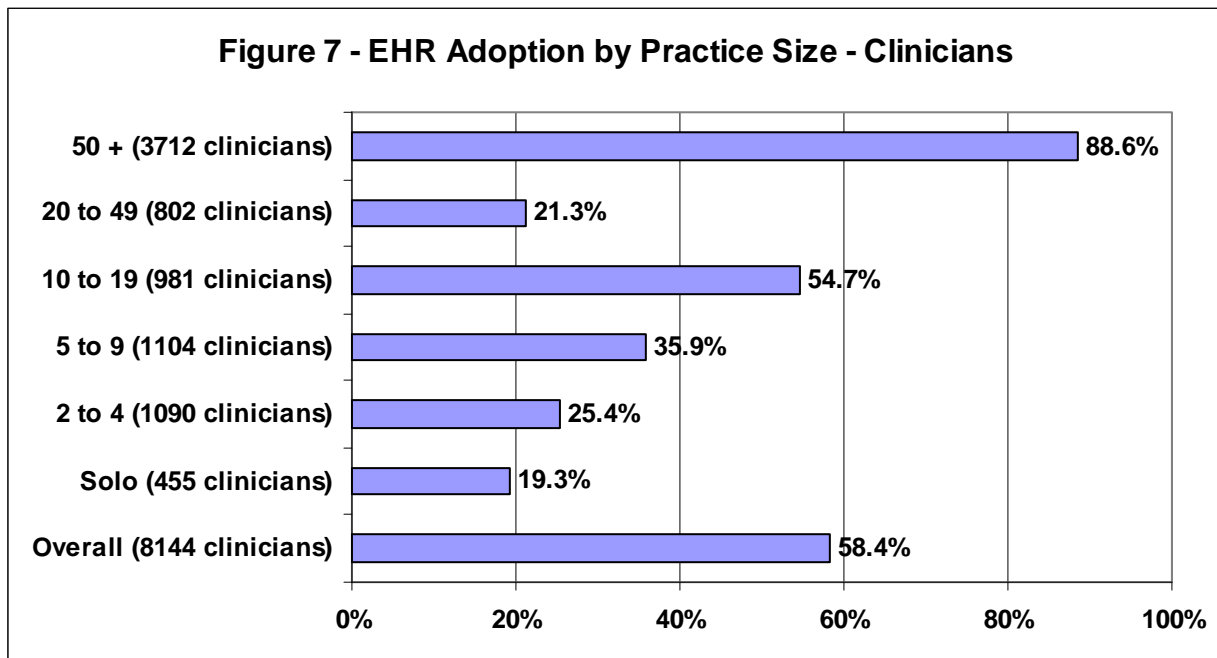
Source: Appendix C, Tables 8-1, 8-2.

Adoption by Number of Practice Locations: Figure 8 shows EHR adoption rates by number of practice locations for organizations responding to the survey.   The overall organization adoption rate is 26.8% (n = 1,166 organizations). The highest rates of organization adoption are for practices/clinics with 5 or more locations (50.0%) and 4 locations (38.5%). The lowest adoption rate is for single location practices (24.9%). Single location practices represent 83.7% of surveyed practice organizations. The adoption rates increase fairly consistently with the number of practice locations.

Figure 8 - EHR Adoption by Number of Practice locations - Organizations

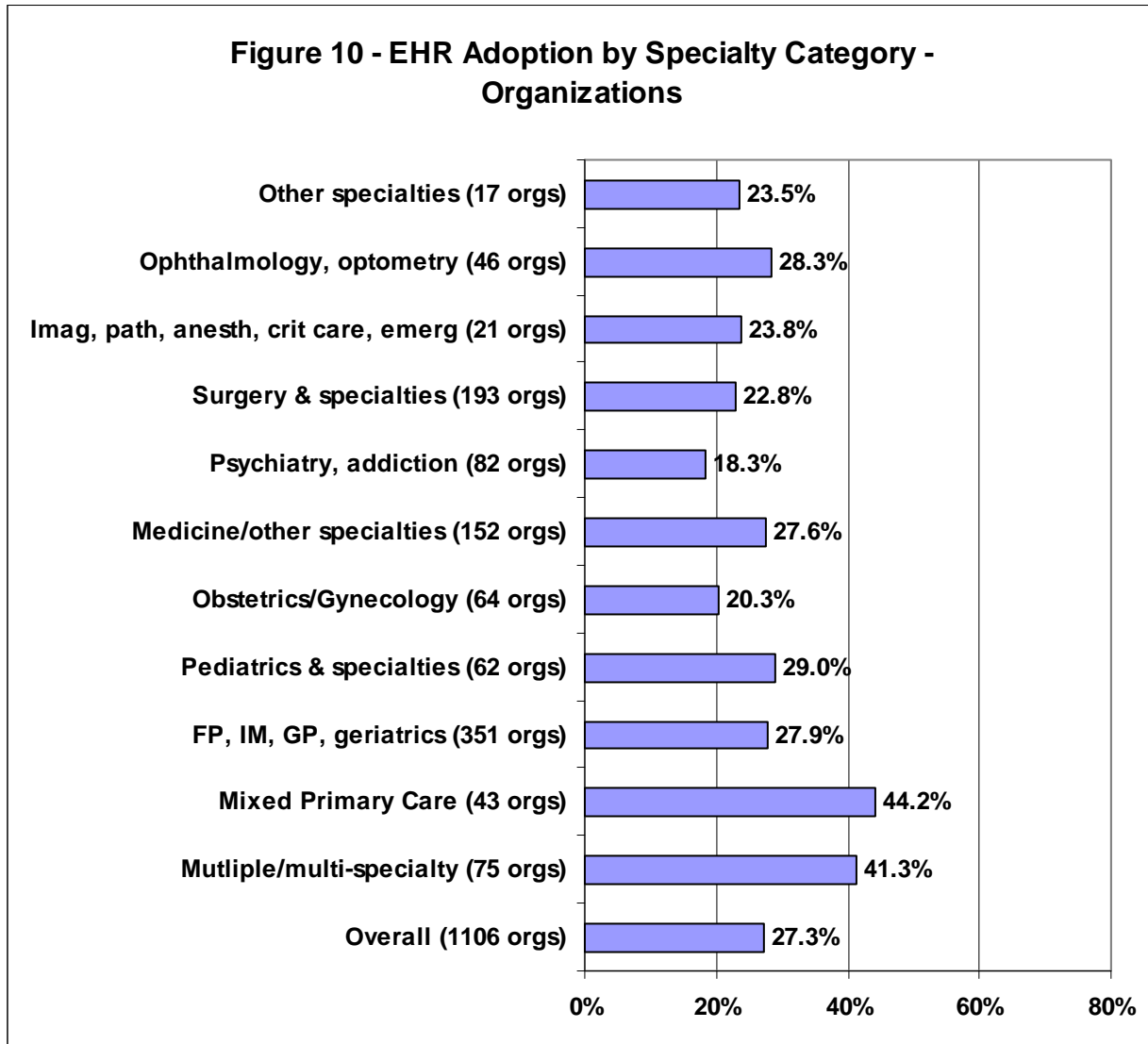| Category	Adoption
5 + locations (40 orgs)	50.0%
4 locations (26 orgs)	38.5%
3 locations (36 orgs)	30.6%
2 locations (87 orgs)	33.3%
Single Location (977 orgs)	24.9%
Overall (1166 orgs)	26.8%

Source: Appendix C, Tables 7-1, 7-2.

Figure 9 shows EHR adoption rates by number of practice locations for clinicians at organizations responding to the survey. The overall clinician adoption rate is 58.4% (n = 8,144 clinicians). The highest rate of clinician adoption is for practices/clinics with 5 or more locations (85.3%). Practices with 5 or more locations represent 46.7% of the surveyed clinicians. The lowest adoption rates are for practices with 3 locations (20.9%) and single location practices (31.1%). Single location practices represent 38.5% of the surveyed clinicians.

Figure 9 - EHR Adoption by Number of Practice Locations - Clinicians

Category	Adoption Rate
5 + locations (3809 clinicians)	85.3%
4 locations (445 clinicians)	53.5%
3 locations (301 clinicians)	20.9%
2 locations (450 clinicians)	52.0%
Single Location (3139 clinicians)	31.1%
Overall (8144 clinicians)	58.4%

Source: Appendix C, Tables 9-1, 9-2.

Adoption by Practice Specialty Category: Figure 10 shows EHR adoption rates by specialty categories for organizations reporting specialty information. The overall organization adoption rate is 27.3% (n = 1,106 organizations). The highest rates of organization adoption are for mixed primary care practices (44.4%) and multi-specialty practices (41.3%). The lowest adoption rates are for practices limited to psychiatry (18.3%) and limited to obstetrics/gynecology (20.3%). Adoption rates for other specialty categories range from 22.8% to 29.0%.

Note: Any particular specialty maybe included in up to three categories depending on the scope of practices with which they are associated.

Figure 10 - EHR Adoption by Specialty Category - Organizations

Category	Adoption Rate
Other specialties (17 orgs)	23.5%
Ophthalmology, optometry (46 orgs)	28.3%
Imag, path, anesth, crit care, emerg (21 orgs)	23.8%
Surgery & specialties (193 orgs)	22.8%
Psychiatry, addiction (82 orgs)	18.3%
Medicine/other specialties (152 orgs)	27.6%
Obstetrics/Gynecology (64 orgs)	20.3%
Pediatrics & specialties (62 orgs)	29.0%
FP, IM, GP, geriatrics (351 orgs)	27.9%
Mixed Primary Care (43 orgs)	44.2%
Mutliple/multi-specialty (75 orgs)	41.3%
Overall (1106 orgs)	27.3%

Source: Appendix C, Tables 10-1, 10-2.

Figure 11 shows EHR adoption rates by specialty category for clinicians at organizations reporting specialty information. The overall clinician adoption rate is 59.2% (n = 7,948 clinicians at 1,106 organizations). The highest rate of clinician adoption is for multi-specialty practices (86.9%) and mixed primary care clinics (52.4%). Multi-specialty practices represent 48.3% of the surveyed clinicians. The lowest adoption rates are for specialty categories of other (16.7%), psychiatry (17.1%), and imaging/pathology/anesthesia/critical care/emergency medicine (18.4%).

Note: Any particular specialty maybe included in up to three categories depending on the scope of practices with which they are associated.

Figure 11 - EHR Adoption by Specialty Category - Clinicians
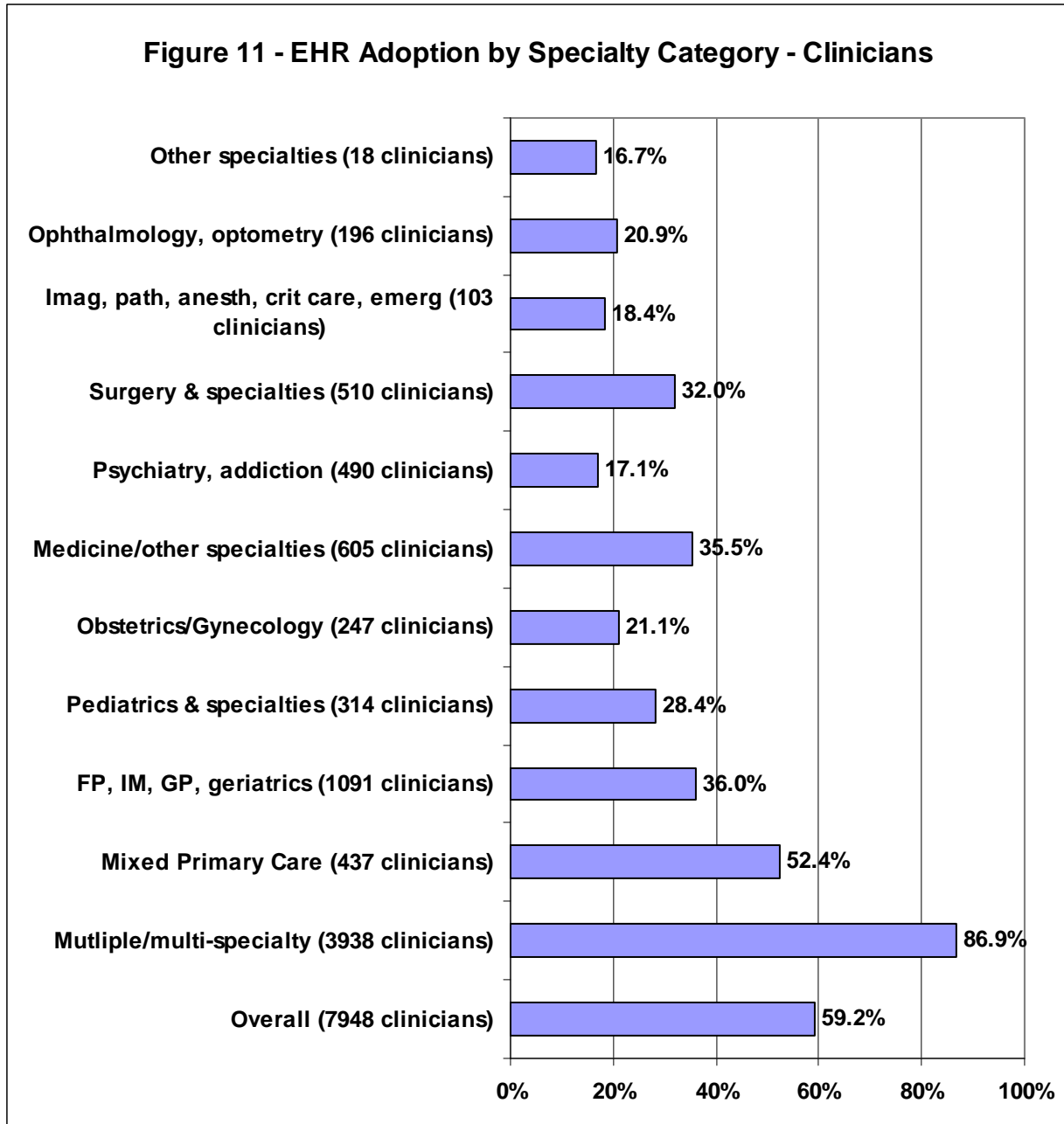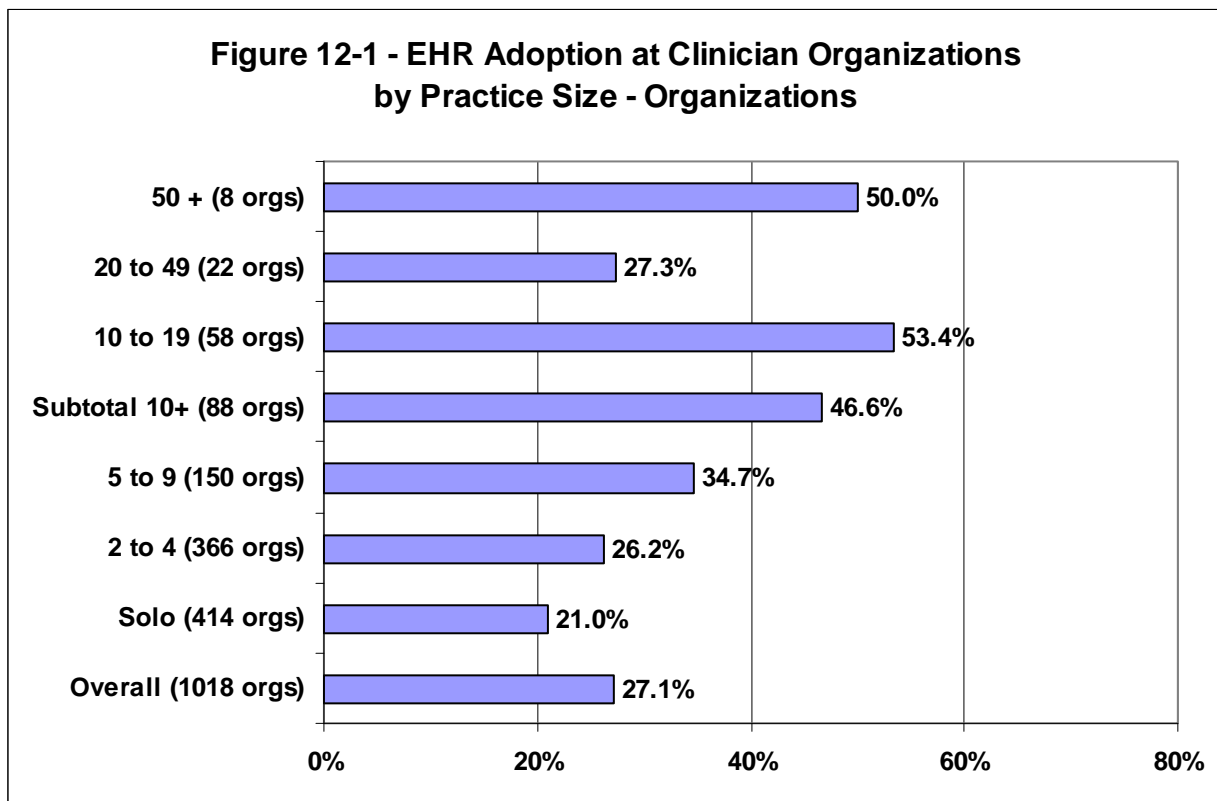
Source: Appendix C, Tables 11-1, 11-2.

Region/County Distribution: Appendix C, Tables 12-1 and 12-2 summarizes data by region/county for survey respondents. Region/county data for all organizations is confounded since several large health systems (e.g., Kaiser, OHSU, VA, Providence Medical Group, Legacy Clinics) operate in multiple regions/counties but the data was summarized for the headquarters or largest county. Data for the subset of just the clinical organizations by region/county is shown below in Figures 16 and 17.

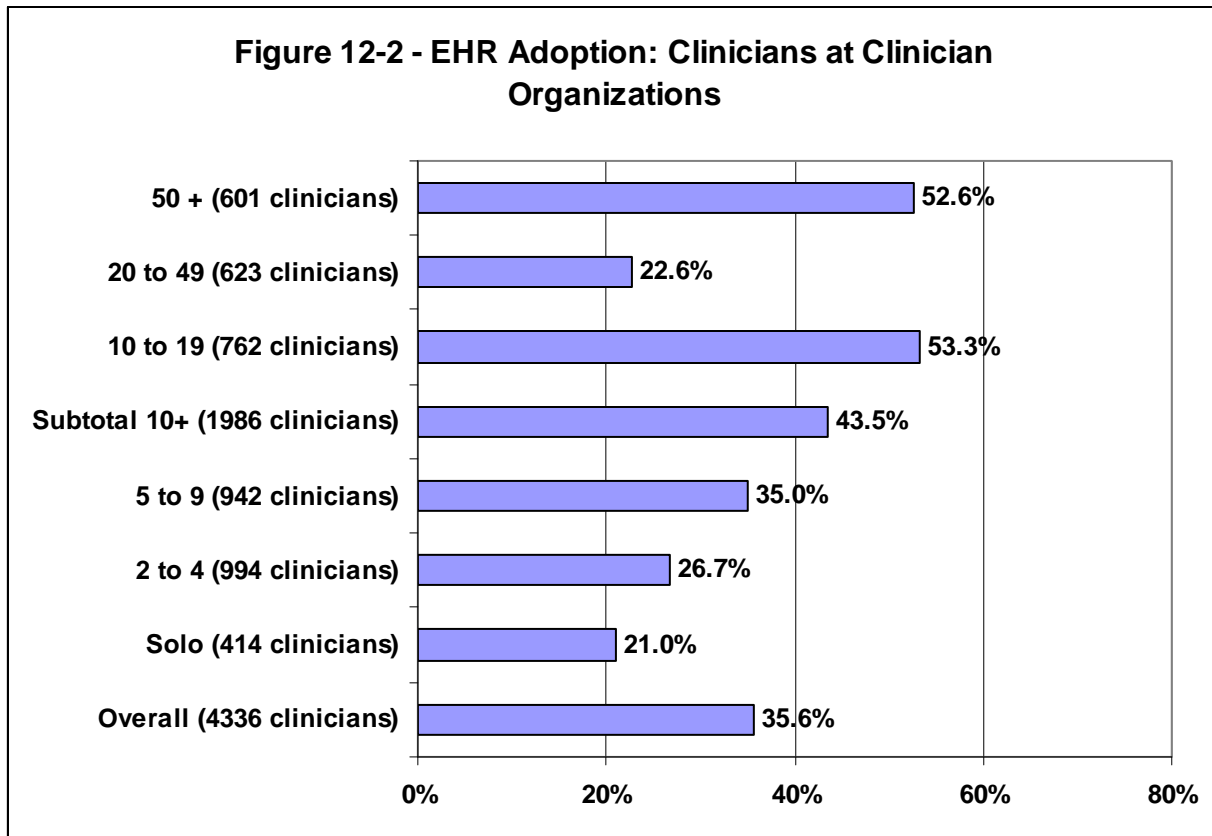## EHR Adoption – Just Clinician Organizations

Clinician organizations are practices and clinics operated by independent physician practitioners or groups that are not under the ownership or auspices of hospitals or health systems nor operated by a FQHC, safety net or public clinic.

Adoption at Clinician Organizations by Practice Size: Figure 12-1 shows EHR adoption rates by practice size for clinician organizations reporting practice size information. The overall organization adoption rate is 27.1% (n = 1,018 clinician organizations). The highest rates of organization adoption are for practices/clinics with 10 to 19 clinicians (53.4%) those with 50 or more clinicians (50.0%). The combined rate of adoption for practice with 10 or more clinicians in 88 practices is 46.6%. The lowest adoption rates are for solo practices (21.0%) and practices with 2 to 4 clinicians (26.2%). Generally, the adoption rate increases with practice size. The lower rate for practices with 20 to 49 clinicians (27.3%) is an exception to the general trend of higher adoption rates with larger practices.

Figure 12-1 - EHR Adoption at Clinician Organizations by Practice Size - Organizations

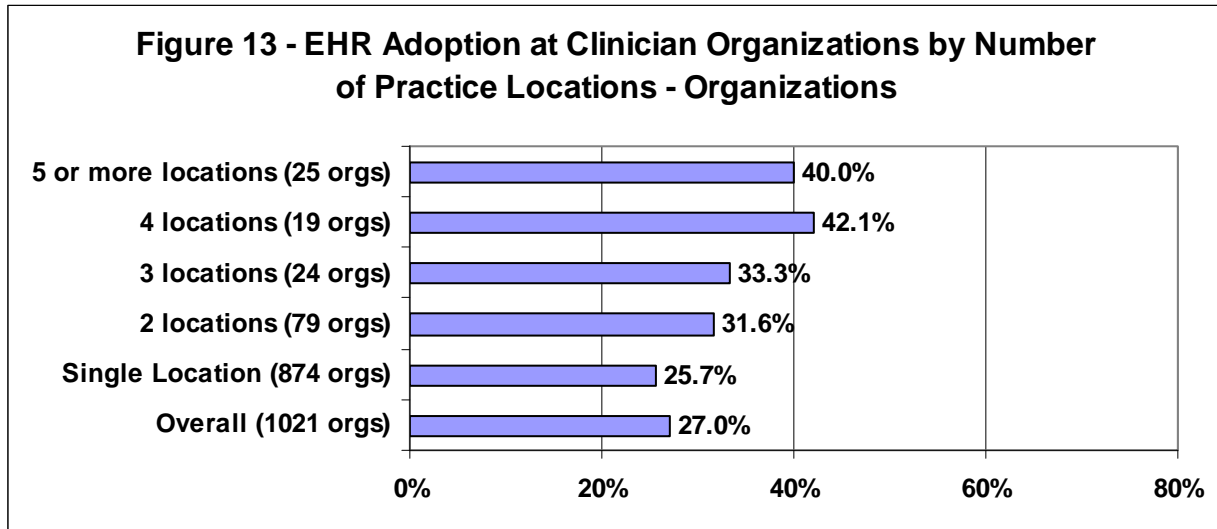| Practice Size	Adoption Rate
50 + (8 orgs)	50.0%
20 to 49 (22 orgs)	27.3%
10 to 19 (58 orgs)	53.4%
Subtotal 10+ (88 orgs)	46.6%
5 to 9 (150 orgs)	34.7%
2 to 4 (366 orgs)	26.2%
Solo (414 orgs)	21.0%
Overall (1018 orgs)	27.1%

Source: Appendix C, Tables 13-1, 13-2.

Figure 12-2 shows EHR adoption rates by practice size for clinicians at clinician organizations reporting practice size information. The overall organization adoption rate is 35.6% of 4,336 clinicians at 1,018 clinician organizations. The highest rates of clinician EHR availability are for practices/clinics with 10 to 19 clinicians (53.3%) those with 50 or more clinicians (52.6%). The combined rate of adoption for practice with 10 or more clinicians is 43.5%. Lower adoption rates are shown for solo practices (21.0%) and practices with 2 to 4 clinicians (26.7%). Generally, the adoption rate increases with practice size. The lower rate for practices with 20 to 49 clinicians (22.6%) is an exception to the general trend of higher adoption rates with larger practices.

Figure 12-2 - EHR Adoption: Clinicians at Clinician Organizations

Practice Size	Adoption Rate
50 + (601 clinicians)	52.6%
20 to 49 (623 clinicians)	22.6%
10 to 19 (762 clinicians)	53.3%
Subtotal 10+ (1986 clinicians)	43.5%
5 to 9 (942 clinicians)	35.0%
2 to 4 (994 clinicians)	26.7%
Solo (414 clinicians)	21.0%
Overall (4336 clinicians)	35.6%

Source: Appendix C, Tables 13-3, 13-4.

Adoption at Clinician Organization by Number of Practice Locations: Figure 13 shows EHR adoption rates by number of practice locations for clinician organizations. The overall organization adoption rate is 27.0% (n = 1,021 organizations). The highest rates of organization adoption are for practices/clinics with 4 locations (42.1%) and practices with 5 or more locations (40.0%). The lowest adoption rate is for single locations practices (25.7%). Single location practices represent 85.6% of surveyed clinician organizations. The adoption rate generally increases with the number of practice locations.

Figure 13 - EHR Adoption at Clinician Organizations by Number of Practice Locations - Organizations

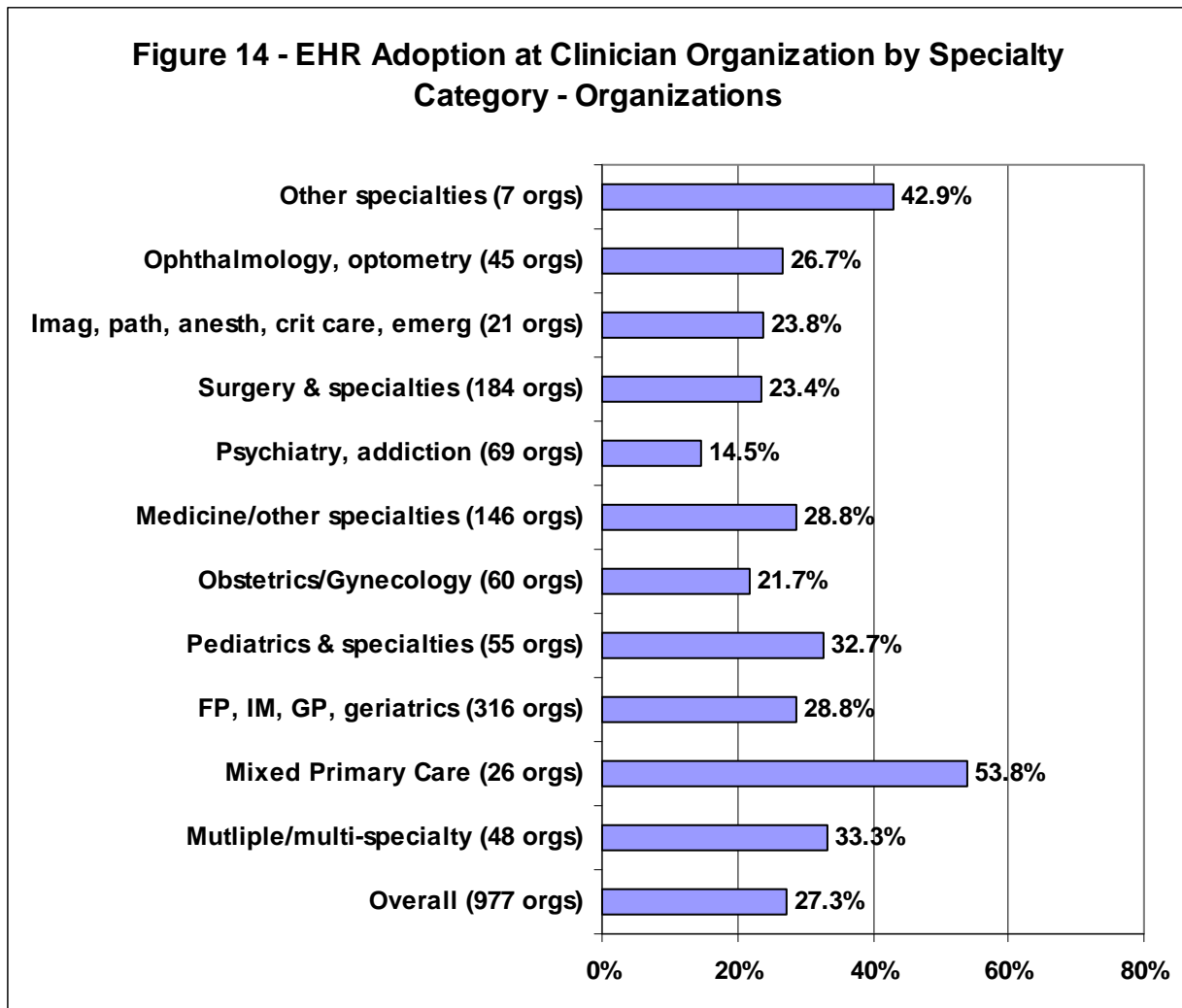| Category	Adoption Rate
5 or more locations (25 orgs)	40.0%
4 locations (19 orgs)	42.1%
3 locations (24 orgs)	33.3%
2 locations (79 orgs)	31.6%
Single Location (874 orgs)	25.7%
Overall (1021 orgs)	27.0%

Source: Appendix C, Tables 14-1, 14-2.

Adoption at Clinician Organizations by Practice Specialty Category: Figure 14 shows EHR adoption rates by specialty categories for clinician organizations. The overall clinician organization adoption rate is 27.3% (n = 977 clinician organizations). The highest rates of organization adoption are for mixed primary care practices (53.8%), other specialties (42.9% but with only seven clinician organizations), multi-specialty practices (33.3%) and pediatrics (32.7%). The lowest adoption rate is for practices limited to psychiatry (14.5%). Adoption rates for other specialty categories range from 21.7% to 28.8%.
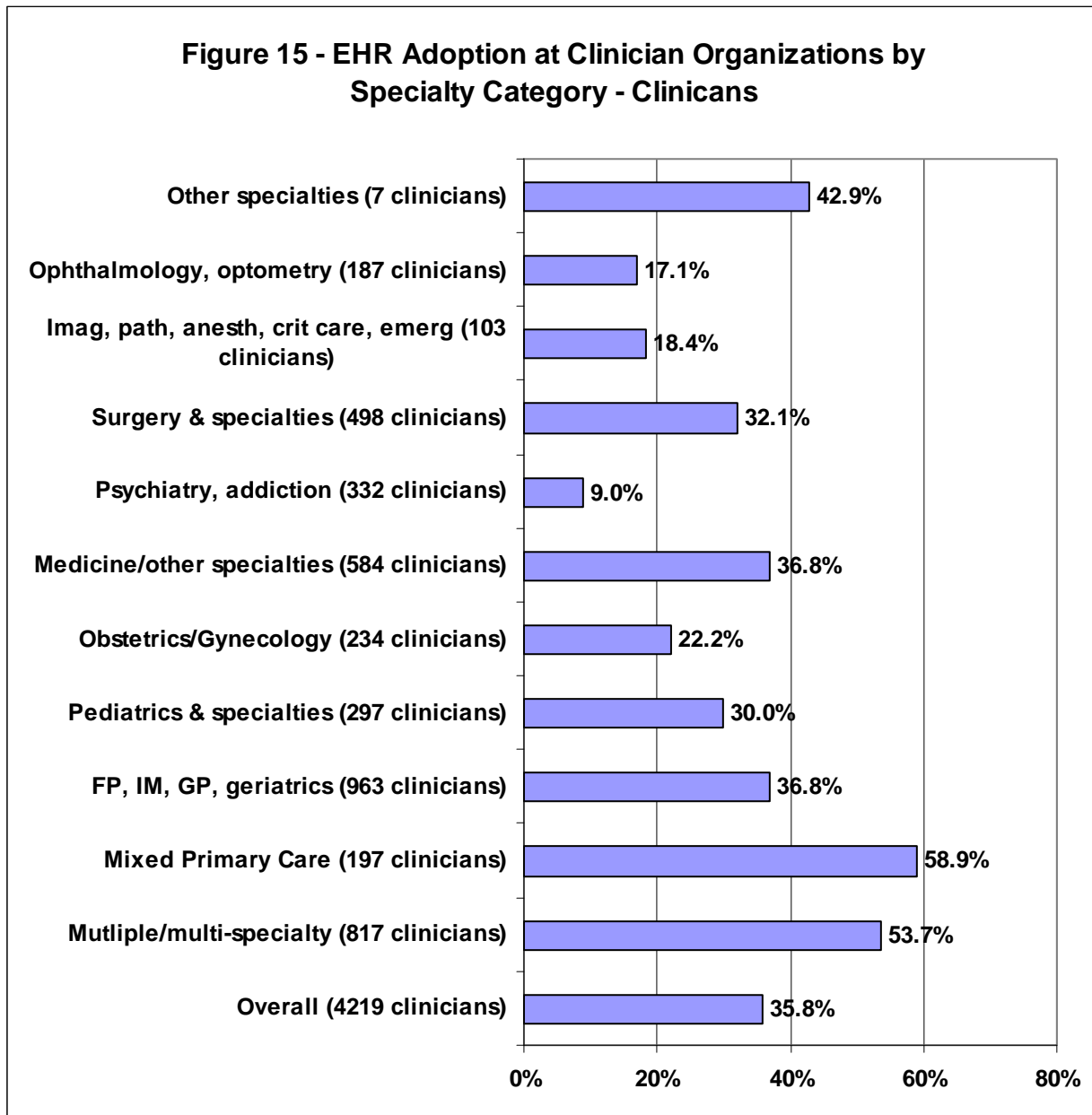
Note: Any particular specialty maybe included in up to three categories depending on the scope of practices with which they are associated.

Figure 14 - EHR Adoption at Clinician Organization by Specialty Category - Organizations

Category	Rate
Other specialties (7 orgs)	42.9%
Ophthalmology, optometry (45 orgs)	26.7%
Imag, path, anesth, crit care, emerg (21 orgs)	23.8%
Surgery & specialties (184 orgs)	23.4%
Psychiatry, addiction (69 orgs)	14.5%
Medicine/other specialties (146 orgs)	28.8%
Obstetrics/Gynecology (60 orgs)	21.7%
Pediatrics & specialties (55 orgs)	32.7%
FP, IM, GP, geriatrics (316 orgs)	28.8%
Mixed Primary Care (26 orgs)	53.8%
Mutliple/multi-specialty (48 orgs)	33.3%
Overall (977 orgs)	27.3%

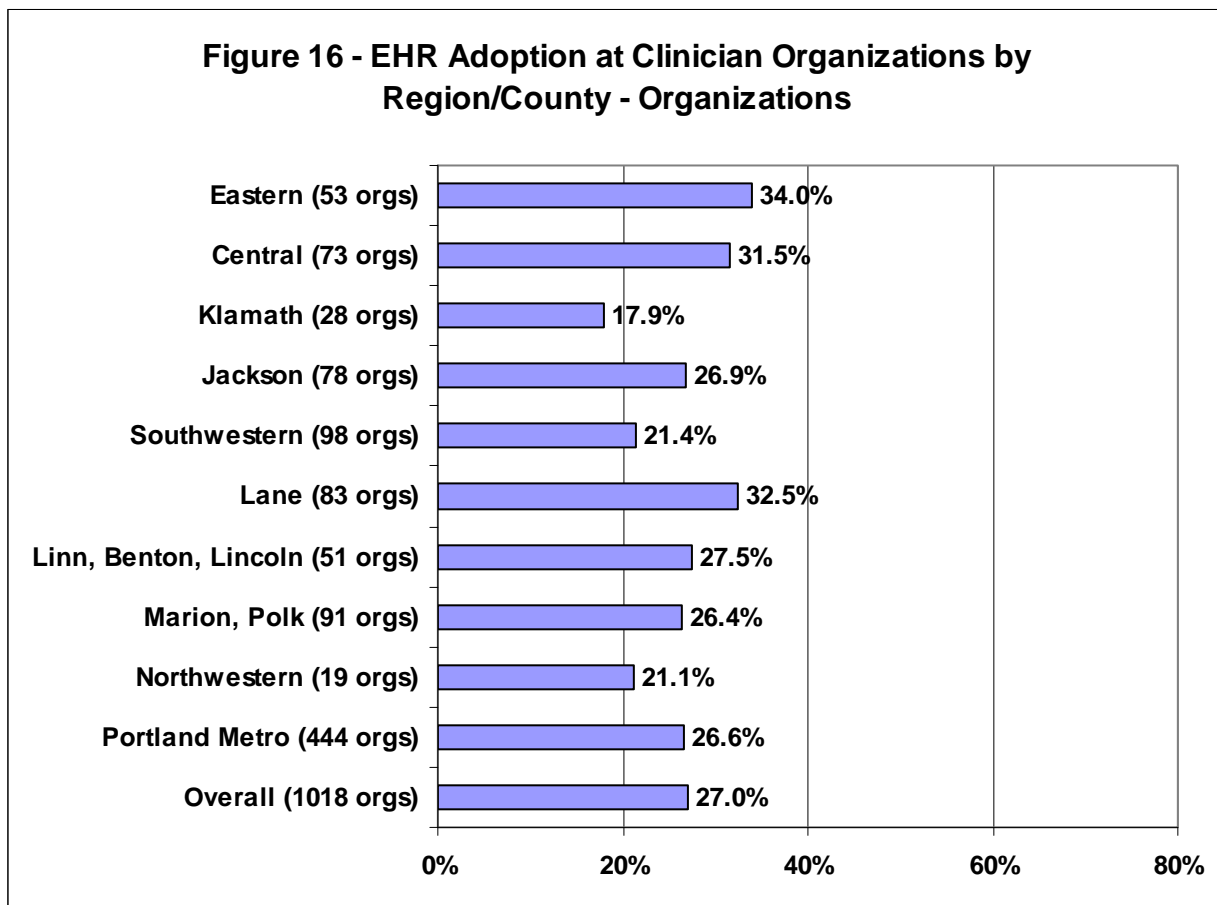Source: Appendix C, Tables 15-1, 15-2.

Figure 15 shows EHR adoption rates by specialty category for clinicians at clinician organizations (n = 977) reporting specialty information. The overall clinician adoption rate is 35.8% (n = 4,219 clinicians). The highest rates of clinician adoption are for mixed primary care practices (58.9%), multi-specialty practices (53.7%) and other specialties (42.9%, only 7 clinicians). Mixed primary care and multi-specialty practice clinicians represent 23.4% of the clinicians in surveyed organizations. The lowest adoption rates are for specialty categories of psychiatry (9.0%), ophthalmology (17.1%) and imaging/pathology/anesthesia/critical care/emergency medicine (18.4%). Other categories are in the range of 22.2% to 36.8%.

Note: Any particular specialty maybe included in up to three categories depending on the scope of practices with which they are associated.

Figure 15 - EHR Adoption at Clinician Organizations by Specialty Category - Clinicans

Specialty Category	Adoption Rate
Other specialties (7 clinicians)	42.9%
Ophthalmology, optometry (187 clinicians)	17.1%
Imag, path, anesth, crit care, emerg (103 clinicians)	18.4%
Surgery & specialties (498 clinicians)	32.1%
Psychiatry, addiction (332 clinicians)	9.0%
Medicine/other specialties (584 clinicians)	36.8%
Obstetrics/Gynecology (234 clinicians)	22.2%
Pediatrics & specialties (297 clinicians)	30.0%
FP, IM, GP, geriatrics (963 clinicians)	36.8%
Mixed Primary Care (197 clinicians)	58.9%
Mutliple/multi-specialty (817 clinicians)	53.7%
Overall (4219 clinicians)	35.8%

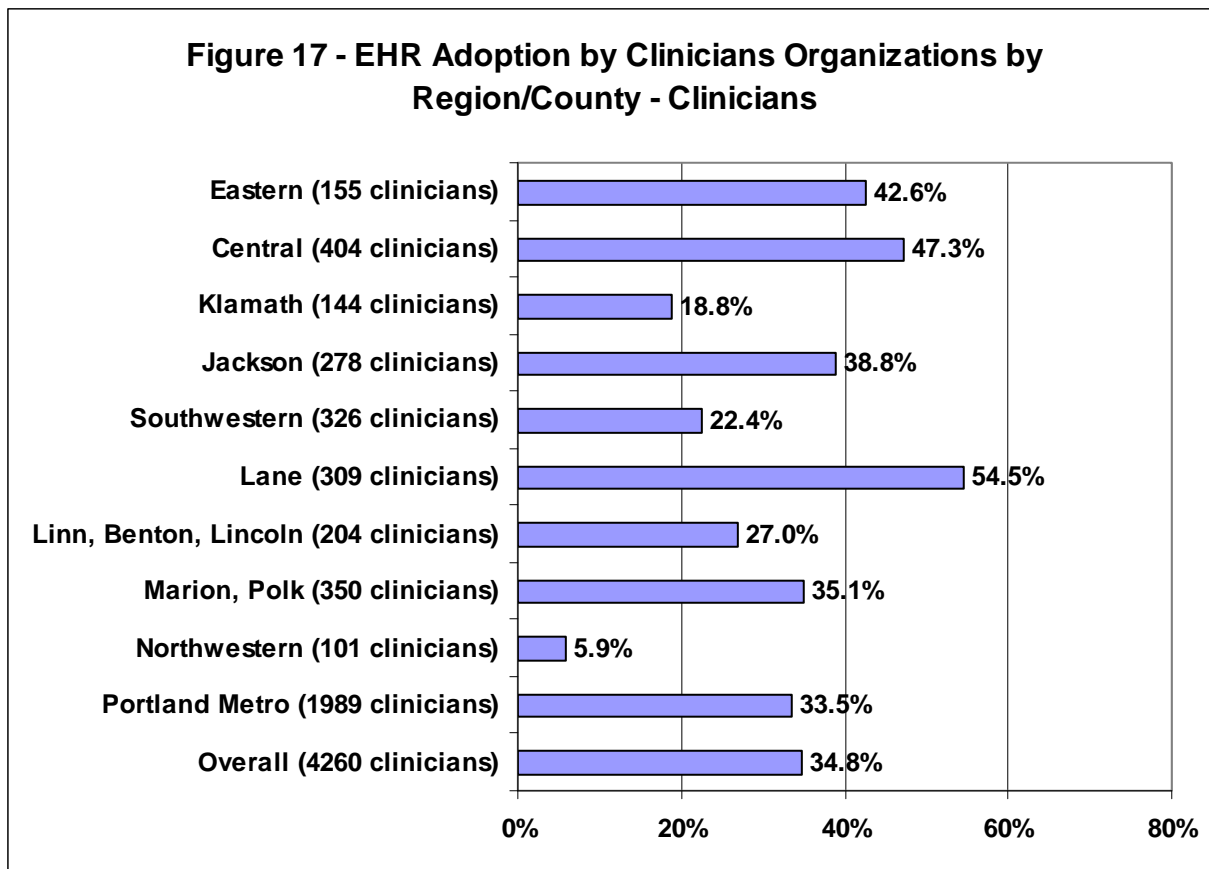Source: Appendix C, Tables 16-1, 16-2.

Adoption at Clinician Organization by Region/County: Figure 16 shows EHR adoption rates by region/counties across Oregon for clinician organizations. The overall clinician organization adoption rate is 27.0% (n = 1,018 clinician organizations). The highest rates of organization adoption are Eastern Oregon counties (34.0%), Lane County (32.5%) and Central Oregon counties (31.5%). The lowest adoption rates are for Klamath County (17.9%), Northwestern Oregon counties (21.1%) and Southwestern Oregon counties (21.4%). Adoption rates for the three other regions/counties range from 26.4% to 26.9%. The Portland Metro area has 43.5% of clinician organizations with an adoption rate of 26.6%.

Figure 16 - EHR Adoption at Clinician Organizations by Region/County - Organizations

Region/County	Adoption Rate
Eastern (53 orgs)	34.0%
Central (73 orgs)	31.5%
Klamath (28 orgs)	17.9%
Jackson (78 orgs)	26.9%
Southwestern (98 orgs)	21.4%
Lane (83 orgs)	32.5%
Linn, Benton, Lincoln (51 orgs)	27.5%
Marion, Polk (91 orgs)	26.4%
Northwestern (19 orgs)	21.1%
Portland Metro (444 orgs)	26.6%
Overall (1018 orgs)	27.0%

Source: Appendix C, Tables 17-1, 17-2.

Figure 17 shows EHR adoption rates by regions/counties across Oregon for clinicians at clinician organizations. The overall adoption rate is 34.8% (n = 4,260 clinicians). The highest rates of organization adoption are Lane County (54.5%), Central Oregon counties (47.3%) and Eastern Oregon counties (42.6%). The lowest adoption rates are for Northwestern Oregon counties (5.9%), Klamath County (18.8%), and Southwestern Oregon counties (22.4%). Adoption rates for the three other regions/counties range from 27.0% to 38.8%. The Portland Metro area has 45.8% of clinicians in clinician organizations with an adoption rate of 33.5%.

Note: The region/county clinician data may be affected by variable response rates among the different sizes of practices within a region/county. The survey process could not estimate response rates by practice size across the state or within the regions/counties.

Figure 17 - EHR Adoption by Clinicians Organizations by Region/County - Clinicians

Region/County	Adoption Rate
Eastern (155 clinicians)	42.6%
Central (404 clinicians)	47.3%
Klamath (144 clinicians)	18.8%
Jackson (278 clinicians)	38.8%
Southwestern (326 clinicians)	22.4%
Lane (309 clinicians)	54.5%
Linn, Benton, Lincoln (204 clinicians)	27.0%
Marion, Polk (350 clinicians)	35.1%
Northwestern (101 clinicians)	5.9%
Portland Metro (1989 clinicians)	33.5%
Overall (4260 clinicians)	34.8%

Source: Appendix C, Tables 18-1, 18-2.

Relationship of EHR and EPM Adoption

Figures 18-1 through 18-10 show the proportion of surveyed organizations with possible combinations of EHR and EPM systems as follows
- Has an EHR system but does not have an EPM system
- Has an EHR system and an EPM system
- Does not have an EHR system but has an EPM system
- Does not have an EHR system nor an EPM system

Figures 19-1 through 19-10 show the proportion of clinicians with the same possible combinations of EHR and EPM systems.

The pairs of pie charts in this series help depict that:
- Relatively few organizations have EHRs in absence of EPMs.
- The proportion of clinicians using EHRs is larger than the proportion of organization since rates of EHR adoption in small practices is much lower than the rates for large practices.

Figures 18-1a and 19-2a show the proportion of organizations and clinicians who have adopted EHR and EPM systems for **all** survey respondents. This chart pair is not weighted for variable response rates.

Figure 18-1a - Overall – Unweighted (1166 orgs)	Figure 19-1a – Overall - Unweighted (8144 clinicians)

Has EHR No EPM, 3.8%
No EHR No EPM, 29.7%
Has EHR Has EPM, 23.1%
No EHR Has EPM, 43.5%

Has EHR No EPM, 1.5%
No EHR No EPM, 15.1%
No EHR Has EPM, 26.5%
Has EHR Has EPM, 56.9%
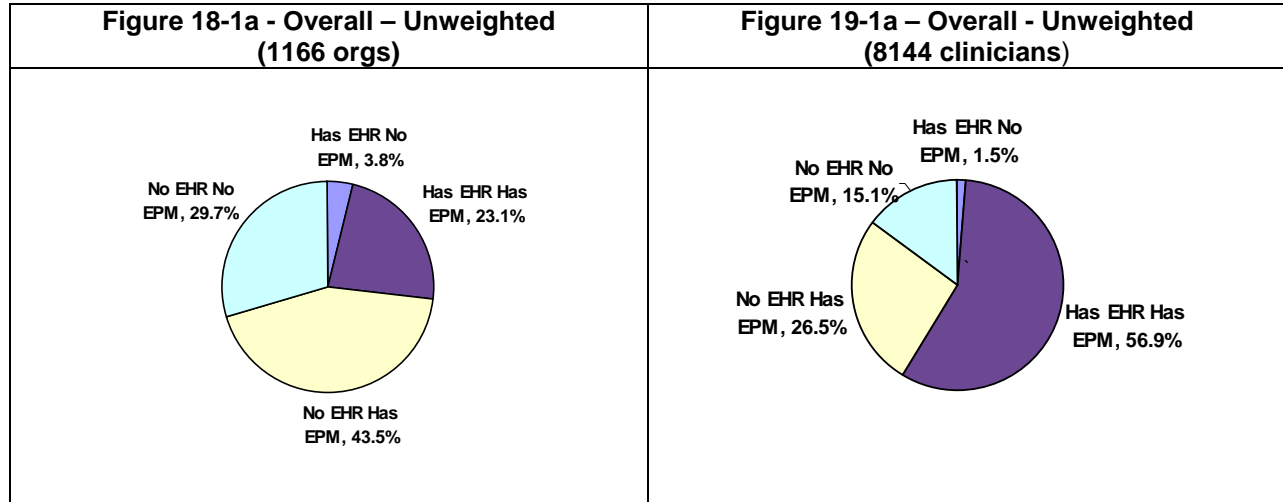
Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figures 18-1b and 19-2b show the **weighted** proportion of organization and clinicians who have adopted EHR and EPM systems for the aggregation of Practice Types of **primary interest** that include Clinician Names, Clinic/Practice Names, FQHC/Safety Net Clinics, Public/Other Clinics, Health System Practices/Clinics and Kaiser/OHSU/VA. This data is weighted for the variation in the response rates among the various Practice Types.
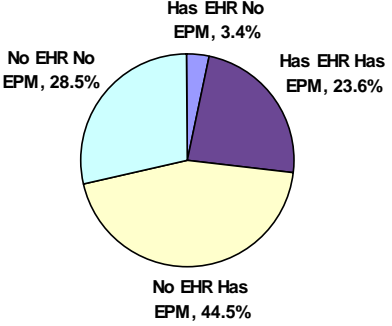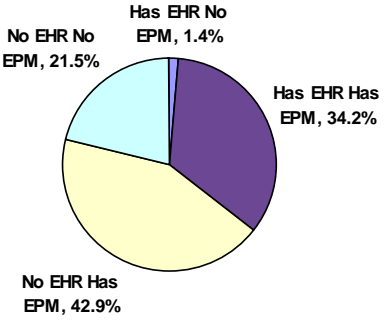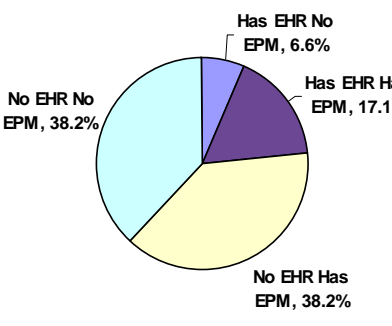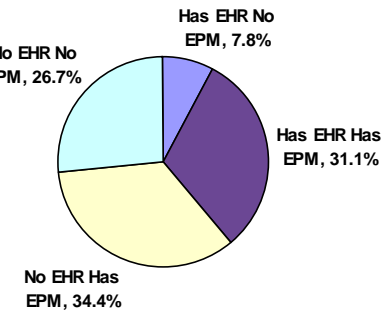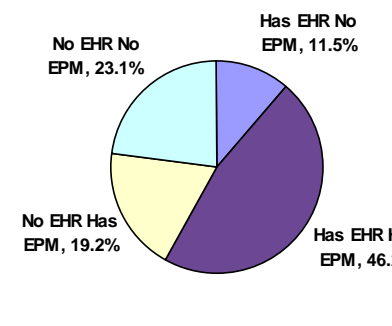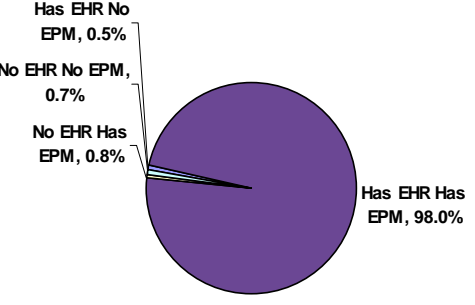
Figure 18-1b – Weighted Practice Types of Interest (1123 orgs)	**Figure 19-1b – Weighted Practice Types of Interest (7907 clinicians)**

Has EHR No EPM, 3.7%
No EHR No EPM, 29.8%
Has EHR Has EPM, 23.1%
No EHR Has EPM, 43.4%

No EHR No EPM, 15.6%
Has EHR No EPM, 1.6%
Has EHR Has EPM, 53.3%
No EHR Has EPM, 29.4%
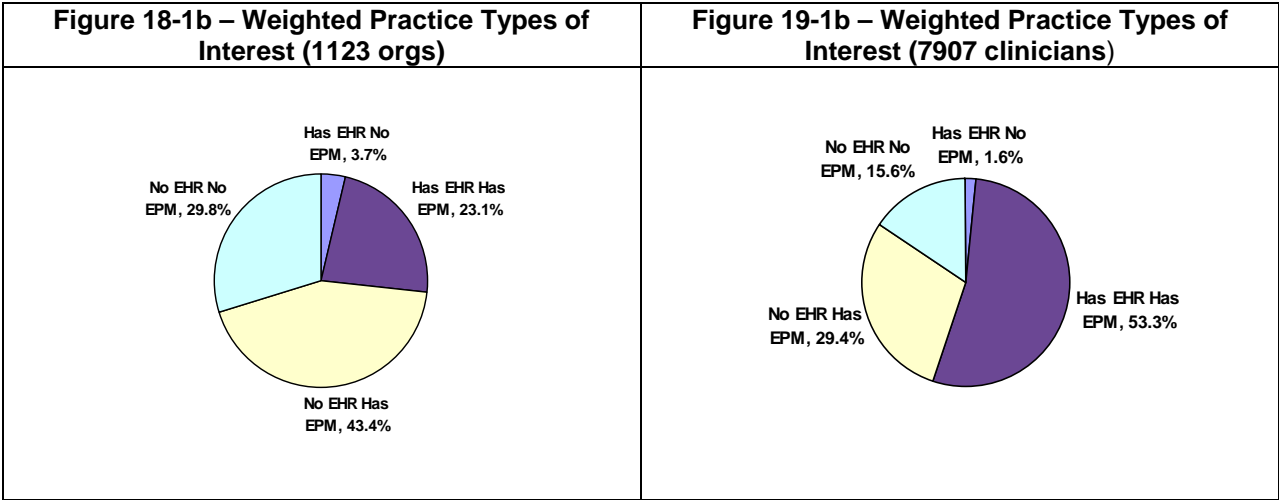
Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figures 18-1c and 19-2c show the **weighted** proportion of organization and clinicians who have adopted EHR and EPM systems for the aggregation of Practice Types of **primary interest** that include Clinician Names, Clinic/Practice Names, FQHC/Safety Net Clinics, Public/Other Clinics, Health System Practices/Clinics and Kaiser/OHSU. That is, these two figures exclude the impact of the Veteran Administration facilities. This data is weighted for the variation in the response rates among the various Practice Types.

Figure 18-1c – Weighted Non-Federal Practice Types of Interest (1122 orgs)	**Figure 19-1c – Weighted Non-Federal Practice Types of Interest (7360 clinicians)**

Has EHR No EPM, 3.7%
No EHR No EPM, 29.8%
Has EHR Has EPM, 23.1%
No EHR Has EPM, 43.4%

No EHR No EPM, 16.3%
Has EHR No EPM, 1.7%
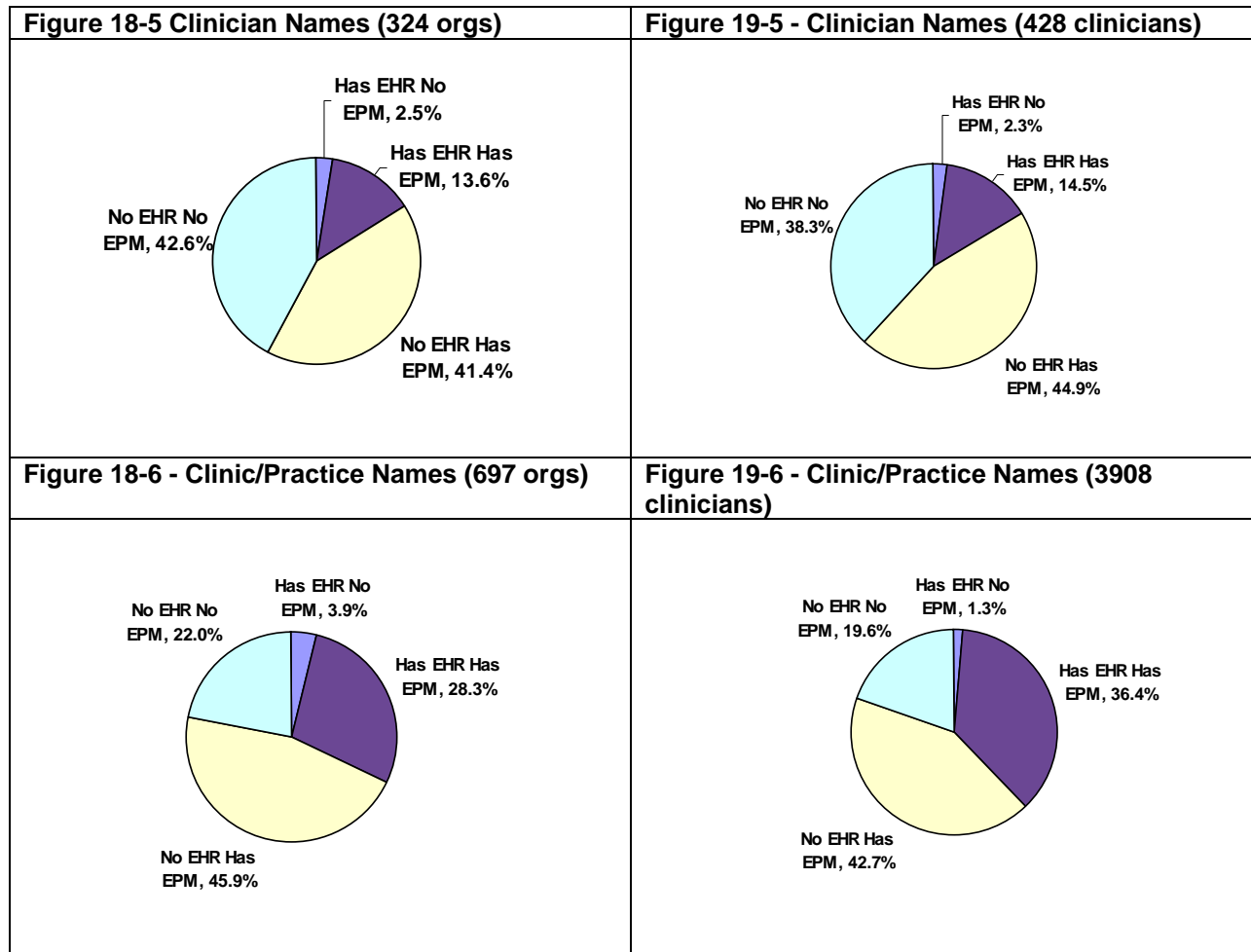Has EHR Has EPM, 51.1%
No EHR Has EPM, 30.8%
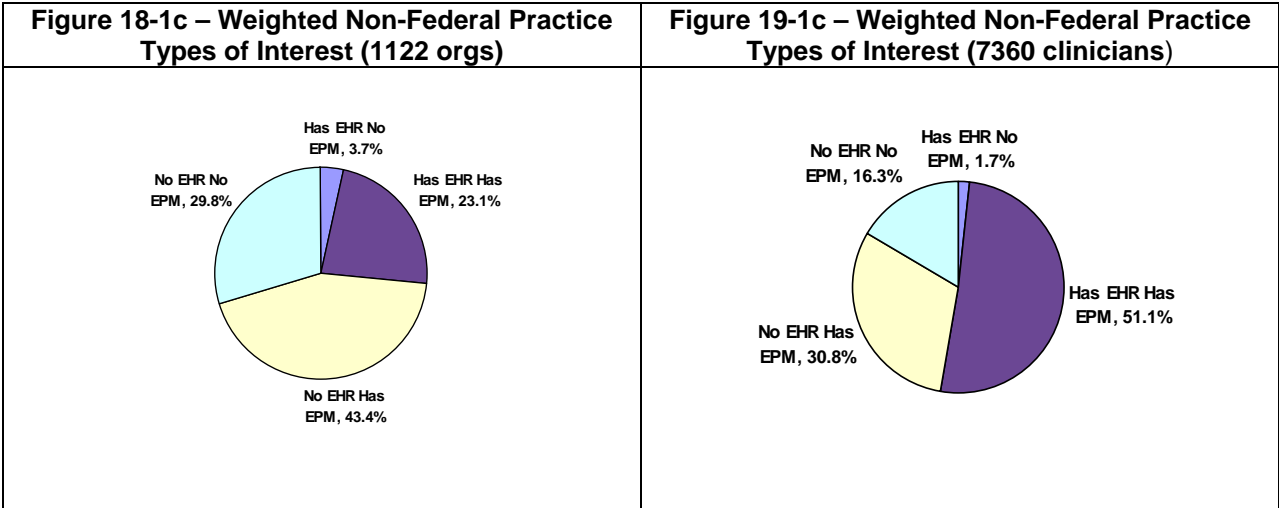
Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figures 18-2 through 18-4 and 19-2 through 19-4 show the proportion of organization and clinicians who have adopted EHR and EPM systems for all Clinician Organizations, a combined grouping of FQHC/Safety Net, Public and Other Organizations, and a combined grouping of Health System Practices/Clinics and Kaiser/OHSU/VA.

Figure 18-2 - Clinician Orgs (1021 orgs)	Figure 19-2 - Clinician Orgs (4336 clinicians)
Has EHR No EPM, 3.4%	Has EHR No EPM, 1.4%
No EHR No EPM, 28.5%	No EHR No EPM, 21.5%
Has EHR Has EPM, 23.6%	Has EHR Has EPM, 34.2%
No EHR Has EPM, 44.5%	No EHR Has EPM, 42.9%
Figure 18-3 - FQHCs/Safety Net/Public/Other (76 orgs)	**Figure 19-3 - FQHCs/Safety Net/Public/Other (550 clinicians)**
Has EHR No EPM, 6.6%	Has EHR No EPM, 7.8%
No EHR No EPM, 38.2%	No EHR No EPM, 26.7%
Has EHR Has EPM, 17.1%	Has EHR Has EPM, 31.1%
No EHR Has EPM, 38.2%	No EHR Has EPM, 34.4%
Figure 18-4 - Health Systems/Kaiser/OHSU/VA (26 orgs)	**Figure 19-4 - Health Systems/Kaiser/OHSU/VA (3021 clinicians)**
Has EHR No EPM, 11.5%	Has EHR No EPM, 0.5%
No EHR No EPM, 23.1%	No EHR No EPM, 0.7%
No EHR Has EPM, 19.2%	No EHR Has EPM, 0.8%
Has EHR Has EPM, 46.2%	Has EHR Has EPM, 98.0%

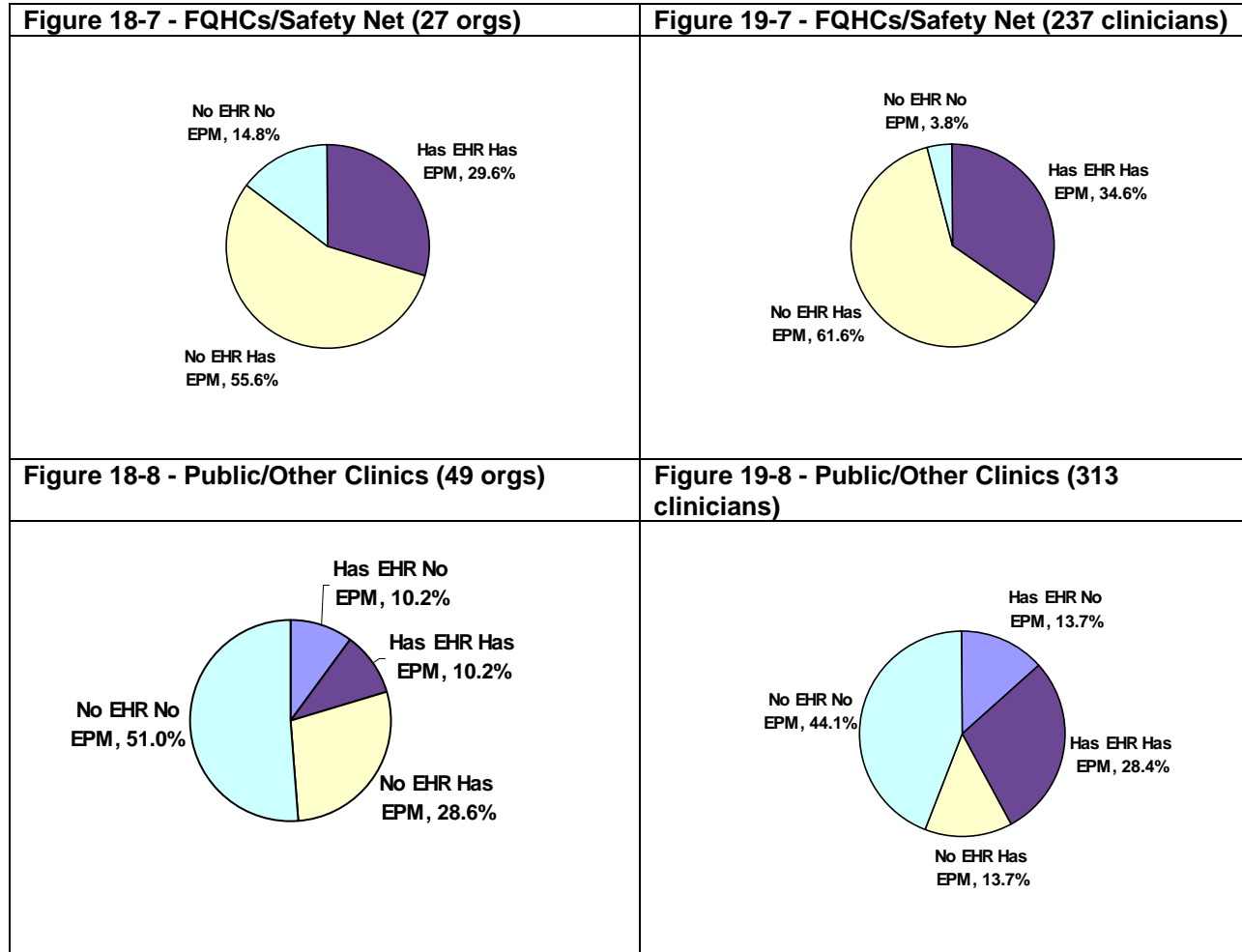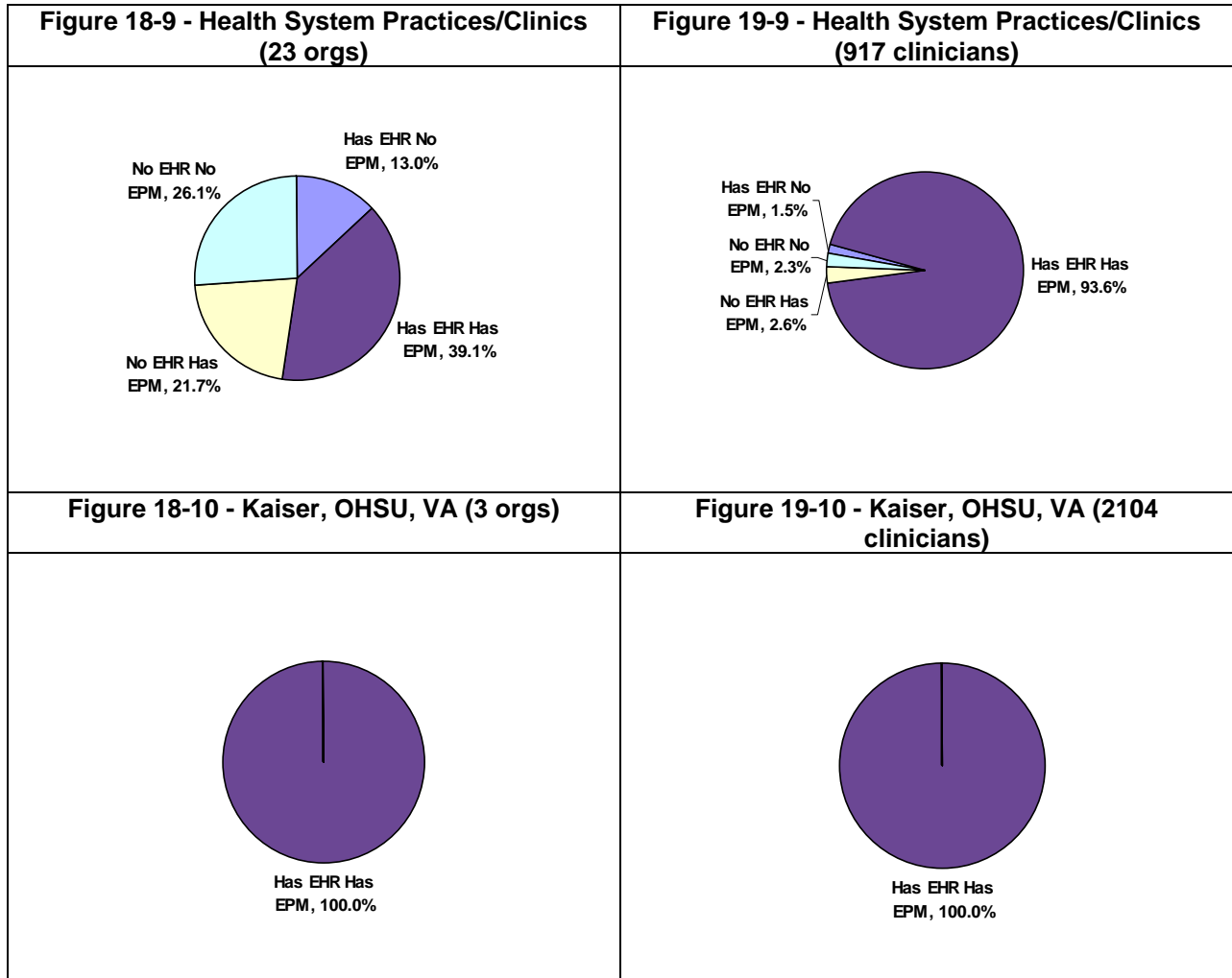Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figures 18-5, 18-6, 19-5 and 19-6 show the proportion of organization and clinicians who have adopted EHR and EPM systems for Clinician Names organizations and Clinic/Practice Names organizations.

Figure 18-5 Clinician Names (324 orgs)	Figure 19-5 - Clinician Names (428 clinicians)
Has EHR No EPM, 2.5% Has EHR Has EPM, 13.6% No EHR No EPM, 42.6% No EHR Has EPM, 41.4%	Has EHR No EPM, 2.3% Has EHR Has EPM, 14.5% No EHR No EPM, 38.3% No EHR Has EPM, 44.9%
Figure 18-6 - Clinic/Practice Names (697 orgs)	**Figure 19-6 - Clinic/Practice Names (3908 clinicians)**
Has EHR No EPM, 3.9% No EHR No EPM, 22.0% Has EHR Has EPM, 28.3% No EHR Has EPM, 45.9%	Has EHR No EPM, 1.3% No EHR No EPM, 19.6% Has EHR Has EPM, 36.4% No EHR Has EPM, 42.7%

Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figures 18-7, 18-8, 19-7 and 19-8 show the proportion of organization and clinicians who have adopted EHR and EPM systems for FQHC/Safety Net and Public/Other Clinics organizations.
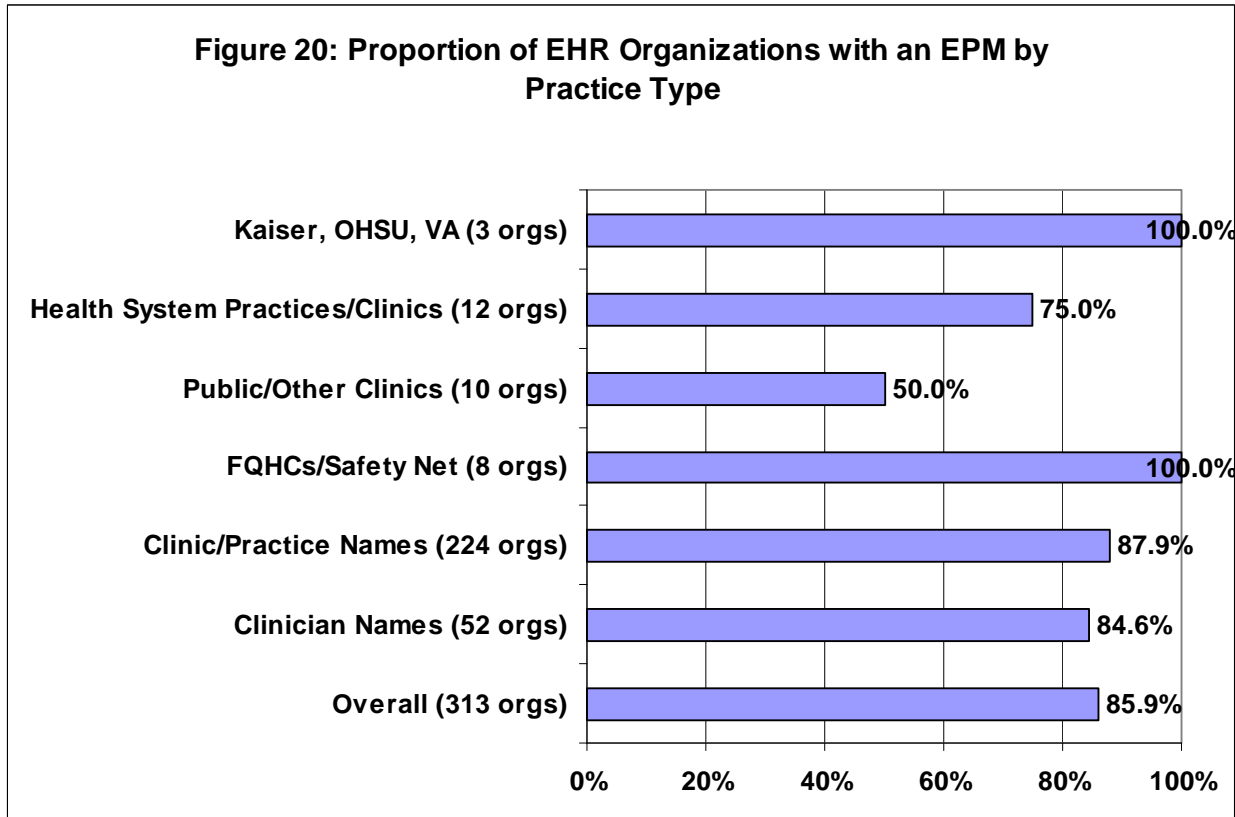
Figure 18-7 - FQHCs/Safety Net (27 orgs)	Figure 19-7 - FQHCs/Safety Net (237 clinicians)
No EHR No EPM, 14.8% Has EHR Has EPM, 29.6% No EHR Has EPM, 55.6%	No EHR No EPM, 3.8% Has EHR Has EPM, 34.6% No EHR Has EPM, 61.6%
Figure 18-8 - Public/Other Clinics (49 orgs)	**Figure 19-8 - Public/Other Clinics (313 clinicians)**
Has EHR No EPM, 10.2% Has EHR Has EPM, 10.2% No EHR No EPM, 51.0% No EHR Has EPM, 28.6%	Has EHR No EPM, 13.7% No EHR No EPM, 44.1% Has EHR Has EPM, 28.4% No EHR Has EPM, 13.7%

Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figures 18-9, 18-10, 19-9 and 19-10 show the proportion of organization and clinicians who have adopted EHR and EPM systems for Health System Practices/Clinics and Kaiser/OHSU/VA.

Figure 18-9 - Health System Practices/Clinics (23 orgs)	Figure 19-9 - Health System Practices/Clinics (917 clinicians)
No EHR No EPM, 26.1% Has EHR No EPM, 13.0% Has EHR Has EPM, 39.1% No EHR Has EPM, 21.7%	Has EHR No EPM, 1.5% No EHR No EPM, 2.3% No EHR Has EPM, 2.6% Has EHR Has EPM, 93.6%
Figure 18-10 - Kaiser, OHSU, VA (3 orgs)	**Figure 19-10 - Kaiser, OHSU, VA (2104 clinicians)**
Has EHR Has EPM, 100.0%	Has EHR Has EPM, 100.0%

Source: Appendix C, Tables 4-1, 4-2, 5-1, 5-2.

Figure 20 shows the proportion or organizations using an EHR that also have an EPM system by practice type. With the exception of the Public/Other Clinics, 75% to 100% of EHR organizations also use an EPM system. Alternatively, it could be stated that few organizations utilize an EHR system in the absence of an EPM system. Given the special nature and funding mechanisms of the Public/Other Clinics, the lower level of EPM system use (50%) in the presence of EHR does not seem surprising.

Figure 20: Proportion of EHR Organizations with an EPM by Practice Type

Practice Type	Percentage
Kaiser, OHSU, VA (3 orgs)	100.0%
Health System Practices/Clinics (12 orgs)	75.0%
Public/Other Clinics (10 orgs)	50.0%
FQHCs/Safety Net (8 orgs)	100.0%
Clinic/Practice Names (224 orgs)	87.9%
Clinician Names (52 orgs)	84.6%
Overall (313 orgs)	85.9%

Source: Appendix C, Tables 4-1, 4-2.

EPM Systems in Use

The survey asked respondents to identify the EPM product used in their practice/clinic. Survey responses indicate that 776 organizations (66.6%) use an EPM system serving 6,790 clinicians or 83.4% of total clinicians covered by the survey.

Figure 21 shows the market share distribution for EPM vendor products based on the number of clinicians served. Ten vendors/products account for 60.9% of the clinicians served by EPM products. GE has the largest market share in terms of organizations and clinicians with its Centricity (Millbrook) product (130 organizations and 12.4%) of clinicians and IDX Flowcast

product (one organization with 4.9% of clinicians). GE recently purchased the IDX company and previously purchased Millbrook, one in market leaders in practice management with its Paradigm product. The next largest vendors in terms of practice organizations served are Medical Manager (81 organizations, 6.1% of clinicians) and Medisoft (79 organizations, 2.5% of clinicians). After GE, the next largest vendors in terms clinicians served are Epic (13 organizations and 12.0% of clinicians) and CPRS/VISTA (one organizations and 8.1% of clinicians). Epic is the system used by Kaiser and OHSU along with OCHIN that serves FQHC/Safety Net clinics. CPRS/VISTA is the system used by the U.S. Department of Veteran Affairs throughout its hospital and clinic system.

It should be noted that these market share indicators may be different from the real market share distributions due to variable response rates among practices with specific products. The survey process could not estimate response rates by vendor or product.

Figure 21- EPM Market Share of Clinicians - All Organizations (n=776)

GE Centricity (130 orgs), 12.4%
Epic (13 orgs), 12.0%
Medical Manager (81 orgs), 6.1%
CPRS/VISTA (1 org), 8.1%
GE/IDX Flowcast (1 org), 4.9%
Misys (33 orgs), 4.2%
Intergy (36 orgs), 3.6%
NextGen (23 orgs), 3.6%
Vitalworks (13 orgs), 3.4%
Medisoft (79 orgs), 2.5%
Other (366 orgs), 39.1%

Legend:
- Other (366 orgs)
- Medisoft (79 orgs)
- Vitalworks (13 orgs)
- NextGen (23 orgs)
- Intergy (36 orgs)
- Misys (33 orgs)
- GE/IDX Flowcast (1 org)
- CPRS/VISTA (1 org)
- Medical Manager (81 orgs)
- Epic (13 orgs)
- GE Centricity (130 orgs)
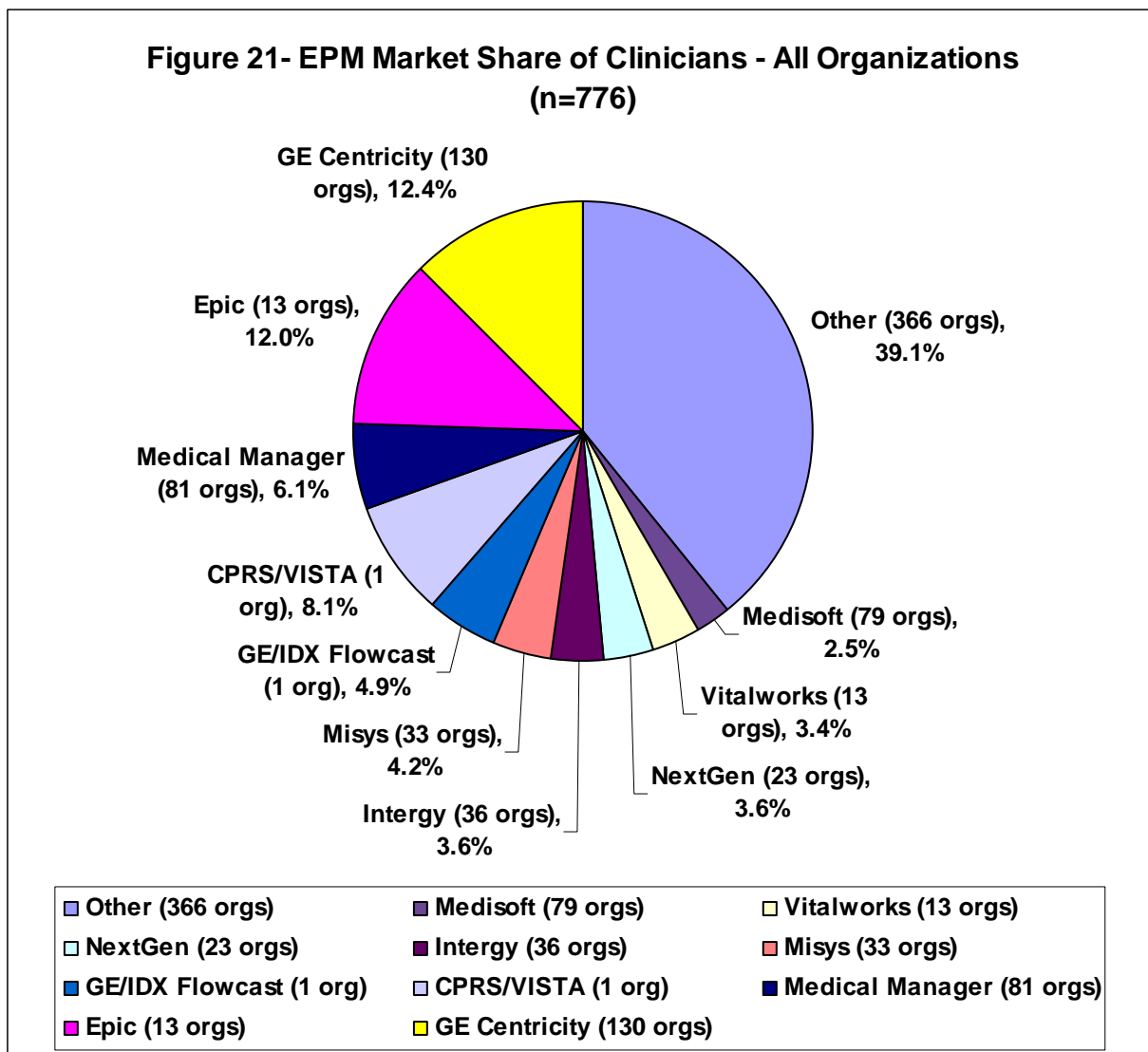
Source: Appendix C, Table 19-5.

For just the clinician organizations, 695 organizations (68.1%) indicated use of an EPM serving 3,345 clinicians (77.1% of clinicians at clinician organizations). Figure 22 shows the market share distribution for EPM vendor products based on the number of clinicians served. Nine vendors/products account for 61.3% of the clinicians served by EPM products. GE has the largest market share in terms of clinician organizations and clinicians with its Centricity product (124 organizations and 24.3% of clinicians and the IDX Groupcast product (3 clinician organizations with 3.1% of clinicians) acquired when GE purchased the IDX company. The next largest vendors in terms of practice organizations served are Medical Manager (74 organizations, 8.5% of clinicians) and Medisoft (74 organizations, 4.9% of clinicians). The other vendors shown serve twenty or more clinician organizations and 2.8% to 8.6% of clinicians.

Figure 22 - EPM Market Share of Clinicians - Clinician Organizations (n=695)
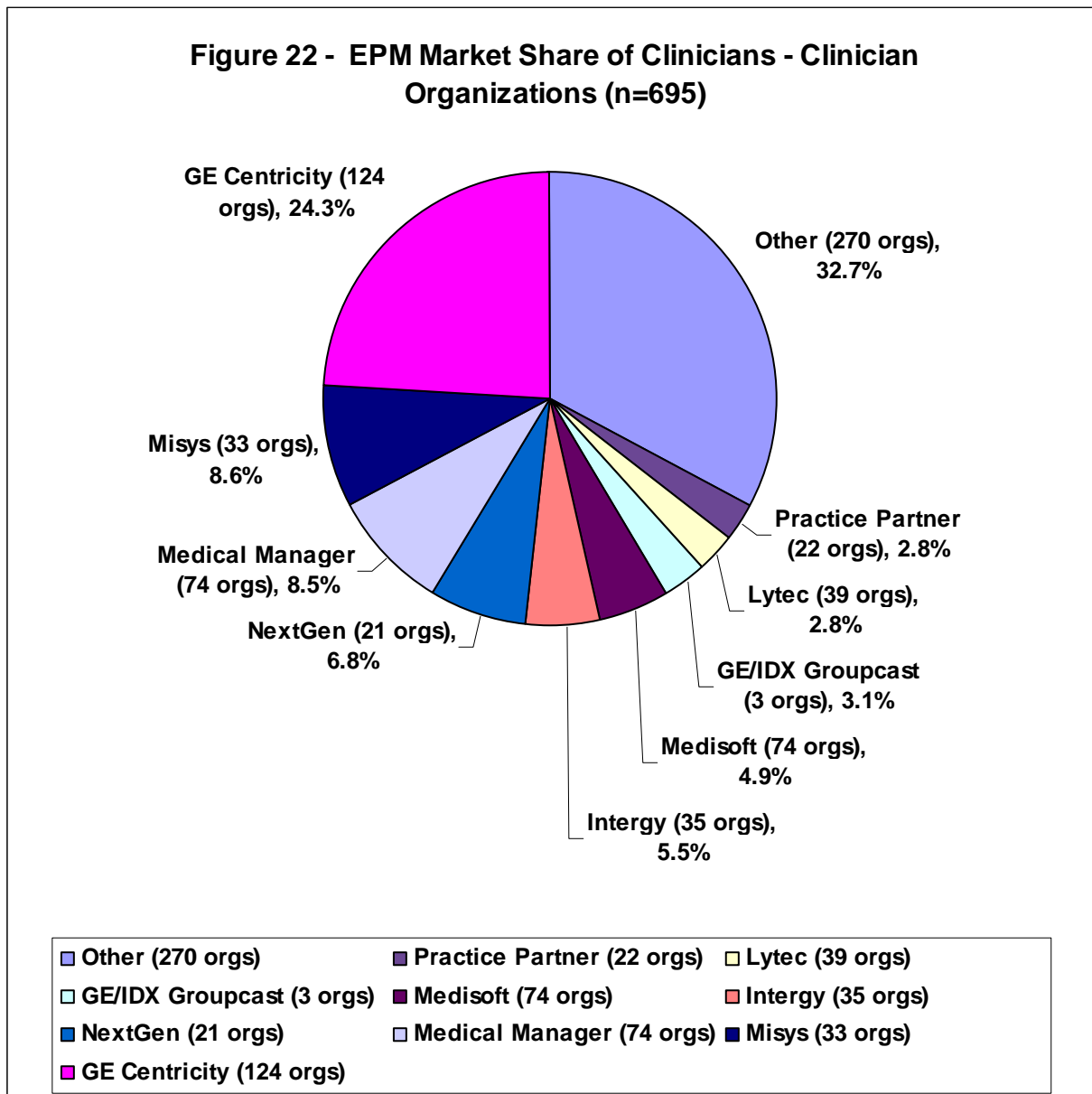
Source: Appendix C, Table 19-5.

In addition to possible variations in response rates for the various products, it should also be noted that the market shares of EPM and EHR vendor products used by clinician organizations are likely to be affected in the future by the recommendations of specific products by local independent practice associations (IPAs).

EHR Systems in Use

The survey asked respondents to identify the EHR product used in their practice/clinic. Survey responses indicate that 313 organizations (26.8%) use an EHR system serving 4,758 clinicians or 58.4% of total clinicians covered by the survey. Figure 23 shows the market share distribution for EHR vendor products based on the number of clinicians served. Eight vendors/products account for 74.0% of the clinicians served by EHR products. The largest market share in terms of clinicians served are EpicCare (9 organizations with 35.2% of clinicians) and GE with its Centricity product (61 organizations with 17.3% of clinicians) and the IDX LastWord product (7 organizations with 10.0% of clinicians) that was acquired by GE when it purchased the IDX company. The next largest vendor in terms of clinicians served is the CPRS/VISTA (one organization and 11.5% of clinicians). EpicCare is the system used by Kaiser and OHSU along with OCHIN that serves FQHC/Safety Net clinics. CPRS/VISTA is the system used by the U.S. Department of Veteran Affairs in its hospitals and clinics.

It should be noted that these market share indicators may be different from the real market share distributions due to variable response rates among practices with specific products. The survey process could not estimate response rates by vendor or product.

Figure 23 - EHR Market Share of Clinicians - All Organizations (n=313)

Others (193 orgs), 26.0%

EpicCare (9 orgs), 35.2%

InteGreat (6 orgs), 2.1%

NextGen (14 orgs), 2.6%

Allscripts (6 orgs), 2.5%

Intergy (16 orgs), 3.8%

CPRS/VISTA (1 org), 11.5%

IDX LastWord (7 orgs), 10.0%

GE Centricity (61 orgs), 17.3%

Legend:
- ☐ Others (193 orgs)
- ☐ InteGreat (6 orgs)
- ☐ NextGen (14 orgs)
- ☐ Allscripts (6 orgs)
- ■ Intergy (16 orgs)
- ☐ CPRS/VISTA (1 org)
- ■ IDX LastWord (7 orgs)
- ☐ GE Centricity (61 orgs)
- ■ EpicCare (9 orgs)
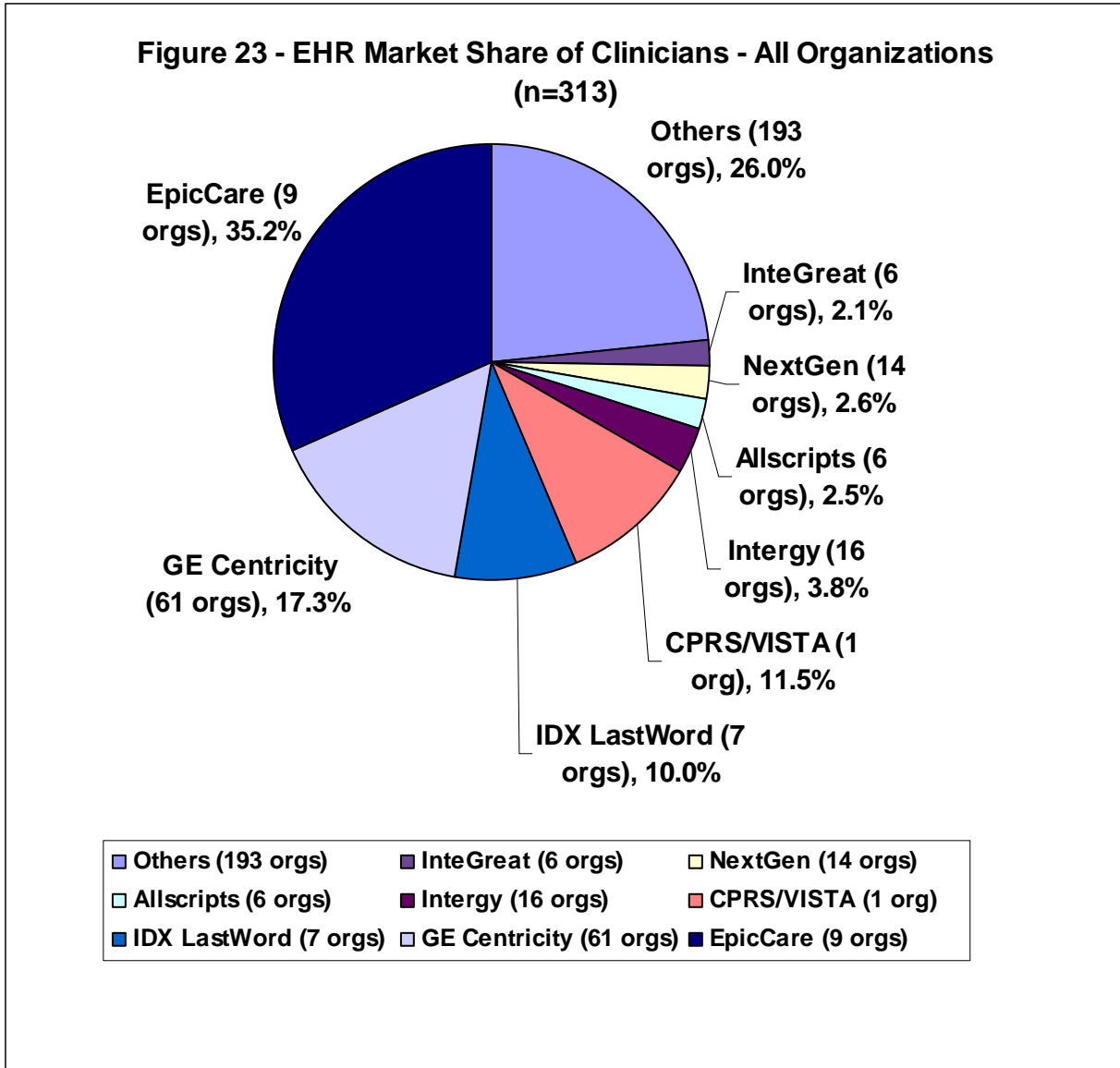
Source: Appendix C, Table 19-3.

For just the clinician organizations, 276 clinician organizations (27.0%) indicated use of an EHR serving 1,545 clinicians (35.6% of clinicians at clinician organizations). Figure 24 shows the market share distribution for EHR vendor products based on the number of clinicians served. Ten vendors/products account for 74.8% of the clinicians served by EHR products. The largest market share in terms of clinician organizations and clinicians use is GE Centricity (54 organizations and 30.9% of clinicians). The next largest vendors in terms of practice organizations served are Intergy (15 clinician organizations with 8.0% of clinicians), Allscripts (6 organizations, 7.7% of clinicians) and NextGen (13 organizations, 7.0% of clinicians). The other vendors shown serve twenty or more clinician organizations and 2.6% to 5.2% of clinicians.

Figure 24- EHR Market Share of Clinicians - Clinician Organizations (n=276)

Others (123 orgs), 25.2%
GE Centricity (54 orgs), 30.9%
Soapware (19 orgs), 2.6%
Medical Manager (7 orgs), 2.7%
Misys EMR (8 orgs), 2.8%
eClinical Works (14 orgs), 3.4%
Practice Partner (13 orgs), 4.6%
InteGreat (4 orgs), 5.2%
NextGen (13 orgs), 7.0%
Allscripts (6 orgs), 7.7%
Intergy (15 orgs), 8.0%

Legend:
- Others (123 orgs)
- Soapware (19 orgs)
- Medical Manager (7 orgs)
- Misys EMR (8 orgs)
- eClinical Works (14 orgs)
- Practice Partner (13 orgs)
- InteGreat (4 orgs)
- NextGen (13 orgs)
- Allscripts (6 orgs)
- Intergy (15 orgs)
- GE Centricity (54 orgs)

Source: Appendix C, Table 19-3.

In addition to possible variations in response rates for the various products, it should also be noted that the market shares of EPM and EHR vendor products used by clinician organizations are likely to be affected in the future by the recommendations of specific products by local independent practice associations (IPAs).

CCHIT Certification: The Certification Commission for Healthcare Information Technology (CCHIT[SM]) is a recognized certification body (RCB) for electronic health records and their networks, and an independent, voluntary, private-sector initiative. The CCHIT mission is to accelerate the adoption of health information technology by creating an efficient, credible and sustainable certification program. The CCHIT was formed in July 2004 by three leading industry associations in healthcare information management and technology - American Health Information Management Association (AHIMA), Healthcare Information and Management Systems Society (HIMSS), and The National Alliance for Health Information Technology (Alliance).[8]

CCHIT's certification process assesses compliance of specific versions of EHR software products against CCHIT standards. The initial standards established basic requirements that ambulatory EHR products must satisfy. Standards evolve over time and escalate the functionality requirements that are expected from vendor product offerings. The certification of products offers some level of assurance to purchasing organizations that products meet the specified levels of standards and functionalities. Vendors offering products not certified by CCHIT will likely face increasing difficulties in selling those products.

The Oregon EHR survey collected information on the vendors providing the EHR products. The survey did not collect information on the specific versions of software in use. However, it was possible to match the survey responses against the list of vendors that have achieved CCHIT certification. By making an assumption that all the product versions of a certified vendor are certified, it is possible to determine a minimal level of which EHR products in use in Oregon are certified or not. In other words, it is possible to determine the lower boundary at which products are not certified. The real rate of not-certified products may be higher if some versions of vendor products are certified and some are not certified.

Overall 50% of Oregon practices/clinics are using products where vendors have not received CCHIT certification. In the event that the non-certified vendors do not seek certification, the organizations with their products, the practices/clinics will likely face the need to convert their current systems to certified products.

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[8] CCHIT website http://cchit.org/, accessed November 5, 2007.

Figure 25 shows the mix of organizations by practice type from EHR vendors that may be CCHIT certified and products that are not certified. In considering these results, it is worth noting that:
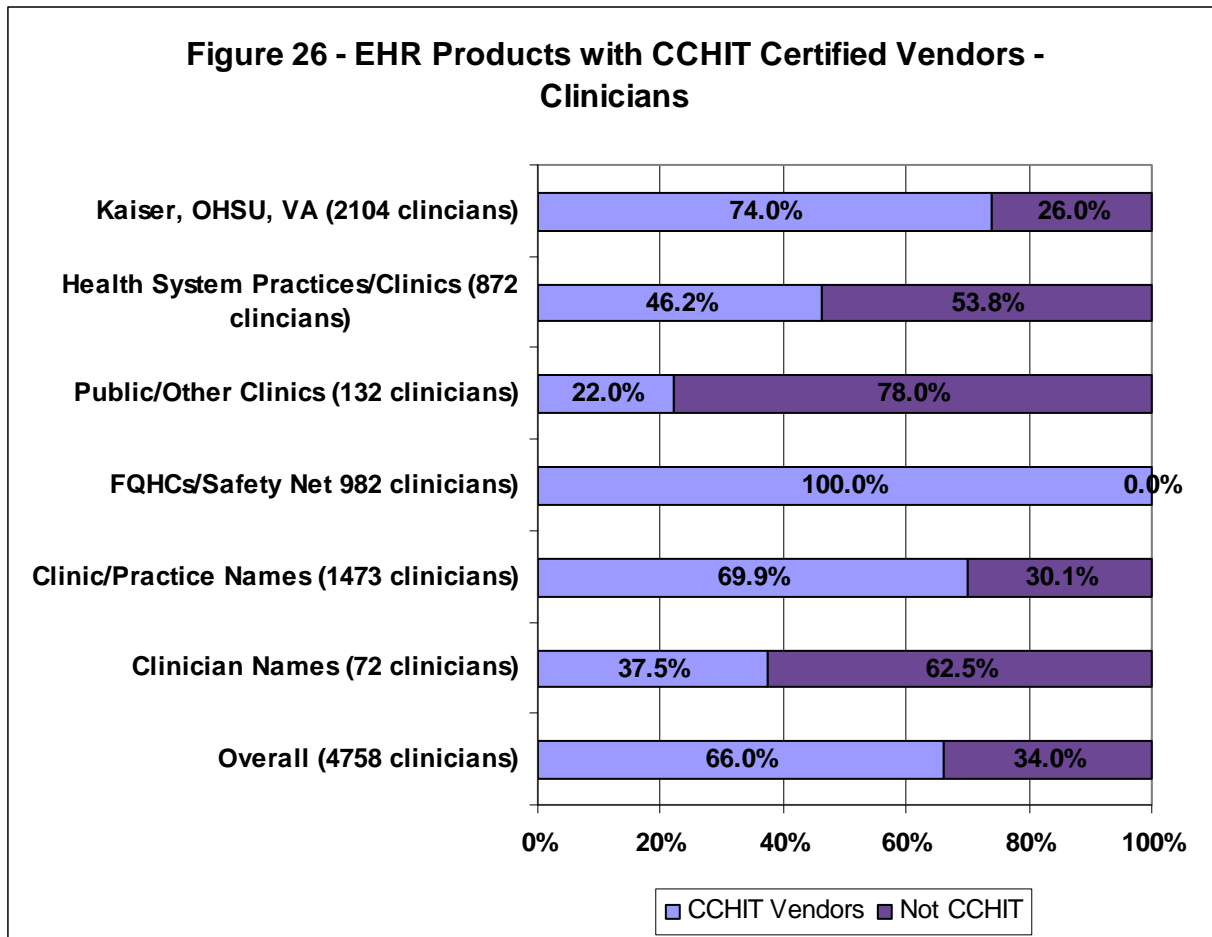- The CPRS/VISTA system used by the Veterans Administration is not a CCHIT-certified product even though many experts consider the system to be worthy of emulation. The VA seems unlikely to consider switching to some other product whether or not it is ever certified. Although there are CCHIT certified products based on VISTA, this analysis treats the VA as non-certified.
- The IDX LastWord product is not a certified product. The IDX company was recently acquired by GE Medical Systems. For purposes of this analysis, IDX LastWord is treated as a not-certified product and GE Centricity is treated as a certified product.

Figure 25 - EHR Products with CCHIT Certified Vendors - Organizations

Organization	CCHIT Vendors	Not CCHIT
Kaiser, OHSU, VA (3 orgs)	66.7%	33.3%
Health System Practices/Clinics (12 orgs)	58.3%	41.7%
Public/Other Clinics (10 orgs)	20.0%	80.0%
FQHCs/Safety Net (8 orgs)	100.0%	0.0%
Clinic/Practice Names (224 orgs)	52.7%	47.3%
Clinician Names (52 orgs)	36.5%	63.5%
Overall (313 orgs)	50.5%	49.5%
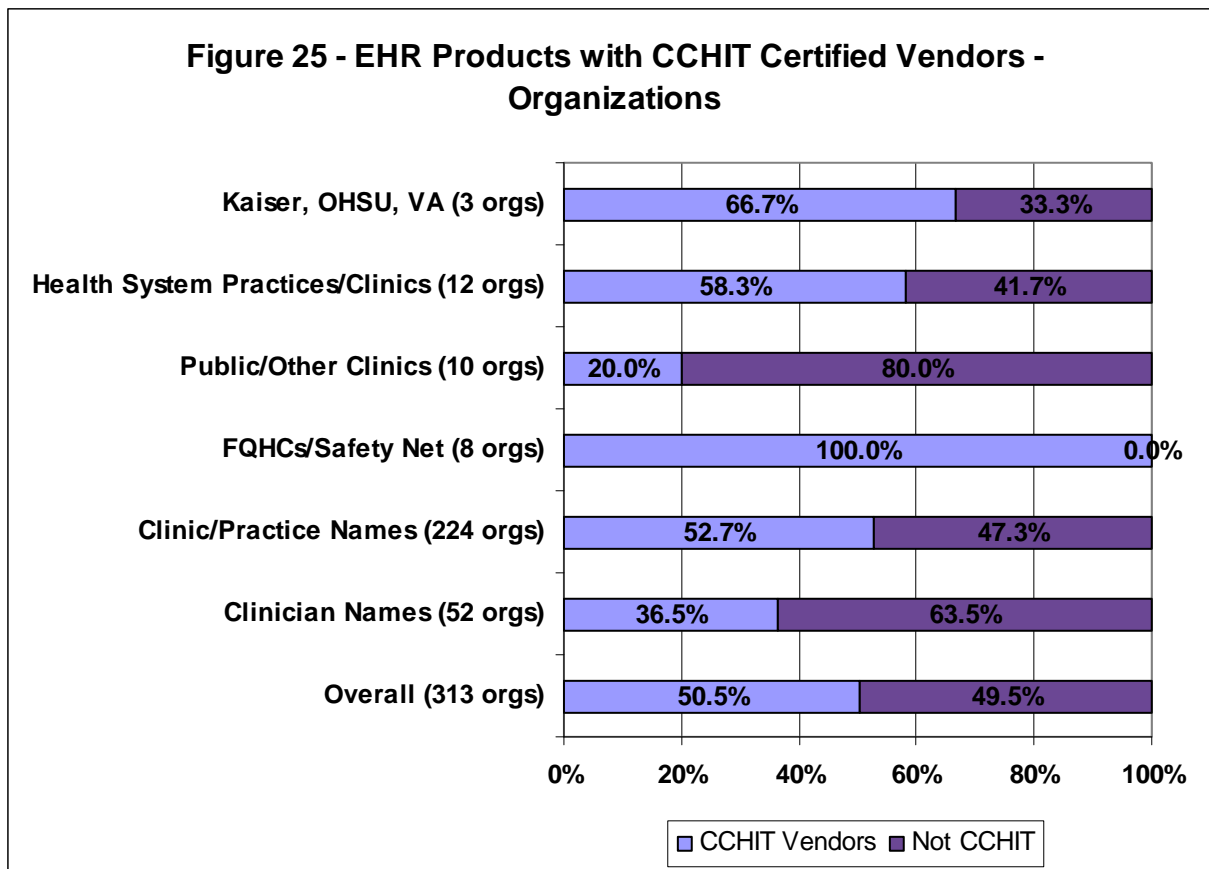
Source: Appendix C, Table 19-1.

Figure 26 follows the same conventions as Figure 25 but shows the mix of clinicians who are using EHRs products from vendors not certified by CCHIT versus products from vendors that are certified.

Overall 34% of clinicians are using products where vendors have not received CCHIT certification. In the event that these vendors do not seek and achieve certification, the clinicians and their organizations with non-certified products will likely face the need to convert their current systems to certified products at some point.

Figure 26 - EHR Products with CCHIT Certified Vendors - Clinicians

Category	CCHIT Vendors	Not CCHIT
Kaiser, OHSU, VA (2104 clincians)	74.0%	26.0%
Health System Practices/Clinics (872 clincians)	46.2%	53.8%
Public/Other Clinics (132 clinicians)	22.0%	78.0%
FQHCs/Safety Net 982 clinicians)	100.0%	0.0%
Clinic/Practice Names (1473 clinicians)	69.9%	30.1%
Clinician Names (72 clinicians)	37.5%	62.5%
Overall (4758 clinicians)	66.0%	34.0%

Source: Appendix C, Table 19-2.

EHR Acquisition Plans

Survey respondents not currently using an EHR, were asked about their plans for investing in an EHR within one year, within two years or not in the foreseeable future. Figure 27-1 shows the EHR investment plans by practice type. Health System practices and clinics have the highest rate (54.5%) for plans to invest in an EHR within one year. The Clinician Names practice type has the highest rates of **no** foreseeable plans (81.6%) and lowest rate of plans invest in the next year or two (18.0%).

Figure 27-1 - Organization Plans for Investing in an EHR by Practice Type (n=853 orgs)
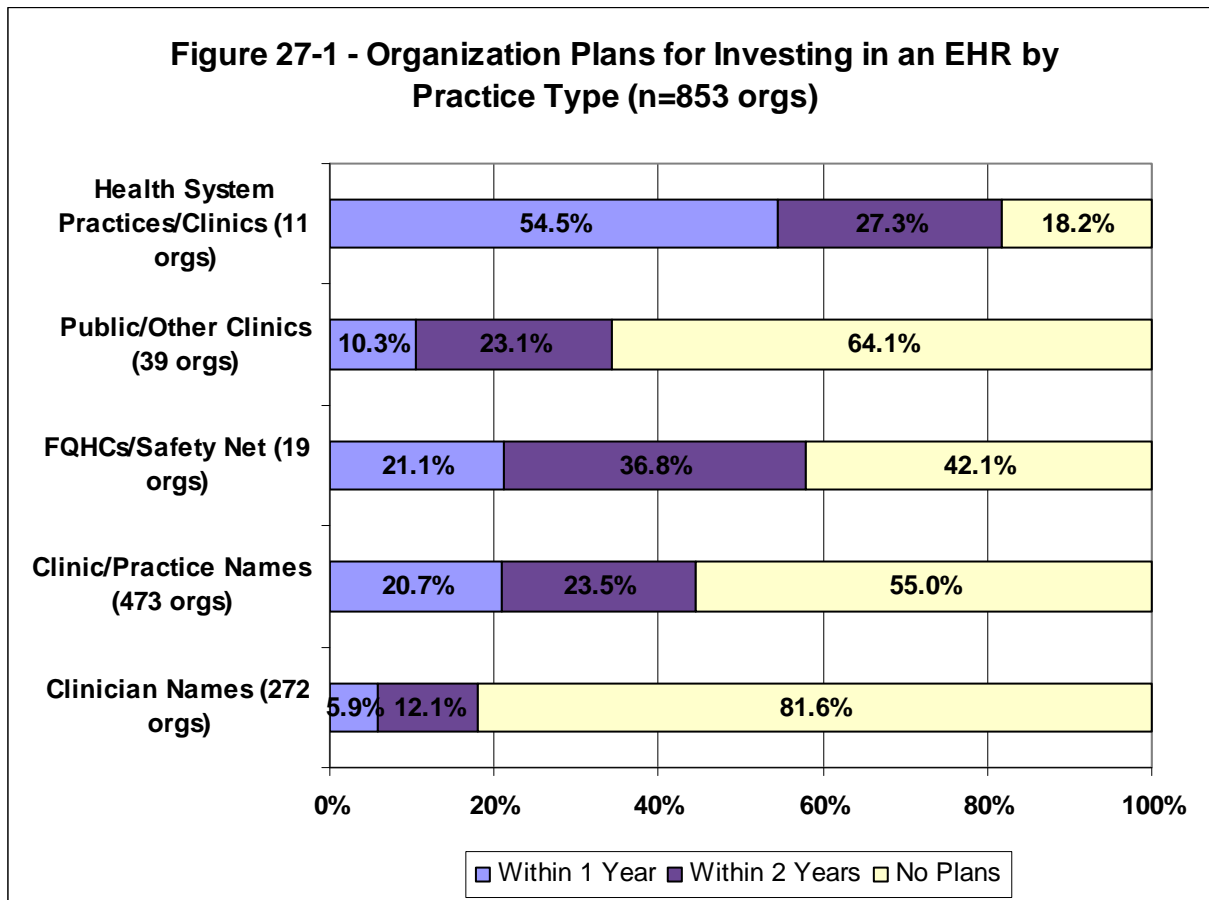
Source: Appendix C, Table 20-1.

Figure 27-2 shows the EHR investment plans for clinician organization by practice size. Practices with 5 or more clinicians have rates of planned invests within two years ranging from 66.4% to 75.1%. The highest rates of **no** foreseeable plans are solo practices (83.8%) and practices with 2 to 4 clinicians (60.4%). Correspondingly the lowest rates of plans invest in the next year or two are solo practices (15.9%) and practices with 2-4 clinicians (39.2%).

Figure 27-2 - Clinician Organization Plans for Investing in an EHR by Practice Size (n=742 orgs)

Practice Size	Within 1 Year	Within 2 Years	No Plans
50 + (4 orgs)	25.0%	50.0%	25.0%
20 to 49 (16 orgs)	43.8%	31.3%	25.0%
10 to 19 (27 orgs)	33.3%	33.3%	29.6%
5 to 9 (98 orgs)	27.6%	38.8%	31.6%
2 to 4 (270 orgs)	18.1%	21.1%	60.4%
Solo (327 orgs)	6.1%	9.8%	83.8%

☐ Within 1 Year ■ Within 2 Years ☐ No Plans
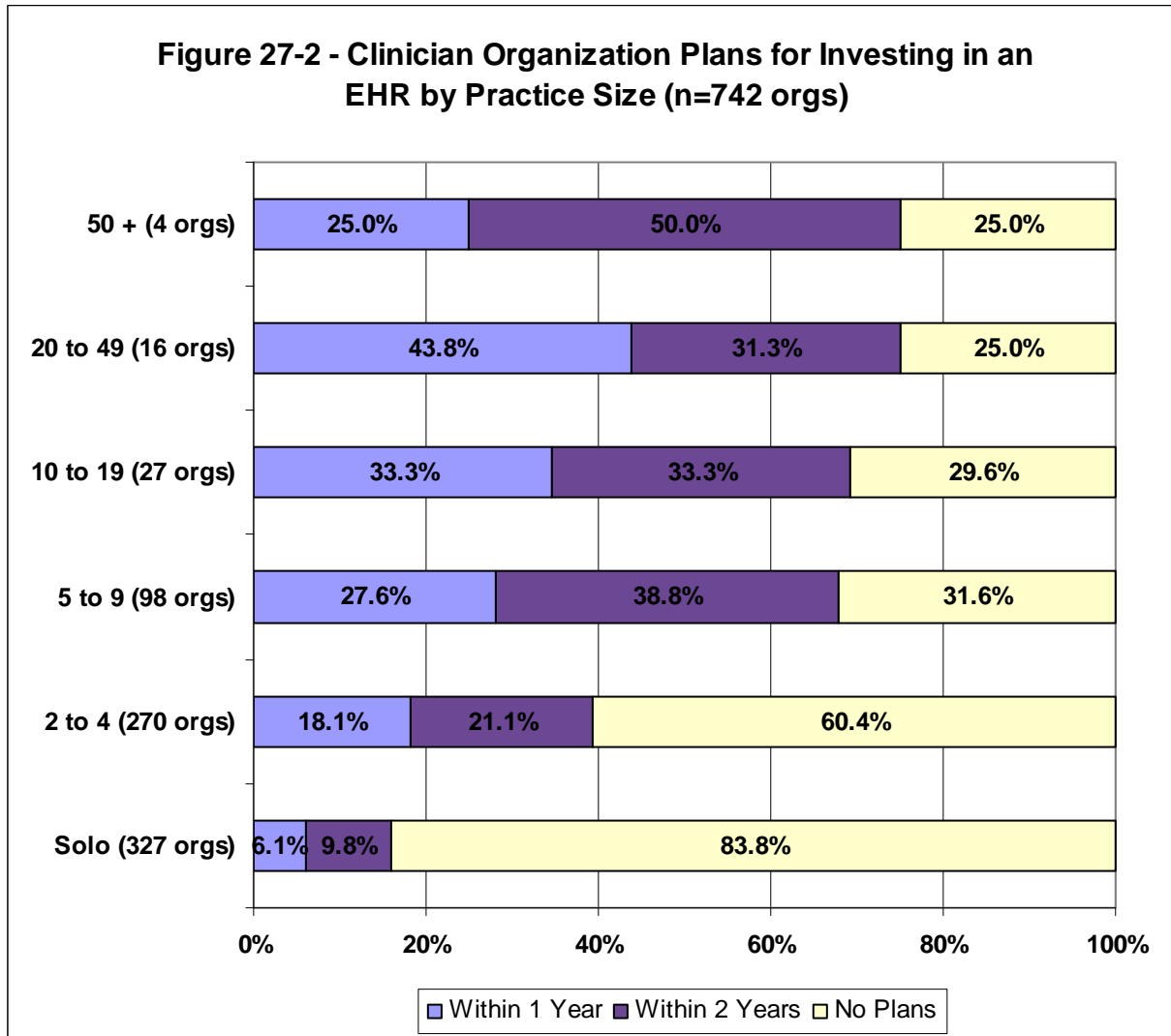
Source: Appendix C, Table 20-3.

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Issues Affecting Investing in an EHR

Respondents indicating no plans for investing in an EHR in the foreseeable future were asked to identify the main reasons the practice or clinic does not expect to invest in an EHR. Respondents could check up to eight possible reasons or check "Other" and write their own reason comments. Figure 28 shows the reasons indicated from the 546 practice/clinic organizations indicating no plans for investing in the foreseeable future. The major reason for not investing in EHR systems is that they are too expensive (70.0% of the organizations representing 64.1% of the clinicians). The second most expressed reason is that staff is satisfied with paper-based records systems (42.7% of organizations and 53.1% of clinicians. The third most frequent reason was "Other". Of the 546 organizational entities indicating not in the foreseeable future, the "Other" box was checked by 177 respondents. The most frequent comments for Other responses include:

-   Plan to retire soon or clinic may close   37 responses
-   Practice too small   31 responses
-   Staff satisfied with current system – does not want to change   20 responses
-   Not relevant for our type of practice   13 responses
-   Confidentiality/privacy/security concerns   12 responses

Some respondents used the "Other-please specify" option to amplify their responses to the available check boxes. Selected narrative comments that provide insight to clinician perspectives on EHR adoption are shown in Appendix D.

**Figure 28 - Reasons Not Investing in Foreseeable Future -
All Practice Types**

Reason	Clinicians	Organizations
Too expensive.	69.9%	64.1%
Satisfied with paper records	42.7%	53.1%
Product obsolesence worries	24.4%	20.1%
Implementation productivity loss	22.9%	22.2%
Confusing product choices	18.3%	14.3%
Staff expertise to use EHR	17.0%	18.5%
No product meets our needs.	17.8%	13.0%
Interoperability with other systems	16.7%	18.7%
Other reasons	26.8%	32.4%

☐ Organizations ☐ Clinicians

Source: Appendix C, Table 21.

Reasons with/without an EPM at Clinician Organizations: Figure 29 shows the reason for not investing EHR for clinician practices based on the presence or absence of an EPM system. Practices with an EPM system in place seem more likely to have experience in selecting, implementing and operating electronic systems. Practices **without** an EPM are more likely to be satisfied with paper-based records (59.0%) than those using an EPM (47.0%). Similarly, practices **without** an EPM are more likely to believe that their staff does not have the expertise to use an EHR (23.0%) than those using an EPM (14.0%). Practices **with** an EPM are more likely than those **without** an EPM to be concerned about systems being too expensive (68.0% vs. 60.0%), concerned that their EHR choice will quickly become obsolete (24.0% vs. 16.0%) and concerned about decreased office productivity during implementation resulting in decreased revenue (26.0% vs. 19.0%).

Figure 29 - Reasons Not Investing in Foreseeable Future - Clinician Organizations

Reason	With an EPM (278 orgs)	Without EPM (268 orgs)
Too expensive.	74.0%	60.1%
Satisfied with paper records	38.3%	59.0%
Product obsolesence worries	21.7%	15.7%
Implementation productivity loss	31.6%	18.7%
Confusing product choices	13.4%	14.2%
Staff expertise to use EHR	13.5%	23.1%
No product meets our needs.	19.4%	11.9%
Interoperability with other systems	15.9%	19.4%
Other reasons	31.5%	32.1%

Source: Appendix C, Table 21.

Figure 30 shows the reasons for not investing based on the number of clinicians impacted within Clinician Organizations. Impacted clinicians in practices **without** an EPM are more likely to be satisfied with paper-based records (48.0%) than those using an EPM (38.0%). Similarly, clinicians impacted in practices **without** an EPM are more likely to believe that their staff does not have the expertise to use an EHR (21.0%) than those using an EPM (13.0%) and that there are a confusing number of EHR choices (24.0% vs.13.0%). Clinicians impacted in practices **with** an EPM are more likely than those **without** an EPM to be concerned about systems being too expensive (74.0% vs. 65.0%), concerned that their EHR choice will quickly become obsolete (28.0% vs. 22.0%) and concerned about decreased office productivity during implementation resulting in decreased revenue (32.0% vs. 13.0%).

Figure 30 - Reasons Not Investing in Foreseeable Future - Clinicians at Clinician Organizations

Reason	With an EPM (278 orgs)	Without EPM (268 orgs)
Too expensive	74.0%	65.3%
Satisfied with paper records	38.3%	47.7%
Product obsolesence worries	21.7%	27.5%
Implementation productivity loss	31.6%	13.2%
Confusing product choices	13.4%	23.9%
Staff expertise to use EHR	13.5%	21.0%
No product meets our needs.	19.4%	16.1%
Interoperability with other systems	15.9%	17.6%
Other reasons	31.5%	21.6%

Source: Appendix C, Table 21

EHR Adoption Trajectory

Based on the information gathered in the survey regarding existing levels of EHR adoption and future plans, it is possible to forecast the levels of EHR adoption.

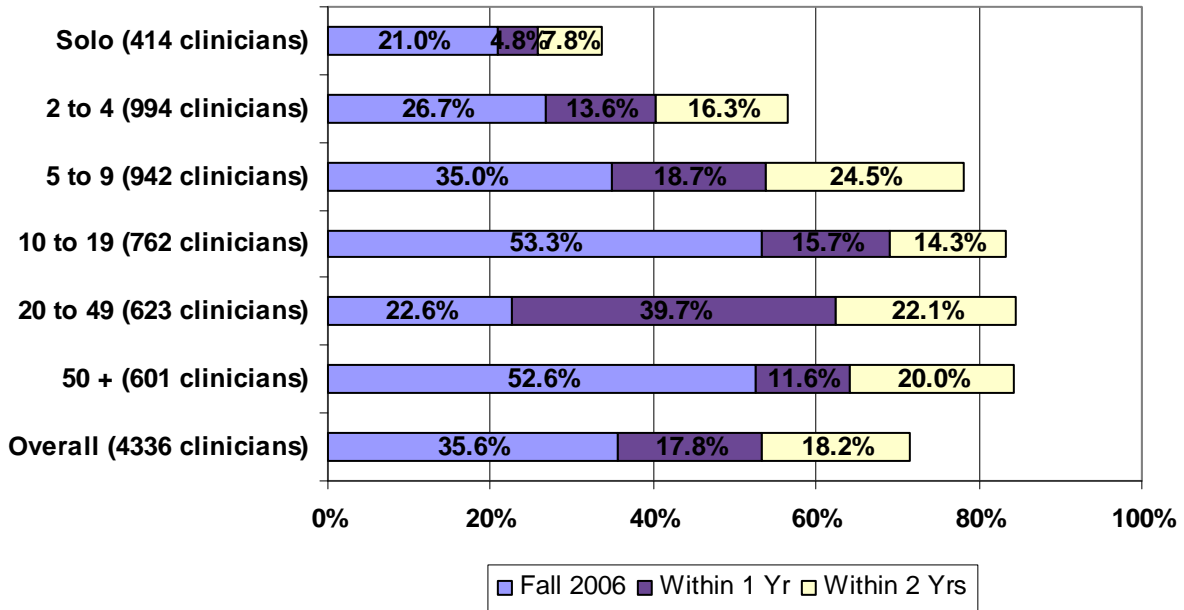**Trajectory for All Organizations by Practice Type:** Figures 31-1 and 31-2 show alternative representations of the same data projecting the EHR adoption trajectory for organizations by practice type based on the survey responses regarding the plans of practices and clinics to implement EHR systems. The highest rates of adoption by fall 2008 are Kaiser/OHSU/VA (sustaining the 2006 100% rate) and Health System Practices/Clinics (increasing from 52% to 96%). The lowest rate of adoption by fall 2008 is the Clinic Names practice type (increasing from 16% to 31%).

Figure 31-1 - EHR Adoption Trajectory: Organizations

Practice Type	Fall 2006	Within 1 Yr	Within 2 Yrs
Clinician Names (324 orgs)	16%	5%	10%
Public/Other Clinics (49 orgs)	20%	8%	18%
Clinic/Practice Names (697 orgs)	32%	14%	16%
FQHCs/Safety Net (27 orgs)	30%	15%	26%
Health System Practices/Clinics (23 orgs)	52%	26%	13%
Kaiser, OHSU, VA (3 orgs)	100%		
Overall (1166 orgs)	27%	11%	15%

Source: Appendix C, Table 22-1.

Figure 31-2 - EHR Adoption Trajectory: Organizations
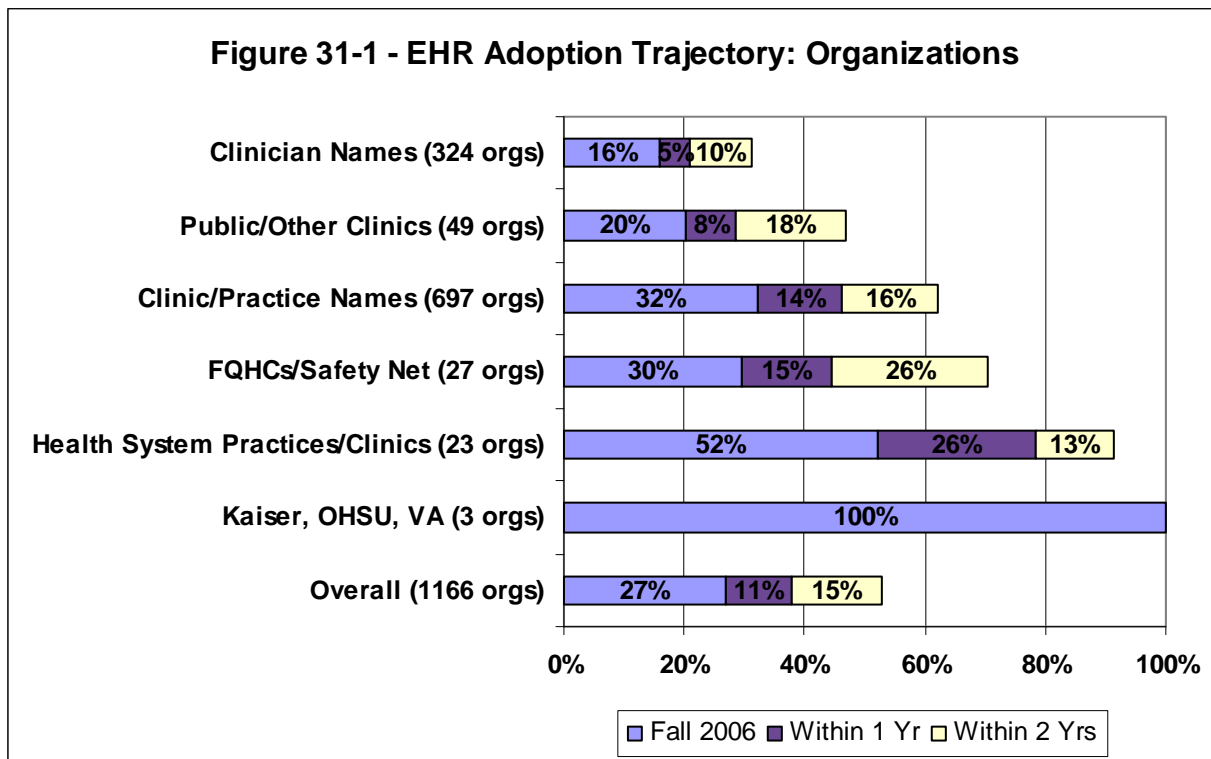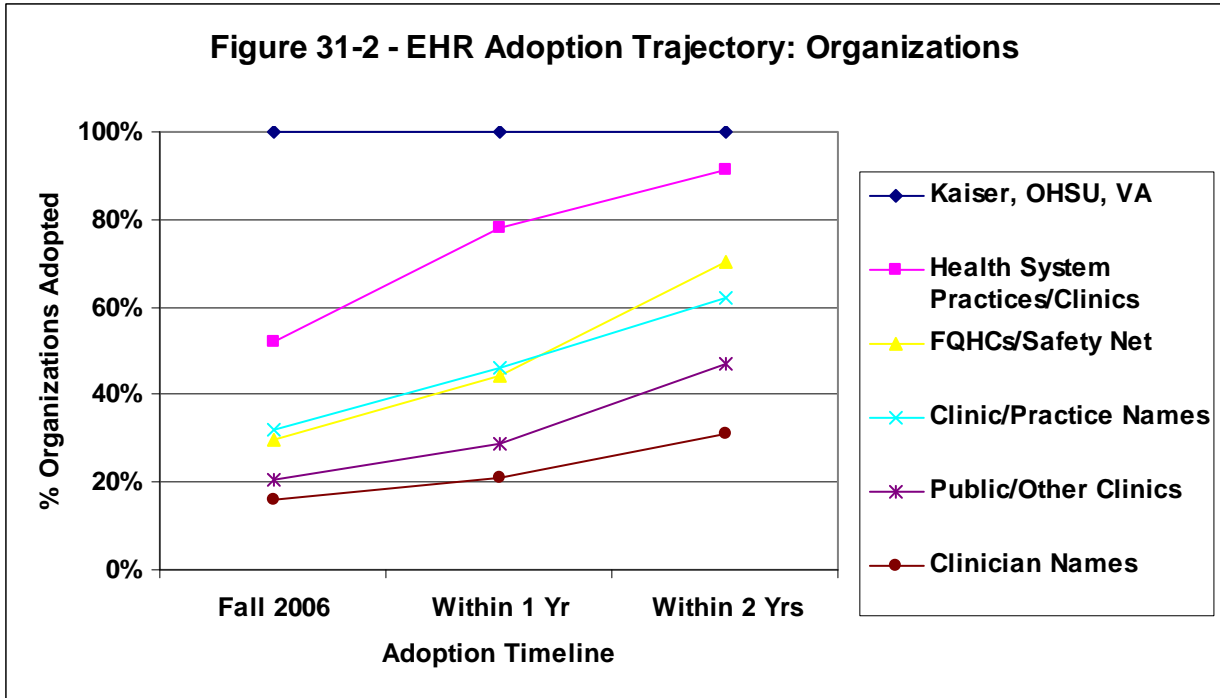
Source: Appendix C, Table 22-1.

Figures 32-1 and 32-2 show alternative representations of the same data projecting the EHR adoption trajectory for the number of clinicians affected at organizations by practice type based on the survey responses regarding the plans of practices and clinics to implement EHR systems. The highest rates of adoption by fall 2008 are Kaiser/OHSU/VA (sustaining the 2006 100% rate) and Health System Practices/Clinics (increasing from 52% to 99%). The lowest rate of adoption by fall 2008 is the Clinic Names practice type (increasing from 17% to 35%).

Figure 32-1 - EHR Adoption Trajectory: Clinicians
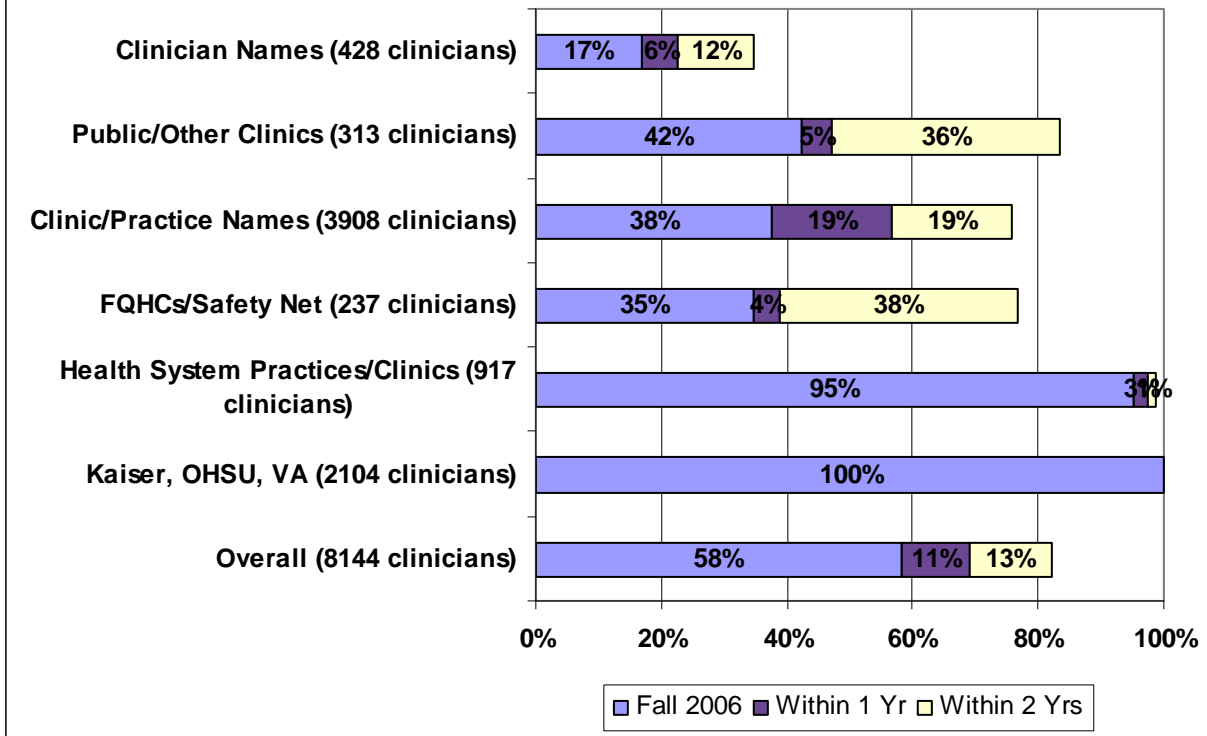
Source: Appendix C, Table 22-2.

Figure 32-2 - Adoption Trajectory: Clinicians
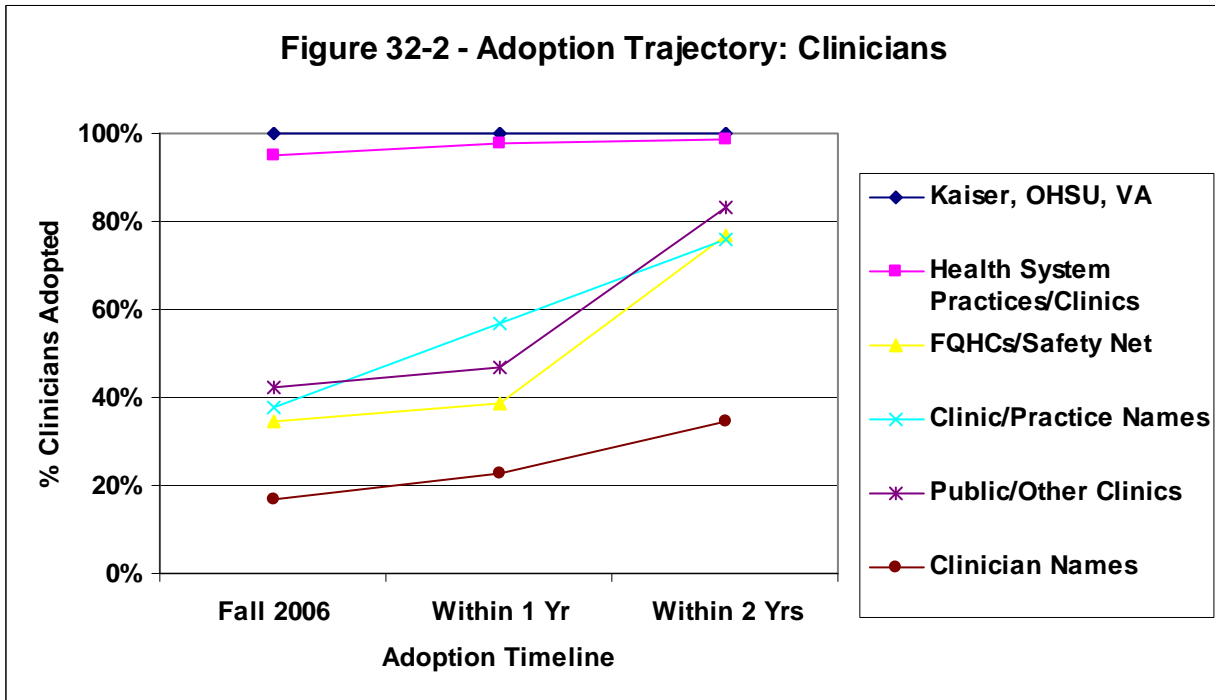
Source: Appendix C, Table 22-2.

Trajectory for Clinician Organizations by Practice Size: Figures 33-1 and 33-2 show alternative representations of the same data projecting the EHR adoption trajectory for clinician organizations by practice size based on the survey responses regarding the plans of practices and clinics to implement EHR systems.

The highest rates of adoption by fall 2008 are Kaiser/OHSU/VA (sustaining the 2006 100% rate) and Health System Practices/Clinics (increasing from 52% to 96%). The lowest rate of adoption by fall 2008 is the Clinic Names practice type (increasing from 16% to 31%).

Figure 33-1 - EHR Adoption Trajectory: Clinician Organizations by Practice Size

Practice Size	Fall 2006	Within 1 Yr	Within 2 Yrs
Solo (414 orgs)	21.0%	4.8%	7.8%
2 to 4 (366 orgs)	26.2%	13.4%	15.6%
5 to 9 (150 orgs)	34.7%	18.0%	25.3%
10 to 19 (58 orgs)	53.4%	15.6%	15.5%
20 to 49 (22 orgs)	27.3%	31.8%	22.7%
50 + (8 orgs)	50.0%	12.5%	25.0%
Overall (1021 orgs)	27.0%	11.2%	14.1%

Source: Appendix C, Table 23-1.

Figure 33-2 - EHR Adoption Trajectory: Clinician Organizations by Practice Size
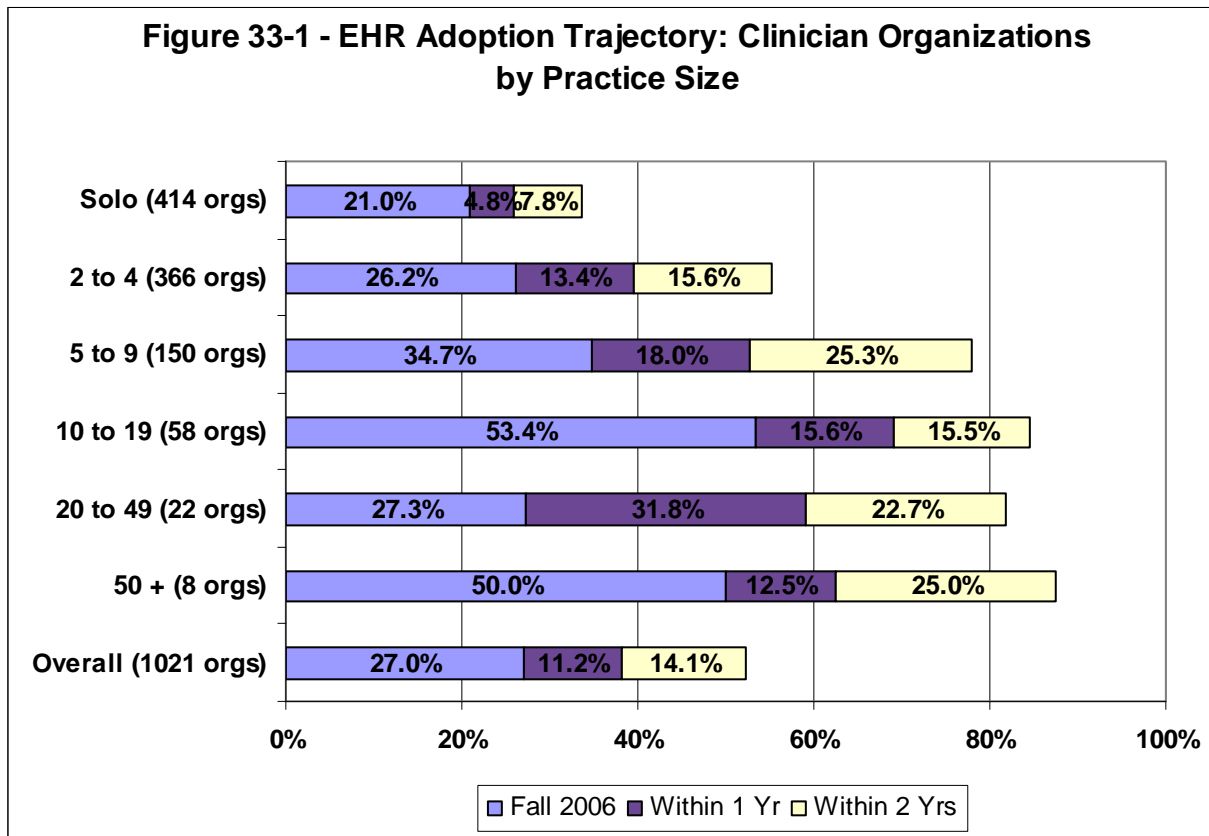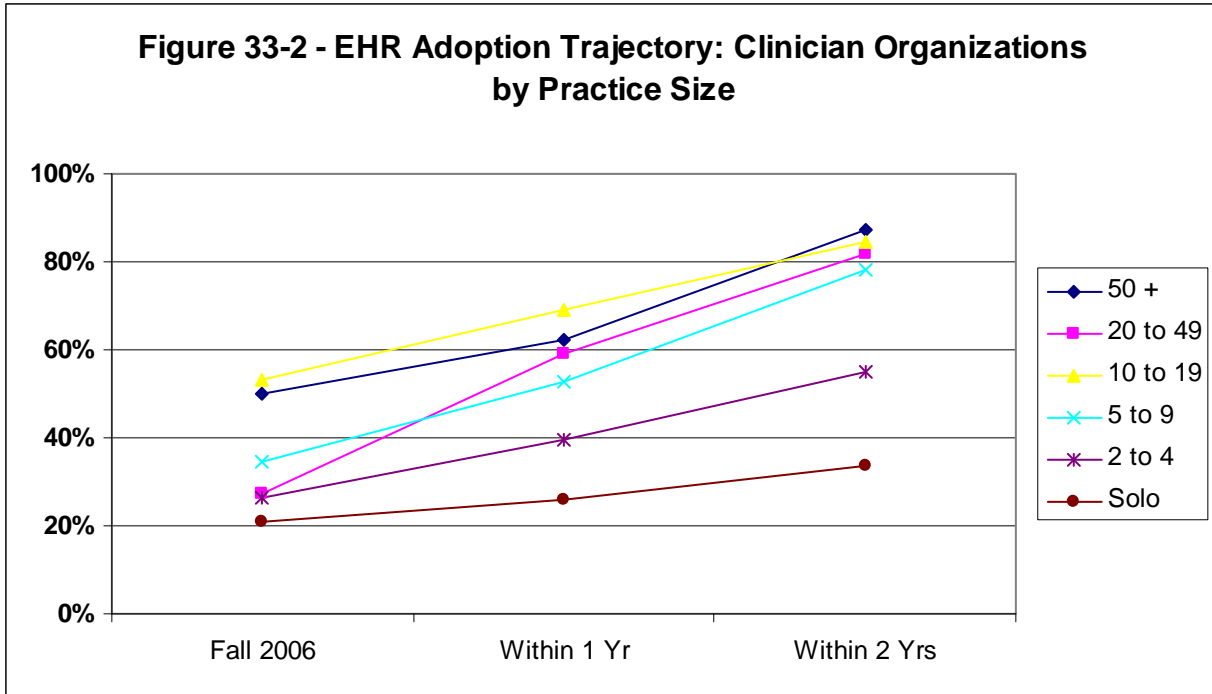
Source: Appendix C, Table 23-1.

Figures 34-1 and 34-2 show alternative representations of the same data projecting the EHR adoption trajectory for the number of clinicians at clinician organizations by practice size based on the survey responses regarding the plans of practices and clinics to implement EHR systems.

The highest rates of adoption by fall 2008 are Kaiser/OHSU/VA (sustaining the 2006 100% rate) and Health System Practices/Clinics (increasing from 52% to 99%). The lowest rate of adoption by fall 2008 is the Clinic Names practice type (increasing from 17% to 35%).

Figure 34-1 - EHR Adoption Trajectory" Clinicians at Clinician Organizations by Practice Size

Practice Size	Fall 2006	Within 1 Yr	Within 2 Yrs
Solo (414 clinicians)	21.0%	4.8%	7.8%
2 to 4 (994 clinicians)	26.7%	13.6%	16.3%
5 to 9 (942 clinicians)	35.0%	18.7%	24.5%
10 to 19 (762 clinicians)	53.3%	15.7%	14.3%
20 to 49 (623 clinicians)	22.6%	39.7%	22.1%
50 + (601 clinicians)	52.6%	11.6%	20.0%
Overall (4336 clinicians)	35.6%	17.8%	18.2%

Source: Appendix C, Table 23-2.

Figure 34-2 - EHR Adoption Trajectory: Clinicians at Clinician Organizations by Practice Size

Legend: 50 +, 20 to 49, 10 to 19, 5 to 9, 2 to 4, Solo

X-axis: Fall 2006, Within 1 Yr, Within 2 Yrs
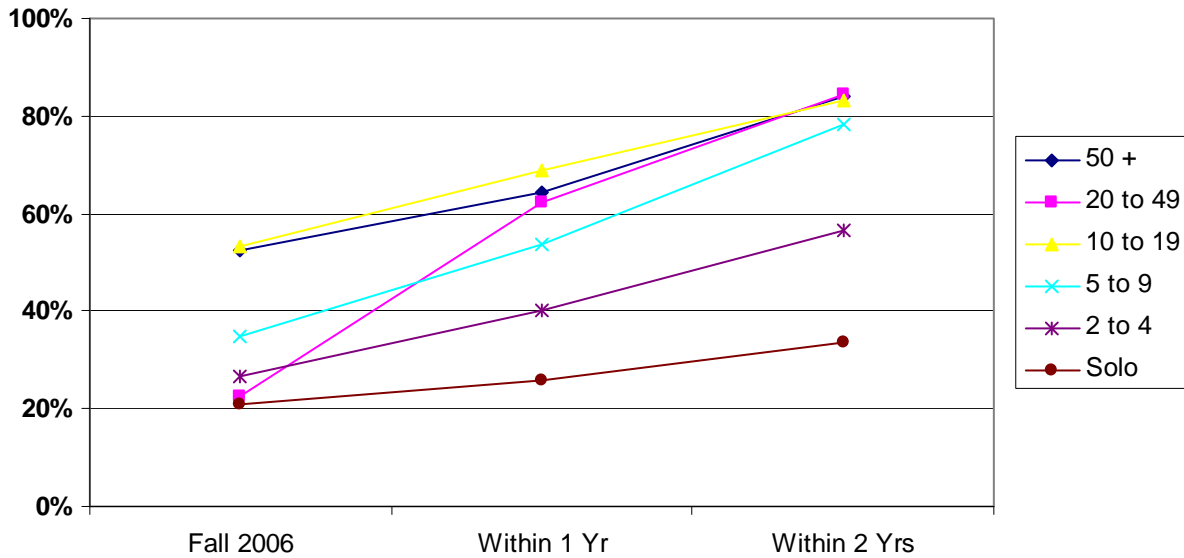
Source: Appendix C, Table 23-2.

Limitations

There are a number of limitations to 2006 EHR Survey and this analysis.

Possible Missing Organizations: It is possible that some practice/clinic organizations were not included in mailing list used to distribute the survey. For example, during the analysis process, it was identified that some free-standing ambulatory surgery centers were not included in the mailing list. While these ASCs were not a primary focus of the survey, it highlights the potential for this type of omission.

Under Counted Clinicians: The survey defined "clinicians: as physicians (MD/DO), physician assistant and nurse practitioners as a way to focus EHR use on the principal clinicians responsible for the care of patients. Other clinicians with similar roles not covered by the survey scope might include podiatrists (DPM), mental health professionals and others.

The survey instructions were silent about the inclusion of resident physicians in training. However, the data for the number of clinicians for the health systems with residents used in these analyses was ultimately drawn from a review of clinicians listed on the health system websites and identifying the number of clinician practicing at health system practices/clinics. With minor exceptions, this process would not have included the counts of residents at clinician users in Oregon. There are approximately 750 filled resident positions in graduate medical education (GME) training programs under the sponsorship of OHSU (622 positions), Providence Health System (77 positions), Legacy Emanuel Hospital (52 positions) and Shriners Hospital (1 position).[9] Residents rotate to various clinical care settings in Portland and other areas of the State. Residents in OHSU GME programs are regularly assigned to or rotate through positions at the Portland Veterans Administration Medical Center (PVAMC). It seems likely that many if not most residents will gain experience with multiple EHR systems during their training.

Over Counted Clinicians: The survey makes the assumption that all clinicians in a practice/clinic use the EHR system and that the system is fully implemented at all the practice locations and units of the organization. Not all clinicians may use the system because they are unwilling or it is not relevant to their practice. In some instances, organizations may still be in the implementation process and not have fully deployed their systems at the time of the survey. In such cases, the survey results would over estimate the number of clinicians using the system. For example, OHSU was in the process implementing its EHR system in the fall 2006. Approximately 60% of ambulatory visits were on the EHR system at that time. OHSU finished its ambulatory EHR implementation in the spring 2007.

Double Counted Clinicians: Because the survey responses were received from practices and clinic organizations it is possible that some clinicians may have been counted more than once in three circumstances. First, community clinics frequently rely on volunteer clinicians from their local area. It is possible that the number of clinicians reported by community clinics could be

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[9] Number of filled position data from the Accreditation Council on Graduate Medical Education website at http://www.acgme.org/adspublic/institution/default.asp?start=y accessed November 9, 2007.

volunteer clinicians who were also reported in their own practices. Second, freestanding ASCs usually serve a number of physicians in their locale. The numbers of clinicians reported by freestanding ASCs have a reasonable likelihood of overlapping with some of the responses for clinician practices. This type of double counting could only occur if both the ASC and the practices submitted survey responses. Third, physicians at OHSU and the Portland VAMC frequently move between the two facilities. The Portland VAMC medical staff office indicated that they had about 469 clinicians (using the EHR survey definition) and that about half of those clinicians are also involved with care at OHSU. However, cross-over services of clinicians between the VAMC and OHSU would be a mix of inpatient and ambulatory care.

Inconsistent Counting of Clinicians: Some physicians (mostly radiologists, pathologists, anesthesiologists) reported that they did not have ambulatory care responsibilities and were excluded from the survey responses. Clinicians in those same specialties that are part of a large multiple/multi-specialty practice would be included in the numbers of clinicians reported.

EHR Functionalities: The survey did not request information about the functionalities of the EHR systems of the products used by practices/clinics or whether the practices/clinics were using the functionalities available in the products. Some national surveys have attempted to distinguish between any level of EHR adoption as any EHR system versus advance or comprehensive systems. This analysis was not able to address the functional capabilities of the EHR products or the functionalities used by practices/clinics.

Appendix A: Funding Sources and Acknowledgements

ABOUT OFFICE FOR OREGON HEALTH POLICY AND RESEARCH

The Office for Oregon Health Policy and Research (OHPR) is responsible for the development and analysis of health policy in Oregon and serves as the policy making body for the Oregon Health Plan. The Office provides analysis, technical, and policy support to assist the Governor and the Legislature in setting health policy. For more information see www.Oregon.gov/OHPPR.

ABOUT OREGON HEALTH CARE QUALITY CORPORATION

The Oregon Health Care Quality Corporation is a non-profit partnership where leaders work together for quality. Managed by a balanced Board of Directors, senior representatives from health plans, physician groups, purchasers, hospitals, consumers and government cooperate for shared goals. Founded in 2000, the Quality Corp's projects have demonstrated the value of working cooperatively. For more information see www.Q-corp.org.

Appendix B: Survey Instrument

The survey transmittal letter and survey instrument are shown on the following three pages.

Oregon Electronic Health Record Inventory
Of
Ambulatory Health Care Clinics

**We encourage you to complete the EHR inventory online at
www.oregon.gov/das/ohpr/clinicsurvey.**

Dear Colleague,

A few weeks ago, the Office for Oregon Health Policy, in collaboration with the Oregon Health Care Quality Corporation, sent out an inventory of all ambulatory health care clinics in the state of Oregon regarding use of electronic health records (EHRs). The purpose of this inventory is to determine what percentage of Oregon's ambulatory clinics use an EHR and results will be used to guide policy development for the state.

You will find the brief survey enclosed. Once you have completed the inventory, you simply return it in the included postage-paid Business Reply envelope. This inventory is also available online at www.oregon.gov/das/ohpr/clinicsurvey, and we strongly encourage you to use the preferred electronic survey tool if at all possible. If you haven't completed the inventory, please try to do so today.

By responding, you are helping us better understand the adoption rates of clinics of varying sizes with regard to electronic health records. It is very important to get responses from as many clinics as possible, so please take the time to complete these few questions. Your individual responses to the inventory will only be published as aggregate data.

We feel this is an important step toward the improvement of healthcare through the use of information technology. If you have completed the survey and have received this letter in error, please accept my apology.

If you have any questions or comments, please contact Jody Pettit, MD at jody.pettit@state.or.us or 503.706.2208

Thank you in advance for your participation.

Regards,

Jody Pettit, MD
Health Information Technology Coordinator
Office for Oregon Health Policy & Research

☐   If this clinic is no longer in operation or you are a physician who is NOT involved in direct patient care, please mark here and return this page in the enclosed self-addressed, postage-paid envelope so that we may remove your name from the inventory sample.

Name of Clinic/MD:_____

Street Address:_____ City and Zip Code:_____

Oregon Electronic Health Record Inventory
Of
Ambulatory Health Care Clinics

OREGON HEALTH CARE

QUALITY
CORPORATION
A nonprofit partnership for quality improvement

**We encourage you to complete this survey online at
www.oregon.gov/das/ohpr/clinicsurvey.**

1. Does your clinic use electronic health records (also called electronic medical records)?

   ❑ Yes
   ❑ No   ➲   GO TO QUESTION 3

2. Please check the product used at this clinic location(s): *(Mark only one, then GO TO QUESTION 5)*

❑ ABELMed EMR	❑ Cerner Powerchart Office	❑ Emdeon Intergy EHR	❑ JMJ Technologies EncounterPRo	❑ MediNotes e EMR	❑ Practice Partner Patient Records
❑ AllMeds EMR	❑ Cerner Power Works	❑ GE Centricity (Logician)	❑ LeonardoMD	❑ Meditech	❑ Praxis
❑ Allscripts HealthMatics EMR	❑ Companion EMR	❑ GEMMS/ONE	❑ Lytec	❑ Misys EMR	❑ Pulse Systems Pt. Relationship Manager
❑ Allscripts Touchworks	❑ Dr. Notes	❑ IDXtend	❑ McKesson Horizon Amb. Care	❑ NextGen EMR	❑ RemedyMD EHR
❑ Alteer	❑ e-MDs Solution Series	❑ IDX LastWord	❑ MCS mMD.net EHR	❑ Nightingale myNightingale Physician Workstation	❑ Soapware
❑ AmazingCharts	❑ Eclipsys Sunrise	❑ iMedica Pt Relationship Manager	❑ MedcomSoft Record	❑ Noteworthy EHR	❑ Stryker OrthoPad
❑ Axolotl Elysium EMR	❑ Epic Systems EpicCare Ambulatory EMR	❑ IMRAC EMERALD	❑ Med. Inform. Eng. Web Chart	❑ Poseidon Group Navigator Web	❑ WebMD
❑ Cerner Intuition	❑ eClinical Works	❑ InteGreat IC-Chart	❑ Medical Manager	❑ PracticeOne	❑ Other *(Specify)*

3. Do you think your clinic will invest in electronic health records (EHR): *(Mark only one)*

   ❑ Within 1 year   ➲   GO TO QUESTION 5
   ❑ Within 2 years   ➲   GO TO QUESTION 5
   ❑ Not in the foreseeable future   ➲   GO TO QUESTION 4

4. Please check the **main reasons** your clinic DOES NOT expect to invest in electronic health records (EHR) in the foreseeable future: *(Mark all that apply)*

   ❑ Too expensive.
   ❑ Confusing number of EHR choices.
   ❑ No currently available EHR product satisfies our needs.
   ❑ Staff does not have expertise to use an EHR.
   ❑ EHRs lack interoperability with other information systems resulting in high interfacing costs.
   ❑ Decreased office productivity during implementation resulting in decreased revenue.
   ❑ Concern that EHR choice will quickly become obsolete (like Betamax).
   ❑ Staff is satisfied with paper-based records system.
   ❑ Other(s) – Please specify below.

☞ GO TO BACK

5. Does your clinic have an electronic practice management system?

    ❑ Yes
    ❑ No ➲ GO TO QUESTION 7

6. Please check the product used at this clinic location(s): *(Mark only one)*

❑ Advantx	❑ Data Perspectives	❑ Medic	❑ NDS	❑ Telecom
❑ Alteer	❑ e-MDs	❑ Medical Manager	❑ NextGen	❑ Vitalworks
❑ Centricity (Millbrook)	❑ Healthcare Data Systems	❑ Medisoft	❑ Practice Partner	❑ WebMD Intergy
❑ Compulink Advantage	❑ Lytec	❑ Misys	❑ Prism	❑ Other (Specify)

7. How many practicing clinicians (MD, DO, NP, PA) are in your office? *(Number of people – not FTEs)*

    _____

8. Are you answering for more than one clinic location?

    ❑ Yes
    ❑ No ➲ GO TO QUESTION 10

9. How many locations?_____

10. In what specialties or subspecialties do your clinicians practice? *(Mark all that apply)*

❑Allergy/Immunology	❑Dermatology	❑Gastroenterology	❑Maxillofacial Surgery	❑Nuclear Medicine	❑Ortho. Surgery	❑Radiology
❑Anesthesiology	❑Emergency Med.	❑General Surgery	❑Neo/Perinatal Med.	❑Ob/Gyn	❑Pediatrics	❑Sports Medicine
❑Cardiology	❑Endocrinology	❑Geriatrics	❑Nephrology	❑Occupational Med.	❑Pediatric Surgery	❑Urology
❑Cardiovasc. Surgery	❑ENT	❑Hematology	❑Neurology	❑Oncology	❑Plastic Surgery	❑Other
❑Critical Care Med.	❑Family Practice	❑Internal Medicine	❑Neuro. Surgery	❑Ophthalmology	❑Psychiatry	

11. Please provide the name of the clinic and name and email address of a contact person for your clinic: (Preferably the clinic manager or medical director. ***PLEASE PRINT CLEARLY***.)

Name of the Clinic: _____

Name of Clinic Manager or Medical Director: _____

Email address:_____
We promise not to spam you.

Your email address will help us administer this inventory completely **electronically** next year.

Thank you for your time!

Any questions or comments, please contact Jody Pettit, MD
at jody.pettit@q-corp.org or jody.pettit@state.or.us or mobile phone 503.706.2208.

Appendix C: 2006 EHR Survey Data Tables

LIST OF TABLES

2006 Oregon Ambulatory EHR Survey

SURVEY CHARACTERISTICS

Table 1: Survey Response Rates by Practice Type

RESPONSE RATES BY PRACTICE TYPE	Surveys Mailed	Entities Mailed	Responses Received	Entity Responses	Entity Response Rate
Clinician Names	679	644	357	324	50.3%
Clinic/Practice Names	1,351	1,145	727	697	60.9%
Subtotal	2,030	1,789	1,084	1,021	57.1%
FQHCs/Safety Net	67	50	29	27	54.0%
Public/Other Clinics	88	77	52	49	63.6%
Health System Practices/Clinics	123	40	27	23	57.5%
Community Hospitals	35	31	2	2	6.5%
Ambulatory Surgery Centers	8	8	7	7	87.5%
Kaiser, OHSU, VA	52	3	9	3	100.0%
No Name/info	-	-	34	34	-
Total	2,403	1,998	1,244	1,166	58.4%
No patient care		56	56		
Valid Responses		2,054	1,188		

KEY: PRACTICE TYPES

Clinician Names	Practices with the names of individual clinicians, e.g., Jospeh Doakes, MD, Drs. Smith & Jones
Clinic/Practice Names	Practices with other names, e.g., Albany Clinic, Pacific Medical Group
FQHCs/Safety Net	Federally qualified health centers matched to OPCA lists of FQHCs
Public/Other Clinics	Public health departments, school-based clinics, tribal clinics and college health centers not on FQHC lis
Health System Practices/Clinicss	Practices and clinics associated with hospitals and health systems (includes system name)
Community Hospitals	Community hospitals that did not have specifically identified ambulatory clinics or practices
Ambulatory Surgery Centers	Free-standing ambulatory surgery centers
Kaiser, OHSU, VA	Kaiser, OHSU, VA clinics
No Name/info	Responses submitted without clinician or practice name
No patient care	Responses returned indicating no direct patient care reponsibilities

2006 Oregon Ambulatory EHR Survey

SURVEY CHARACTERISTICS (cont.)

Table 2: Survey Responses by Practice Type

RESPONSES BY PRACTICE TYPE	Entities	Locations	Clinicians	% Entities	% Clinicians	Clinicians per Entity	Locations per Entity
Clinician Names	324	344	428	27.8%	5.3%	1.3	1.1
Clinic/Practice Names	697	1,041	3,908	59.8%	48.0%	5.6	1.5
Subtotal	1,021	1,385	4,336	87.6%	53.2%	4.2	1.4
FQHCs/Safety Net	27	60	237	2.3%	2.9%	8.8	2.2
Public/Other Clinics	49	94	313	4.2%	3.8%	6.4	1.9
Health System Practices/Clinics	23	133	917	2.0%	11.3%	39.9	5.8
Community Hospitals	2	2	15	0.2%	0.2%	7.5	1.0
Ambulatory Surgery Centers	7	7	121	0.6%	1.5%	17.3	1.0
Kaiser, OHSU, VA	3	39	2,104	0.3%	25.8%	701.3	13.0
No Name/info	34	37	102	2.9%	1.2%	3.0	1.1
Total	1,166	1,757	8,144	100.0%	100.0%	7.0	1.5
Total - Indentified	1,132	1,720	8,043	97.1%	98.8%	7.1	1.5

2006 Oregon Ambulatory EHR Survey

SURVEY CHARACTERISTICS (cont.)

Table 3-1: Distribution by Practice Size and Practice Type

NUMBER OF PRACTICES BY SIZE CATEGORY	Unidentified size	Solo Practices	2 to 4 Clinicians	5 to 9 Clinicians	10 to 19 Clinicians	20 to 49 Clinicians	50 + Clinicians	Total Practices
Clinician Names	-	250	72	2	-	-	-	324
Clinic/Practice Names	3	164	294	148	58	22	8	697
Subtotal	3	414	366	150	58	22	8	1,021
FQHCs/Safety Net	-	3	7	7	9	-	1	27
Public/Other Clinics	9	11	13	9	5	-	2	49
Health System Practices/Clinics	1	3	6	5	2	1	5	23
Community Hospitals	-	-	-	2	-	-	-	2
Ambulatory Surgery Centers	1	-	1	2	-	3	-	7
Kaiser, OHSU, VA	-	-	-	-	-	-	3	3
No Name/info	1	24	6	1	1	1	-	34
Total	15	455	399	176	75	27	19	1,166
Total - Indentifed	14	431	393	175	74	26	19	1,132

Table 3-2: Distribution by Practice Size within Practice Type

PERCENTAGE OF PRACTICES BY SIZE CATEGORY	Unidentified size	Solo Practices	2 to 4 Clinicians	5 to 9 Clinicians	10 to 19 Clinicians	20 to 49 Clinicians	50 + Clinicians	Total Practices
Clinician Names	0.0%	77.2%	22.2%	0.6%	0.0%	0.0%	0.0%	100.0%
Clinic/Practice Names	0.4%	23.5%	42.2%	21.2%	8.3%	3.2%	1.1%	100.0%
Subtotal	0.3%	40.5%	35.8%	14.7%	5.7%	2.2%	0.8%	100.0%
FQHCs/Safety Net	0.0%	11.1%	25.9%	25.9%	33.3%	0.0%	3.7%	100.0%
Public/Other Clinics	18.4%	22.4%	26.5%	18.4%	10.2%	0.0%	4.1%	100.0%
Health System Practices/Clinics	4.3%	13.0%	26.1%	21.7%	8.7%	4.3%	21.7%	100.0%
Community Hospitals	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Ambulatory Surgery Centers	14.3%	0.0%	14.3%	28.6%	0.0%	42.9%	0.0%	100.0%
Kaiser, OHSU, VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
No Name/info	2.9%	70.6%	17.6%	2.9%	2.9%	2.9%	0.0%	100.0%
Total	1.3%	39.0%	34.2%	15.1%	6.4%	2.3%	1.6%	100.0%
Total - Indentifed	1.2%	38.1%	34.7%	15.5%	6.5%	2.3%	1.7%	100.0%

2006 Oregon Ambulatory EHR Survey

EHR & EPM - ALL PRACTICE TYPES

Table 4-1: EHR & EPM BY PRACTICE TYPE: Organizations

ENTITIES WITH EHR & EPM BY PRACTICE TYPE	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clinician Names	324	44	8	**52**	134	**178**	138
Clinic/Practice Names	697	197	27	**224**	320	**517**	153
FQHCs/Safety Net	27	8	-	**8**	15	**23**	4
Public/Other Clinics	49	5	5	**10**	14	**19**	25
Health System Practices/Clinics	23	9	3	**12**	5	**14**	6
Community Hospitals	2	-	1	**1**	1	**1**	-
Ambulatory Surgery Centers	7	1	-	**1**	1	**2**	5
Kaiser, OHSU, VA	3	3	-	**3**	-	**3**	-
No Name/info	34	2	-	**2**	17	**19**	15
Total - All Responses	1,166	269	44	**313**	507	**776**	346
% Distribution - All Responses	**100.0%**	**23.1%**	**3.8%**	**26.8%**	**43.5%**	**66.6%**	**29.7%**

Table 4-2: EHR & EPM BY PRACTICE TYPE: Organizations

ENTITIES WITH EHR & EPM BY PRACTICE TYPE	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clinician Names*	324	13.6%	2.5%	**16.0%**	41.4%	**54.9%**	42.6%
Clinic/Practice Names*	697	28.3%	3.9%	**32.1%**	45.9%	**74.2%**	22.0%
FQHCs/Safety Net*	27	29.6%	0.0%	**29.6%**	55.6%	**85.2%**	14.8%
Public/Other Clinics*	49	10.2%	10.2%	**20.4%**	28.6%	**38.8%**	51.0%
Health System Practices/Clinics*	23	39.1%	13.0%	**52.2%**	21.7%	**60.9%**	26.1%
Community Hospitals	2	0.0%	50.0%	**50.0%**	50.0%	**50.0%**	0.0%
Ambulatory Surgery Centers	7	14.3%	0.0%	**14.3%**	14.3%	**28.6%**	71.4%
Kaiser, OHSU, VA*	3	100.0%	0.0%	**100.0%**	0.0%	**100.0%**	0.0%
No Name/info	34	5.9%	0.0%	**5.9%**	50.0%	**55.9%**	44.1%
Total - All Responses: Unweighted	**1,166**	**23.1%**	**3.8%**	**26.8%**	**43.5%**	**66.6%**	**29.7%**
Total - All Responses: Weighted	**1,132**	**22.7%**	**4.4%**	**27.1%**	**43.4%**	**66.1%**	**29.5%**
*Types of Interest - Unweighted	**1,123**	**23.7%**	**3.8%**	**27.5%**	**43.5%**	**67.1%**	**29.0%**
*Types of Interest - Weighted	**1,123**	**23.1%**	**3.7%**	**26.8%**	**43.4%**	**66.5%**	**29.8%**
*NonFederal Types of Interest - Unweighted	**1,122**	**23.6%**	**3.8%**	**27.5%**	**43.5%**	**67.1%**	**29.1%**
*NonFederal Types of Interest - Weighted	**1,122**	**23.1%**	**3.7%**	**26.8%**	**43.4%**	**66.5%**	**29.8%**

2006 Oregon Ambulatory EHR Survey

EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 5-1: EHR & EPM BY PRACTICE TYPE: Clinicians

CLINICIANS WITH EHR & EPM BY PRACTICE TYPE	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clinician Names	428	62	10	**72**	192	**254**	164
Clinic/Practice Names	3,908	1,422	51	**1,473**	1,669	**3,091**	766
FQHCs/Safety Net	237	82	-	**82**	146	**228**	9
Public/Other Clinics	313	89	43	**132**	43	**132**	138
Health System Practices/Clinics	917	858	14	**872**	24	**882**	21
Community Hospitals	15	-	8	**8**	7	**7**	-
Ambulatory Surgery Centers	121	9	-	**9**	-	**9**	112
Kaiser, OHSU, VA	2,104	2,104	-	**2,104**	-	**2,104**	-
No Name/info	102	6	-	**6**	77	**83**	19
Total	8,144	4,632	126	**4,758**	2,158	**6,790**	1,229
% Distribution	**100.0%**	**56.9%**	**1.5%**	**58.4%**	**26.5%**	**83.4%**	**15.1%**

Table 5-2: EHR & EPM BY PRACTICE TYPE: Clinicians

CLINICIANS WITH EHR & EPM BY PRACTICE TYPE	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clinician Names*	428	14.5%	2.3%	**16.8%**	44.9%	**59.3%**	38.3%
Clinic/Practice Names*	3,908	36.4%	1.3%	**37.7%**	42.7%	**79.1%**	19.6%
FQHCs/Safety Net*	237	34.6%	0.0%	**34.6%**	61.6%	**96.2%**	3.8%
Public/Other Clinics*	313	28.4%	13.7%	**42.2%**	13.7%	**42.2%**	44.1%
Health System Practices/Clinics*	917	93.6%	1.5%	**95.1%**	2.6%	**96.2%**	2.3%
Community Hospitals	15	0.0%	53.3%	**53.3%**	46.7%	**46.7%**	0.0%
Ambulatory Surgery Centers	121	7.4%	0.0%	**7.4%**	0.0%	**7.4%**	92.6%
Kaiser, OHSU, VA*	2,104	100.0%	0.0%	**100.0%**	0.0%	**100.0%**	0.0%
No Name/info	102	5.9%	0.0%	**5.9%**	75.8%	**81.7%**	18.3%
Total - All Responses: Unweighted	**8,144**	**56.9%**	**1.5%**	**58.4%**	**26.5%**	**83.4%**	**15.1%**
Total - All Responses: Weighted	**8,043**	**51.8%**	**2.6%**	**54.4%**	**29.4%**	**81.2%**	**16.2%**
***Types of Interest - Unweighted**	**7,907**	**58.4%**	**1.5%**	**59.9%**	**26.2%**	**84.6%**	**13.9%**
***Types of Interest - Weighted**	**7,907**	**53.3%**	**1.6%**	**55.0%**	**29.4%**	**82.8%**	**15.6%**
***NonFederal Types of Interest - Unweighted**	**7,360**	**55.3%**	**1.6%**	**56.9%**	**28.2%**	**83.5%**	**14.9%**
***NonFederal Types of Interest - Weighted**	**7,360**	**51.1%**	**1.7%**	**52.8%**	**30.8%**	**81.9%**	**16.3%**

2006 Oregon Ambulatory EHR Survey

EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 6-1: EHR & EPM BY PRACTICE SIZE: All Organizations

ALL ENTITIES WITH EHR & EPM BY PRACTICE SIZE	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Unidentified size	15	2	-	**2**	3	**5**	10
Solo	455	67	21	**88**	174	**241**	193
2 to 4	399	84	16	**100**	206	**290**	93
5 to 9	176	57	5	**62**	84	**141**	30
10 to 19	75	39	2	**41**	26	**65**	8
20 to 49	27	7	-	**7**	11	**18**	9
50 +	19	13	-	**13**	3	**16**	3
Total - All Responses	**1,166**	**269**	**44**	**313**	**507**	**776**	**346**
Total - Identified	**1,151**	**267**	**44**	**311**	**504**	**771**	**336**

Table 6-2: EHR & EPM BY PRACTICE SIZE: All Organizations

ALL ENTITIES WITH EHR & EPM BY PRACTICE SIZE	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Unidentified size	15	13.3%	0.0%	**13.3%**	20.0%	33.3%	66.7%
Solo	455	14.7%	4.6%	**19.3%**	38.2%	53.0%	42.4%
2 to 4	399	21.1%	4.0%	**25.1%**	51.6%	72.7%	23.3%
5 to 9	176	32.4%	2.8%	**35.2%**	47.7%	80.1%	17.0%
10 top 19	75	52.0%	2.7%	**54.7%**	34.7%	86.7%	10.7%
20 to 49	27	25.9%	0.0%	**25.9%**	40.7%	66.7%	33.3%
50 +	19	68.4%	0.0%	**68.4%**	15.8%	84.2%	15.8%
Total - All Responses	**1,166**	**23.1%**	**3.8%**	**26.8%**	**43.5%**	**66.6%**	**29.7%**
Total - Identified	**1,151**	**23.2%**	**3.8%**	**27.0%**	**43.8%**	**67.0%**	**29.2%**

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EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 7-1: EHR & EPM BY PRACTICE LOCATIONS: All Organizations

ALL ENTITIES WITH EHR & EPM BY NUMBER OF PRACTICE LOCATIONS	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Single Location	977	203	40	**243**	425	**628**	309
2 locations	87	26	3	**29**	36	**62**	22
3 locations	36	11	-	**11**	20	**31**	5
4 locations	26	9	1	**10**	13	**22**	3
5 or more locations	40	20	-	**20**	13	**33**	7
Total - All Responses	**1,166**	**269**	**44**	**313**	**507**	**776**	**346**

Table 7-2: EHR & EPM BY PRACTICE LOCATIONS: All Organizations

ALL ENTITIES WITH EHR & EPM BY NUMBER OF PRACTICE LOCATIONS	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Single Location	977	20.8%	4.1%	**24.9%**	43.5%	**64.3%**	31.6%
2 locations	87	29.9%	3.4%	**33.3%**	41.4%	**71.3%**	25.3%
3 locations	36	30.6%	0.0%	**30.6%**	55.6%	**86.1%**	13.9%
4 locations	26	34.6%	3.8%	**38.5%**	50.0%	**84.6%**	11.5%
5 or more locations	40	50.0%	0.0%	**50.0%**	32.5%	**82.5%**	17.5%
Total - All Responses	**1,166**	**23.1%**	**3.8%**	**26.8%**	**43.5%**	**66.6%**	**29.7%**

EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 8-1: EHR & EPM BY PRACTICE SIZE: Clinicians at All Organizations

ALL ENTITIES WITH EHR & EPM BY PRACTICE SIZE	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Unidentified size	-	-	-	**-**	-	**-**	-
Solo	455	67	21	**88**	174	**241**	193
2 to 4	1,090	235	42	**277**	577	**812**	237
5 to 9	1,104	361	35	**396**	521	**882**	187
10 to+A270 19	981	509	28	**537**	343	**852**	101
20 to 49	802	171	-	**171**	363	**534**	268
50 +	3,712	3,289	-	**3,289**	180	**3,469**	243
Total - All Responses	**8,144**	**4,632**	**126**	**4,758**	**2,158**	**6,790**	**1,229**

Table 8-2: EHR & EPM BY PRACTICE SIZE: Clinicians at All Organizations

ALL ENTITIES WITH EHR & EPM BY PRACTICE SIZE	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Unidentified size	-						
Solo	455	14.7%	4.6%	**19.3%**	38.2%	**53.0%**	42.4%
2 to 4	1,090	21.6%	3.9%	**25.4%**	52.9%	**74.4%**	21.7%
5 to 9	1,104	32.7%	3.2%	**35.9%**	47.2%	**79.9%**	16.9%
10 top 19	981	51.9%	2.9%	**54.7%**	35.0%	**86.9%**	10.3%
20 to 49	802	21.3%	0.0%	**21.3%**	45.3%	**66.6%**	33.4%
50 +	3,712	88.6%	0.0%	**88.6%**	4.8%	**93.5%**	6.5%
Total - All Responses	**8,144**	**56.9%**	**1.5%**	**58.4%**	**26.5%**	**83.4%**	**15.1%**

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EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 9-1: EHR & EPM BY PRACTICE LOCATIONS: All Organizations

ALL ENTITIES WITH EHR & EPM BY NUMBER OF PRACTICE LOCATIONS	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Single Location	3,139	866	109	**975**	1,320	**2,186**	845
2 locations	450	230	4	**234**	161	**391**	55
3 locations	301	63	-	**63**	199	**262**	39
4 locations	445	225	13	**238**	186	**411**	21
5 or more locations	3,809	3,248	-	**3,248**	292	**3,540**	269
Total - All Responses	**8,144**	**4,632**	**126**	**4,758**	**2,158**	**6,790**	**1,229**

Table 9-2: EHR & EPM BY PRACTICE LOCATIONS: All Organizations

ALL ENTITIES WITH EHR & EPM BY NUMBER OF PRACTICE LOCATIONS	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Single Location	3,139	27.6%	3.5%	**31.1%**	42.0%	**69.6%**	26.9%
2 locations	450	51.1%	0.9%	**52.0%**	35.8%	**86.9%**	12.2%
3 locations	301	20.9%	0.0%	**20.9%**	66.1%	**87.0%**	13.0%
4 locations	445	50.6%	2.9%	**53.5%**	41.8%	**92.4%**	4.7%
5 or more locations	3,809	85.3%	0.0%	**85.3%**	7.7%	**92.9%**	7.1%
Total - All Responses	**8,144**	**56.9%**	**1.5%**	**58.4%**	**26.5%**	**83.4%**	**15.1%**

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EHR & EPM - ALL PRACTICE TYPES (cont.)

KEY: SPECIALTY CATEGORIES: Tables 10-1, 10-2, 11-1, 11-2, 15-1, 15-2, 16-2, 16-2

Question 10: In what specialties or subspecialties do your clinicians practice? (Mark all that apply)

Check box options included:	Allergy/Immunology, Anesthesiology, Cardiology, Cardiovasc. Surgery, Critical Care Med., Dermatology, Emergency Med., Endocrinology, ENT, FamilyPractice, Gastroenterology, General Surgery, Geriatrics, Hematology, Internal Medicine, Maxiliofacial Surgery, Neo/Perinatal Medicine, Nephrology, Neurology, Neuro. Surgery, Nuclear Medicine, Bb/Gyn, Occupational Med., Oncology, Ophthalmology, Ortho. Surgery, Pediatrics, Pediatric Surgery, Psychiatry, Radiology, Sports Medicine, Urology, Other

Results by Specialty Category are group in the following categories.

Mutliple/multi-specialty	Practices listing multiple specialties of their clinicians
Mixed Primary Care	Mixed primary care practices with combinations of family medicine, internal medicine, general practice, pediatrics, obstetrics/gynecology
FP, IM, GP, geriatrics	Practices with only specialties of family (practice) medicine, internal medicine, general practice, and/or geriatrics
Peds & peds specialties	Practices with only specialites of pediatrics and/or pediatric specialties
OB/Gyn	Practices with only obstetrics and gynecology
Med spec, derm, neurology, occupational med	Practices with only medicine specialties identified (allergy/immunology, cardiology, endocrinology, gastroenterology, nephrology) or dermatology, neurology, or occupational medicine
Psychiatry, etc.	Practice with only specialities of psychiatry, behavioral health, or addiction medicine
Gen & surg specialties	Practices with only general surgery and/or surgery specialties (cardiac, ENT, orthopedics, pediatric, plastic, urology)
Radiology, path, anesthesia, critical care, emergency	Practices with only hospital/other related specialties: radiology, pathology, anesthesia, critical care, emergency medicine
Ophthalmology, optometry	Practices woth only ophthalmology and/or optometry
Other spec	Includes physical medicine and rehabilitation, physiatry, public health
Unidentified/no response	Practices not indicating any specialty in response to question 10.

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EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 10-1: EHR & EPM BY SPECIALTY CATEGORY: All Organizations

ALL ENTITIES WITH EHR & EPM BY SPECIALTY	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	75	26	5	**31**	26	**52**	18
Mixed Primary Care	43	19	-	**19**	17	**36**	7
FP, IM, GP, geriatrics	351	86	12	**98**	161	**247**	92
Peds & peds specialties	62	14	4	**18**	28	**42**	16
OB/Gyn	64	12	1	**13**	41	**53**	10
Med spec, derm, neurology, occupational med	152	37	5	**42**	70	**107**	40
Psychiatry, etc.	82	10	5	**15**	11	**21**	56
Gen & surg specialties	193	41	3	**44**	94	**135**	55
Radiology, path, anesthesia, critical care, emerge	21	4	1	**5**	8	**12**	8
Ophthalmology, optometry	46	11	2	**13**	28	**39**	5
Other spec	17	1	3	**4**	5	**6**	8
Unidentified/no response	60	8	3	**11**	18	**26**	31
Total - All Responses	**1,166**	**269**	**44**	**313**	**507**	**776**	**346**
Total - Identified	**1,106**	**261**	**41**	**302**	**489**	**750**	**315**

Table 10-2: EHR & EPM BY SPECIALTY CATEGORY: All Organizations

ALL ENTITIES WITH EHR & EPM BY SPECIALTY	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	75	34.7%	6.7%	**41.3%**	34.7%	**69.3%**	24.0%
Mixed Primary Care	43	44.2%	0.0%	**44.2%**	39.5%	**83.7%**	16.3%
FP, IM, GP, geriatrics	351	24.5%	3.4%	**27.9%**	45.9%	**70.4%**	26.2%
Peds & peds specialties	62	22.6%	6.5%	**29.0%**	45.2%	**67.7%**	25.8%
OB/Gyn	64	18.8%	1.6%	**20.3%**	64.1%	**82.8%**	15.6%
Med spec, derm, neurology, occupational med	152	24.3%	3.3%	**27.6%**	46.1%	**70.4%**	26.3%
Psychiatry, etc.	82	12.2%	6.1%	**18.3%**	13.4%	**25.6%**	68.3%
Gen & surg specialties	193	21.2%	1.6%	**22.8%**	48.7%	**69.9%**	28.5%
Radiology, path, anesthesia, critical care, emerge	21	19.0%	4.8%	**23.8%**	38.1%	**57.1%**	38.1%
Ophthalmology, optometry	46	23.9%	4.3%	**28.3%**	60.9%	**84.8%**	10.9%
Other spec	17	5.9%	17.6%	**23.5%**	29.4%	**35.3%**	47.1%
Unidentified/no response	60	13.3%	5.0%	**18.3%**	30.0%	**43.3%**	51.7%
Total - All Responses	**1,166**	**23.1%**	**3.8%**	**26.8%**	**43.5%**	**66.6%**	**29.7%**
Total - Identified	**1,106**	**23.6%**	**3.7%**	**27.3%**	**44.2%**	**67.8%**	**28.5%**

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EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 11-1: EHR & EPM BY SPECIALTY CATEGORY: Clinicians at All Organizations

ALL ENTITIES WITH EHR & EPM BY SPECIALTY	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	3,938	3,387	34	**3,421**	358	**3,745**	159
Mixed Primary Care	437	229	-	**229**	172	**401**	36
FP, IM, GP, geriatrics	1,091	368	25	**393**	490	**858**	208
Peds & peds specialties	314	82	7	**89**	180	**262**	45
OB/Gyn	247	50	2	**52**	181	**231**	14
Med spec, derm, neurology, occupational med	605	203	12	**215**	260	**463**	130
Psychiatry, etc.	490	62	22	**84**	25	**87**	381
Gen & surg specialties	510	159	4	**163**	237	**396**	110
Radiology, path, anesthesia, critical care, emerge	103	17	2	**19**	26	**43**	58
Ophthalmology, optometry	196	37	4	**41**	127	**164**	28
Other spec	18	-	3	**3**	10	**10**	5
Unidentified/no response	196	38	11	**49**	92	**130**	55
Total - All Responses	**8,144**	**4,632**	**126**	**4,758**	**2,158**	**6,790**	**1,229**
Total - Identified	**7,948**	**4,594**	**115**	**4,709**	**2,066**	**6,660**	**1,174**

Table 11-2: EHR & EPM BY SPECIALTY CATEGORY: Clinicians at All Organizations

ALL ENTITIES WITH EHR & EPM BY SPECIALTY	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	3,938	86.0%	0.9%	**86.9%**	9.1%	**95.1%**	4.0%
Mixed Primary Care	437	52.4%	0.0%	**52.4%**	39.4%	**91.8%**	8.2%
FP, IM, GP, geriatrics	1,091	33.7%	2.3%	**36.0%**	44.9%	**78.6%**	19.1%
Peds & peds specialties	314	26.1%	2.2%	**28.4%**	57.4%	**83.5%**	14.2%
OB/Gyn	247	20.2%	0.8%	**21.1%**	73.3%	**93.5%**	5.7%
Med spec, derm, neurology, occupational med	605	33.6%	2.0%	**35.5%**	43.0%	**76.5%**	21.5%
Psychiatry, etc.	490	12.7%	4.5%	**17.1%**	5.1%	**17.8%**	77.8%
Gen & surg specialties	510	31.2%	0.8%	**32.0%**	46.5%	**77.6%**	21.6%
Radiology, path, anesthesia, critical care, emerge	103	16.5%	1.9%	**18.4%**	25.2%	**41.7%**	56.3%
Ophthalmology, optometry	196	18.9%	2.0%	**20.9%**	64.8%	**83.7%**	14.3%
Other spec	18	0.0%	16.7%	**16.7%**	55.6%	**55.6%**	27.8%
Unidentified/no response	196	19.4%	5.6%	**25.0%**	46.9%	**66.3%**	28.1%
Total - All Responses	**8,144**	**56.9%**	**1.5%**	**58.4%**	**26.5%**	**83.4%**	**15.1%**
Total - Identified	**7,948**	**57.8%**	**1.4%**	**59.2%**	**26.0%**	**83.8%**	**14.8%**

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EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 12-1: EHR & EPM BY COUNTY CLUSTERS - All Organizations

NOTE: County clusters with "All Organizations" are distorted since Kaiser, VA & OHSU are included in in Multnomah County as the location of the largest system components.

ALL ENTITIES WITH EHR & EPM BY COUNTY CLUSTERS	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clackamas, Multnomah,Washington, Yamhill	479	119	15	**134**	190	**309**	155
Clatsop, Columbia, Tillamoook	21	4	1	**5**	8	**12**	8
Marion, Polk	100	25	3	**28**	44	**69**	28
Linn, Benton, Lincoln	59	16	3	**19**	29	**45**	11
Lane	94	28	3	**31**	34	**62**	29
Coos, Curry, Douglas, Josephine	113	19	3	**22**	66	**85**	25
Jackson	89	17	6	**23**	49	**66**	17
Klamath	29	4	1	**5**	8	**12**	16
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	84	20	4	**24**	39	**59**	21
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	66	14	5	**19**	25	**39**	22
no response	32	3	-	**3**	15	**18**	14
Total - All Responses	**1,166**	**269**	**44**	**313**	**507**	**776**	**346**
Total - Identified	**1,134**	**266**	**44**	**310**	**492**	**758**	**332**

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EHR & EPM - ALL PRACTICE TYPES (cont.)

Table 12-2: EHR & EPM BY COUNTY CLUSTERS - All Organizations

NOTE: County clusters with "All Organizations" are distorted since Kaiser, VA & OHSU are included in in Multnomah County as the location of the largest system components.

ALL ENTITIES WITH EHR & EPM BY COUNTY CLUSTERS	Total Entities	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Clackamas, Multnomah,Washington, Yamhill	479	24.8%	3.1%	**28.0%**	39.7%	**64.5%**	32.4%
Clatsop, Columbia, Tillamoook	21	19.0%	4.8%	**23.8%**	38.1%	**57.1%**	38.1%
Marion, Polk	100	25.0%	3.0%	**28.0%**	44.0%	**69.0%**	28.0%
Linn, Benton, Lincoln	59	27.1%	5.1%	**32.2%**	49.2%	**76.3%**	18.6%
Lane	94	29.8%	3.2%	**33.0%**	36.2%	**66.0%**	30.9%
Coos, Curry, Douglas, Josephine	113	16.8%	2.7%	**19.5%**	58.4%	**75.2%**	22.1%
Jackson	89	19.1%	6.7%	**25.8%**	55.1%	**74.2%**	19.1%
Klamath	29	13.8%	3.4%	**17.2%**	27.6%	**41.4%**	55.2%
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	84	23.8%	4.8%	**28.6%**	46.4%	**70.2%**	25.0%
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	66	21.2%	7.6%	**28.8%**	37.9%	**59.1%**	33.3%
no response	32	9.4%	0.0%	**9.4%**	46.9%	**56.3%**	43.8%
Total - All Responses	**1,166**	**23.1%**	**3.8%**	**26.8%**	**43.5%**	**66.6%**	**29.7%**
Total - Identified	**1,134**	**23.5%**	**3.9%**	**27.3%**	**43.4%**	**66.8%**	**29.3%**

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EHR & EPM - ONLY CLINICIAN ORGANIZATIONS

Table 13-1: EHR & EPM BY PRACTICE SIZE: Clinician Organizations

CLIN ORGS WITH EHR & EPM BY PRACTICE SIZE	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Unidentified size	3	-	-	**-**	1	**1**	2
Solo	414	66	21	**87**	159	**225**	168
2 to 4	366	83	13	**96**	186	**269**	84
5 to 9	150	51	1	**52**	75	**126**	23
10 to 19	58	31	-	**31**	21	**52**	6
20 to 49	22	6	-	**6**	10	**16**	6
50 +	8	4	-	**4**	2	**6**	2
Total	**1,021**	**241**	**35**	**276**	**454**	**695**	**291**
Total - Identified	**1,018**	**241**	**35**	**276**	**453**	**694**	**289**

Table 13-2: EHR & EPM BY PRACTICE SIZE: Clinician Organizations

CLIN ORGS WITH EHR & EPM BY PRACTICE SIZE	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Unidentified size	3	0.0%	0.0%	**0.0%**	33.3%	**33.3%**	66.7%
Solo	414	15.9%	5.1%	**21.0%**	38.4%	**54.3%**	40.6%
2 to 4	366	22.7%	3.6%	**26.2%**	50.8%	**73.5%**	23.0%
5 to 9	150	34.0%	0.7%	**34.7%**	50.0%	**84.0%**	15.3%
10 to 19	58	53.4%	0.0%	**53.4%**	36.2%	**89.7%**	10.3%
20 to 49	22	27.3%	0.0%	**27.3%**	45.5%	**72.7%**	27.3%
50 +	8	50.0%	0.0%	**50.0%**	25.0%	**75.0%**	25.0%
Total	**1,021**	**23.6%**	**3.4%**	**27.0%**	**44.5%**	**68.1%**	**28.5%**
Total - Identified	**1,018**	**23.7%**	**3.4%**	**27.1%**	**44.5%**	**68.2%**	**28.4%**

EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 13-3: EHR & EPM BY PRACTICE SIZE: Clinicians at Clinician Organizations

CLIN ORGS WITH EHR & EPM BY PRACTICE SIZE	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Unidentified size	-	-	-	-	-	-	-
Solo	414	66	21	87	159	225	168
2 to 4	994	232	33	265	517	749	212
5 to 9	942	323	7	330	464	787	148
10 to 19	762	406	-	406	279	685	77
20 to 49	623	141	-	141	317	458	165
50 +	601	316	-	316	125	441	160
Total	**4,336**	**1,484**	**61**	**1,545**	**1,861**	**3,345**	**930**

Table 13-4: EHR & EPM BY PRACTICE SIZE: Clinicians at Clinician Organizations

CLIN ORGS WITH EHR & EPM BY PRACTICE SIZE	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Unidentified size	-						
Solo	414	15.9%	5.1%	21.0%	38.4%	54.3%	40.6%
2 to 4	994	23.4%	3.3%	26.7%	52.0%	75.3%	21.3%
5 to 9	942	34.3%	0.7%	35.0%	49.3%	83.5%	15.7%
10 to 19	762	53.3%	0.0%	53.3%	36.6%	89.9%	10.1%
20 to 49	623	22.6%	0.0%	22.6%	50.9%	73.5%	26.5%
50 +	601	52.6%	0.0%	52.6%	20.8%	73.4%	26.6%
Total	**4,336**	**34.2%**	**1.4%**	**35.6%**	**42.9%**	**77.1%**	**21.5%**

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EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 14-1: EHR & EPM BY PRACTICE LOCATIONS: Clinician Organizations

CLIN ORGS WITH EHR & EPM BY NUMBER OF LOCATIONS	Total Entities	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Single Location	874	193	32	**225**	387	**580**	262
2 locations	79	22	3	**25**	35	**57**	19
3 locations	24	8	-	**8**	13	**21**	3
4 locations	19	8	-	**8**	9	**17**	2
5 or more locations	25	10	-	**10**	10	**20**	5
Total	**1,021**	**241**	**35**	**276**	**454**	**695**	**291**

Table 14-2: EHR & EPM BY PRACTICE LOCATIONS: Clinician Organizations

CLIN ORGS WITH EHR & EPM BY NUMBER OF LOCATIONS	Total Entities	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Single Location	874	22.1%	3.7%	**25.7%**	44.3%	**66.4%**	30.0%
2 locations	79	27.8%	3.8%	**31.6%**	44.3%	**72.2%**	24.1%
3 locations	24	33.3%	0.0%	**33.3%**	54.2%	**87.5%**	12.5%
4 locations	19	42.1%	0.0%	**42.1%**	47.4%	**89.5%**	10.5%
5 or more locations	25	40.0%	0.0%	**40.0%**	40.0%	**80.0%**	20.0%
Total	**1,021**	**23.6%**	**3.4%**	**27.0%**	**44.5%**	**68.1%**	**28.5%**

2006 Oregon Ambulatory EHR Survey

EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 15-1: EHR & EPM BY SPECIALTY CATEGORY: Clinician Organizations

CLIN ORGS WITH EHR & EPM BY SPECIALTY	Total Entities	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Mutliple/multi-specialty	48	15	1	**16**	21	**36**	11
Mixed Primary Care	26	14	-	**14**	10	**24**	2
FP, IM, GP, geriatrics	316	81	10	**91**	144	**225**	81
Peds & peds specialties	55	14	4	**18**	25	**39**	12
OB/Gyn	60	12	1	**13**	37	**49**	10
Med spec, derm, neurology, occupational med	146	37	5	**42**	66	**103**	38
Psychiatry, etc.	69	7	3	**10**	10	**17**	49
Gen & surg specialties	184	40	3	**43**	89	**129**	52
Radiology, path, anesthesia, critical care, emerge	21	4	1	**5**	8	**12**	8
Ophthalmology, optometry	45	10	2	**12**	28	**38**	5
Other spec	7	-	3	**3**	2	**2**	2
Unidentified/no response	44	7	2	**9**	14	**21**	21
Total	**1,021**	**241**	**35**	**276**	**454**	**695**	**291**
Total - Identified	**977**	**234**	**33**	**267**	**440**	**674**	**270**

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EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 15-2: EHR & EPM BY SPECIALTY CATEGORY: Clinician Organizations

CLIN ORGS WITH EHR & EPM BY SPECIALTY	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	48	31.3%	2.1%	**33.3%**	43.8%	**75.0%**	22.9%
Mixed Primary Care	26	53.8%	0.0%	**53.8%**	38.5%	**92.3%**	7.7%
FP, IM, GP, geriatrics	316	25.6%	3.2%	**28.8%**	45.6%	**71.2%**	25.6%
Peds & peds specialties	55	25.5%	7.3%	**32.7%**	45.5%	**70.9%**	21.8%
OB/Gyn	60	20.0%	1.7%	**21.7%**	61.7%	**81.7%**	16.7%
Med spec, derm, neurology, occupational med	146	25.3%	3.4%	**28.8%**	45.2%	**70.5%**	26.0%
Psychiatry, etc.	69	10.1%	4.3%	**14.5%**	14.5%	**24.6%**	71.0%
Gen & surg specialties	184	21.7%	1.6%	**23.4%**	48.4%	**70.1%**	28.3%
Radiology, path, anesthesia, critical care, emerge	21	19.0%	4.8%	**23.8%**	38.1%	**57.1%**	38.1%
Ophthalmology, optometry	45	22.2%	4.4%	**26.7%**	62.2%	**84.4%**	11.1%
Other spec	7	0.0%	42.9%	**42.9%**	28.6%	**28.6%**	28.6%
Unidentified/no response	44	15.9%	4.5%	**20.5%**	31.8%	**47.7%**	47.7%
Total	**1,021**	**23.6%**	**3.4%**	**27.0%**	**44.5%**	**68.1%**	**28.5%**
Total - Identified	**977**	**24.0%**	**3.4%**	**27.3%**	**45.0%**	**69.0%**	**27.6%**

EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 16-1: SPECIALTY CATEGORY RECAP: Clinicians at Clinician Organizations

ALL ENTITIES WITH EHR & EPM BY SPECIALTY	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	817	438	1	**439**	344	**782**	34
Mixed Primary Care	197	116	-	**116**	59	**175**	22
FP, IM, GP, geriatrics	963	334	20	**354**	427	**761**	182
Peds & peds specialties	297	82	7	**89**	172	**254**	36
OB/Gyn	234	50	2	**52**	168	**218**	14
Med spec, derm, neurology, occupational med	584	203	12	**215**	241	**444**	128
Psychiatry, etc.	332	27	3	**30**	21	**48**	281
Gen & surg specialties	498	156	4	**160**	231	**387**	107
Radiology, path, anesthesia, critical care, emerge	103	17	2	**19**	26	**43**	58
Ophthalmology, optometry	187	28	4	**32**	127	**155**	28
Other spec	7	-	3	**3**	2	**2**	2
Unidentified/no response	117	33	3	**36**	43	**76**	38
Total	**4,336**	**1,484**	**61**	**1,545**	**1,861**	**3,345**	**930**
Total - Identified	**4,219**	**1,451**	**58**	**1,509**	**1,818**	**3,269**	**892**

EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 16-2: SPECIALTY CATEGORY RECAP: Clinicians at Clinician Organizations

ALL ENTITIES WITH EHR & EPM BY SPECIALTY	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Mutliple/multi-specialty	817	53.6%	0.1%	**53.7%**	42.1%	**95.7%**	4.2%
Mixed Primary Care	197	58.9%	0.0%	**58.9%**	29.9%	**88.8%**	11.2%
FP, IM, GP, geriatrics	963	34.7%	2.1%	**36.8%**	44.3%	**79.0%**	18.9%
Peds & peds specialties	297	27.6%	2.4%	**30.0%**	57.9%	**85.5%**	12.1%
OB/Gyn	234	21.4%	0.9%	**22.2%**	71.8%	**93.2%**	6.0%
Med spec, derm, neurology, occupational med	584	34.8%	2.1%	**36.8%**	41.3%	**76.0%**	21.9%
Psychiatry, etc.	332	8.1%	0.9%	**9.0%**	6.3%	**14.5%**	84.6%
Gen & surg specialties	498	31.3%	0.8%	**32.1%**	46.4%	**77.7%**	21.5%
Radiology, path, anesthesia, critical care, emerge	103	16.5%	1.9%	**18.4%**	25.2%	**41.7%**	56.3%
Ophthalmology, optometry	187	15.0%	2.1%	**17.1%**	67.9%	**82.9%**	15.0%
Other spec	7	0.0%	42.9%	**42.9%**	28.6%	**28.6%**	28.6%
Unidentified/no response	117	28.2%	2.6%	**30.8%**	36.8%	**65.0%**	32.5%
Total	**4,336**	**34.2%**	**1.4%**	**35.6%**	**42.9%**	**77.1%**	**21.5%**
Total - Identified	**4,219**	**34.4%**	**1.4%**	**35.8%**	**43.1%**	**77.5%**	**21.1%**

EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 17-1: COUNTY CLUSTERS - Clinician Organizations

CLIN ORGS WITH EHR & EPM BY COUNTY CLUSTERS	Total Entities	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Clackamas, Multnomah,Washington, Yamhill	444	108	10	**118**	180	**288**	146
Clatsop, Columbia, Tillamoook	19	3	1	**4**	8	**11**	7
Marion, Polk	91	22	2	**24**	41	**63**	26
Linn, Benton, Lincoln	51	11	3	**14**	27	**38**	10
Lane	83	25	2	**27**	32	**57**	24
Coos, Curry, Douglas, Josephine	98	18	3	**21**	60	**78**	17
Jackson	78	17	4	**21**	43	**60**	14
Klamath	28	4	1	**5**	8	**12**	15
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	73	19	4	**23**	35	**54**	15
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	53	13	5	**18**	19	**32**	16
no response	3	1	-	**1**	1	**2**	1
Total	**1,021**	**241**	**35**	**276**	**454**	**695**	**291**
Total - Identified	**1,018**	**240**	**35**	**275**	**453**	**693**	**290**

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EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 17-2: COUNTY CLUSTERS - Clinican Organizations

CLIN ORGS WITH EHR & EPM BY COUNTY CLUSTERS	Total Entities	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clackamas, Multnomah,Washington, Yamhill	444	24.3%	2.3%	**26.6%**	40.5%	**64.9%**	32.9%
Clatsop, Columbia, Tillamoook	19	15.8%	5.3%	**21.1%**	42.1%	**57.9%**	36.8%
Marion, Polk	91	24.2%	2.2%	**26.4%**	45.1%	**69.2%**	28.6%
Linn, Benton, Lincoln	51	21.6%	5.9%	**27.5%**	52.9%	**74.5%**	19.6%
Lane	83	30.1%	2.4%	**32.5%**	38.6%	**68.7%**	28.9%
Coos, Curry, Douglas, Josephine	98	18.4%	3.1%	**21.4%**	61.2%	**79.6%**	17.3%
Jackson	78	21.8%	5.1%	**26.9%**	55.1%	**76.9%**	17.9%
Klamath	28	14.3%	3.6%	**17.9%**	28.6%	**42.9%**	53.6%
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	73	26.0%	5.5%	**31.5%**	47.9%	**74.0%**	20.5%
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	53	24.5%	9.4%	**34.0%**	35.8%	**60.4%**	30.2%
no response	3	33.3%	0.0%	**33.3%**	33.3%	**66.7%**	33.3%
Total	**1,021**	**23.6%**	**3.4%**	**27.0%**	**44.5%**	**68.1%**	**28.5%**
Total - Identified	**1,018**	**23.6%**	**3.4%**	**27.0%**	**44.5%**	**68.1%**	**28.5%**

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EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 18-1: COUNTY CLUSTERS - Clinicians at Clinician Organizations

CLIN ORGS WITH EHR & EPM BY COUNTY CLUSTERS	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	Total with EHR	No EHR Has EPM	Total with EPM	No EHR No EPM
Clackamas, Multnomah,Washington, Yamhill	1,989	651	15	**666**	840	**1,491**	483
Clatsop, Columbia, Tillamoook	101	5	1	**6**	23	**28**	72
Marion, Polk	350	120	3	**123**	183	**303**	44
Linn, Benton, Lincoln	204	52	3	**55**	138	**190**	11
Lane	309	162	6	**168**	99	**261**	42
Coos, Curry, Douglas, Josephine	326	70	3	**73**	230	**300**	23
Jackson	278	102	6	**108**	114	**216**	56
Klamath	144	25	2	**27**	38	**63**	79
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	404	185	6	**191**	136	**321**	77
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	155	50	16	**66**	48	**98**	41
no response	76	62	-	**62**	12	**74**	2
Total	**4,336**	**1,484**	**61**	**1,545**	**1,861**	**3,345**	**930**
Total - Identified	**4,260**	**1,422**	**61**	**1,483**	**1,849**	**3,271**	**928**

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EHR & EPM - ONLY CLINICIAN ORGANIZATIONS (cont.)

Table 18-2: COUNTY CLUSTERS - Clinicians at Clinican Organizations

CLIN ORGS WITH EHR & EPM BY COUNTY CLUSTERS	Total Clinicians	Has EHR Has EPM	Has EHR No EPM	**Total with EHR**	No EHR Has EPM	**Total with EPM**	No EHR No EPM
Clackamas, Multnomah,Washington, Yamhill	1,989	32.7%	0.8%	**33.5%**	42.2%	**75.0%**	24.3%
Clatsop, Columbia, Tillamoook	101	5.0%	1.0%	**5.9%**	22.8%	**27.7%**	71.3%
Marion, Polk	350	34.3%	0.9%	**35.1%**	52.3%	**86.6%**	12.6%
Linn, Benton, Lincoln	204	25.5%	1.5%	**27.0%**	67.6%	**93.1%**	5.4%
Lane	309	52.5%	1.9%	**54.5%**	31.9%	**84.4%**	13.6%
Coos, Curry, Douglas, Josephine	326	21.5%	0.9%	**22.4%**	70.6%	**92.0%**	7.1%
Jackson	278	36.7%	2.2%	**38.8%**	41.0%	**77.7%**	20.1%
Klamath	144	17.4%	1.4%	**18.8%**	26.4%	**43.8%**	54.9%
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	404	45.8%	1.5%	**47.3%**	33.7%	**79.5%**	19.1%
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	155	32.3%	10.3%	**42.6%**	31.0%	**63.2%**	26.5%
no response	76	81.6%	0.0%	**81.6%**	15.8%	**97.4%**	2.6%
Total	**4,336**	**34.2%**	**1.4%**	**35.6%**	**42.9%**	**77.1%**	**21.5%**
Total - Identified	**4,260**	**33.4%**	**1.4%**	**34.8%**	**43.4%**	**76.8%**	**21.8%**

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ORGANIZATIONS WITH EHR SYSTEMS

Table 19-1: CCHIT VENDOR STATUS - EHR PRODUCTS BY PRACTICE TYPE: Organizations

CCHIT VENDOR STATUS: ALL ORGANIZATIONS WITH EHR SYSTEMS	CCHIT Vendors - **Not Products**	Not CCHIT Vendor	Total		% CCHIT Vendors	% Not CCHIT
Clinician Names	19	33	52		36.5%	63.5%
Clinic/Practice Names	118	106	224		52.7%	47.3%
FQHCs/Safety Net	8	-	8		100.0%	0.0%
Public/Other Clinics	2	8	10		20.0%	80.0%
Health System Practices/Clinics	7	5	12		58.3%	41.7%
Community Hospitals	-	1	1		0.0%	100.0%
Ambulatory Surgery Centers	1	-	1		100.0%	0.0%
Kaiser, OHSU, VA	2	1	3		66.7%	33.3%
No Name/info	1	1	2		50.0%	50.0%
Total	**158**	**155**	**313**		**50.5%**	**49.5%**
Total - Identified	**157**	**154**	**311**		**50.5%**	**49.5%**

Table 19-2: CCHIT VENDOR STATUS - EHR PRODUCTS BY PRACTICE TYPE: Clinicians

CCHIT VENDOR STATUS: CLINICIANS WITH EHR SYSTEMS	CCHIT Vendors - Not Products	Not CCHIT Vendor	Total		% CCHIT Vendors	% Not CCHIT
Clinician Names	27	45	72		37.5%	62.5%
Clinic/Practice Names	1,030	443	1,473		69.9%	30.1%
FQHCs/Safety Net	82	-	82		100.0%	0.0%
Public/Other Clinics	29	103	132		22.0%	78.0%
Health System Practices/Clinics	403	469	872		46.2%	53.8%
Community Hospitals	-	8	8		0.0%	100.0%
Ambulatory Surgery Centers	9	-	9		100.0%	0.0%
Kaiser, OHSU, VA	1,557	547	2,104		74.0%	26.0%
No Name/info	1	5	6		16.7%	83.3%
Total	**3,138**	**1,620**	**4,758**		**66.0%**	**34.0%**
Total - Identified	**3,137**	**1,615**	**4,752**		**66.0%**	**34.0%**

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ORGANIZATIONS WITH EHR SYSTEMS (cont.)

Table 19-3: EHR VENDOR PRODUCTS

CCHIT STATUS, ORGANIZATIONS AND CLINCIANS FOR EHR VENDORS	CCHIT certified	All Organizations			Clinician Organizations		
		Organization	Clinicians	Clin./Org	Organization	Clinicians	Clin./Org
Epic Systems EpicCare Ambulatory EMR	7/18/2006	9	1,676	186.2	3	23	7.7
GE Centricity (formerly Logician)*	7/18/2006	61	824	13.5	54	477	8.8
IDX LastWord		7	476	68.0	3	10	3.3
CPRS/VISTA		1	547		-	-	
Intergy EHR (Emdeon, Web MD, Sage)	7/18/2006	16	183	11.4	15	123	8.2
NextGen EMR	7/18/2006	14	122	8.7	13	108	8.3
Allscripts (Touchworks & HealthMatics)	7/18/2006	6	119	19.8	6	119	19.8
InteGreat IC-Chart		6	100	16.7	4	80	20.0
Practice Partner Patient Records	7/18/2006	16	96	6.0	13	71	5.5
eClinical Works	7/18/2006	15	67	4.5	14	53	3.8
Misys EMR	7/18/2006	8	44	5.5	8	44	5.5
Medical Manager		7	41	5.9	7	41	5.9
Soapware		19	40	2.1	19	40	2.1
Meditech		4	21	5.3	3	13	4.3
e-MDs Solution Series	7/18/2006	6	18	3.0	6	18	3.0
Alteer		7	17	2.4	7	17	2.4
Praxis	7/31/2006	1	15	15.0	1	15	15.0
Raintree		2	15	7.5	-	-	
MediNotes E	10/23/2006	7	14	2.0	7	14	2.0
AmazingCharts		6	9	1.5	6	9	1.5
Cerner (PowerChart & Intuition)	7/18/2006	3	13	4.3	2	5	2.5
GEMMS/ONE		1	8	8.0	1	8	8.0
PracticeOne		2	7	3.5	2	7	3.5
Dr. Notes		1	6	6.0	1	6	6.0
Lytec		3	6	2.0	3	6	2.0
AllMeds EMR	4/30/2007	2	5	2.5	2	5	2.5
LeonardoMD		3	4	1.3	3	4	1.3
MCS mMD.net EHR	7/18/2006	1	3	3.0	1	3	3.0
Other products (specified & unspecified)		73	248	3.4	66	212	3.2
self-developed		6	14	2.3	6	14	2.3
Total		313	4,758	15.2	276	1,545	5.6

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CLINICIAN ORGANIZATIONS WITH EHR SYSTEMS

Table 19-4: CCHIT VENDOR STATUS - EHR PRODUCTS BY REGION: Clinician Organizations

CCHIT VENDOR STATUS: CLINICIAN ORGANIZATIONS WITH EHR SYSTEMS	CCHIT Vendors	Not CCHIT Vendor	Total		% CCHIT Vendors	% Not CCHIT
Clackamas, Multnomah,Washington, Yamhill	61	57	118		51.7%	48.3%
Clatsop, Columbia, Tillamoook	-	4	4		0.0%	100.0%
Marion, Polk	14	10	24		58.3%	41.7%
Linn, Benton, Lincoln	9	5	14		64.3%	35.7%
Lane	13	14	27		48.1%	51.9%
Coos, Curry, Douglas, Josephine	9	12	21		42.9%	57.1%
Jackson	10	11	21		47.6%	52.4%
Klamath	1	4	5		20.0%	80.0%
Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Lake, Sherman, Wasco, Wheeler	13	10	23		56.5%	43.5%
Baker, Gilliam, Malheur, Morrow, Umatilla, Union, Wallowa	6	12	18		33.3%	66.7%
no response	1	-	1		100.0%	0.0%
Total	137	139	276		49.6%	50.4%

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ORGANIZATIONS WITH EPM SYSTEMS

Table 19-5: EPM VENDOR PRODUCTS

ORGANIZATIONS AND CLINCIANS FOR EPM VENDORS		All Organizations			Clinician Organizations		
		Organization	Clinicians	Clin./Org	Organization	Clinicians	Clin./Org
GE Centricity (formerly Millbrook & other)		130	843	6.5	124	813	6.6
Epic		13	817	62.8	-	-	
Medical Manager		81	413	5.1	74	285	3.9
CPRS/VISTA		1	547	547.0	-	-	
GE / IDX Flowcast		1	335	335.0	-	-	
Misys		33	288	8.7	33	288	8.7
Intergy (Web MD, Medware, Emedeon)		36	244	6.8	35	184	5.3
NextGen		23	243	10.6	21	226	10.8
Vitalworks		13	234	18.0	9	55	6.1
Medisoft		79	173	2.2	74	164	2.2
Lytec		43	107	2.5	39	95	2.4
Practice Partner		25	104	4.2	22	92	4.2
GE / IDX Groupcast		3	103	34.3	3	103	34.3
Prism		10	81	8.1	10	81	8.1
IDX & IDX Web		3	75	25.0	3	75	25.0
McKesson		2	63	31.5	2	63	31.5
Medic		4	57	14.3	3	11	3.7
eClinical Works		8	46	5.8	7	32	4.6
NDS		14	39	2.8	14	39	2.8
Telecom		12	38	3.2	11	37	3.4
Meditech		6	27	4.5	6	27	4.5
Alteer		8	23	2.9	7	22	3.1
Raintree		5	23	4.6	1	4	4.0
e-MDs		6	20	3.3	6	20	3.3

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ORGANIZATIONS WITH EPM SYSTEMS (cont.)

Table 19-5: EPM VENDOR PRODUCTS (cont.)

ORGANIZATIONS AND CLINCIANS FOR EPM VENDORS		All Organizations			Clinician Organizations		
		Organization	Clinicians	Clin./Org	Organization	Clinicians	Clin./Org
Data Perspectives		8	14	1.8	8	14	1.8
Compulink Advantage		4	13	3.3	4	13	3.3
Dairyland		3	9	3.0	2	5	2.5
Allscripts - Healthmatics		1	5	5.0	1	5	5.0
Healthcare Data Systems		2	4	2.0	2	4	2.0
Practice One		2	4	2.0	2	4	2.0
Cerner (Intuition & KiRon)		2	4	2.0	2	4	2.0
Allmeds		1	1	1.0	1	1	1.0
Amazing Charts		1	1	1.0	1	1	1.0
Other (specified & not specified)		188	1,775	9.4	164	566	3.4
self-developed		5	17	3.4	4	12	3.0
Total		776	6,790	8.7	695	3,345	4.8

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ALL ORGANIZATION TYPES - NO EHR

Table 20-1: No EHR BY PRACTICE TYPE: All Organizations

	Entities	No EHR Has EPM	No EHR No EPM		Within 1 Year	Within 2 Years	Not Foreseeable
Clinician Names	272	49.3%	50.7%		5.9%	12.1%	81.6%
Clinic/Practice Names	473	67.7%	32.3%		20.7%	23.5%	55.0%
FQHCs/Safety Net	19	78.9%	21.1%		21.1%	36.8%	42.1%
Public/Other Clinics	39	35.9%	64.1%		10.3%	23.1%	64.1%
Health System Practices/Clinics	11	45.5%	54.5%		54.5%	27.3%	18.2%
Community Hospitals	1	100.0%	0.0%		0.0%	100.0%	0.0%
Ambulatory Surgery Centers	6	16.7%	83.3%		0.0%	16.7%	83.3%
Kaiser, OHSU, VA	-						
No Name/info	32	53.1%	46.9%		6.3%	18.8%	75.0%
Total	853	59.4%	40.6%		15.2%	20.0%	64.0%

Table 20-2: No EHR BY PRACTICE TYPE: Clinicians at All Organizations

	Clinicians	No EHR Has EPM	No EHR No EPM		Within 1 Year	Within 2 Years	Not Foreseeable
Clinician Names	356	53.9%	46.1%		7.0%	14.3%	78.4%
Clinic/Practice Names	2,435	68.5%	31.5%		30.5%	30.4%	37.9%
FQHCs/Safety Net	155	94.2%	5.8%		6.5%	58.1%	35.5%
Public/Other Clinics	181	23.8%	76.2%		8.3%	63.0%	27.1%
Health System Practices/Clinics	45	53.3%	46.7%		51.1%	20.0%	28.9%
Community Hospitals	7	100.0%	0.0%		0.0%	100.0%	0.0%
Ambulatory Surgery Centers	112	0.0%	100.0%		0.0%	42.9%	57.1%
Kaiser, OHSU, VA	-						
No Name/info	96	80.5%	19.5%		52.3%	15.7%	32.0%
Total	3,386	63.7%	36.3%		25.6%	31.7%	41.7%

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CLINICAL ORGANIZATIONS - NO EHR

Table 20-3: No EHR BY PRACTICE SIZE: Clinician Organizations

	Entities	No EHR Has EPM	No EHR No EPM		Within 1 Year	Within 2 Years	Not Foreseeable
Unidentified size	3	33.3%	66.7%		33.3%	33.3%	33.3%
Solo	327	48.6%	51.4%		6.1%	9.8%	83.8%
2 to 4	270	68.9%	31.1%		18.1%	21.1%	60.4%
5 to 9	98	76.5%	23.5%		27.6%	38.8%	31.6%
10 to 19	27	77.8%	22.2%		33.3%	33.3%	29.6%
20 to 49	16	62.5%	37.5%		43.8%	31.3%	25.0%
50 +	4	50.0%	50.0%		25.0%	50.0%	25.0%
Total	745	60.9%	39.1%		15.3%	19.3%	64.7%

Table 20-4: No EHR BY PRACTICE SIZE: Clinicians at Clinician Organizations

	Clinicians	No EHR Has EPM	No EHR No EPM		Within 1 Year	Within 2 Years	Not Foreseeable
Unidentified size	-						
Solo	327	48.6%	51.4%		6.1%	9.8%	83.8%
2 to 4	729	70.9%	29.1%		18.6%	22.2%	58.8%
5 to 9	612	75.8%	24.2%		28.8%	37.7%	31.4%
10 to 19	356	78.4%	21.6%		33.7%	30.6%	32.6%
20 to 49	482	65.8%	34.2%		51.2%	28.6%	20.1%
50 +	285	43.9%	56.1%		24.6%	42.1%	33.3%
Total	2,791	66.7%	33.3%		27.5%	28.4%	43.1%

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NO EHR - NOT IN FORESEEABLE FUTURE - - - REASONS

Question 3: Do you think your clinic will invest in EHR:

Within 1 year	==>	Go to Question 5
Within 2 years	==>	Go to Question 5
Not in the foreseeable future	==>	Go to Question 4

Question 4: Please check the main reasons your clinic DOES NOT expect to invest in EHR in the foreseeable future: (Mark all that apply)

Too expensive.
Confusing number of EHR choices.
Staff does not have expertise to use an EHR.
No currently available EHR product satisfies our needs.
EHRs lack interoperability with other information systems resulting in high interfacing costs.
Decreased office productivity during implementation resulting in decreased revenue.
Concern purchase an EHR product that becomes obsolete (like Betamax).
Staff is satisfied with paper-based records system.
Other(s) - Please specify below.

Table 21: No EHR - Not in Foreseeable Future - - - Reasons

Percent of Organizations and Clinicians Represented	All Entities	Clinicians All Entities		Clinician Entities - with an EPM	Clinician Entities - without an EPM		Clinicians at Clinician Entities - with an EPM	Clinicians at Clinician Entities - without an EPM
Total Organizations & Clinicians	546	1,414		278	268		747	667
Too expensive.	**64.1%**	**69.9%**		**74.0%**	**60.1%**		**74.0%**	**65.3%**
Confusing number of EHR choices.	14.3%	18.3%		13.4%	14.2%		13.4%	23.9%
Staff does not have expertise to use an EHR.	18.5%	17.0%		13.5%	23.1%		13.5%	21.0%
No satisfactory EHR product satisfies our needs.	13.0%	17.8%		19.4%	11.9%		19.4%	16.1%
EHRs lack interoperability with other systems	18.7%	16.7%		15.9%	19.4%		15.9%	17.6%
Decreased office productivity during implementati	22.2%	22.9%		31.6%	18.7%		31.6%	13.2%
Concern about EHR product obsolesence.	20.1%	24.4%		21.7%	15.7%		21.7%	27.5%
Staff is satisfied with paper-based records system	**53.1%**	**42.7%**		**38.3%**	**59.0%**		**38.3%**	**47.7%**
Other(s) - Please specify below.	32.4%	26.8%		31.5%	32.1%		31.5%	21.6%

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ALL ORGANIZATIONS - TRAJECTORY

Table 22-1: Extrapolated EHR Adoption BASED ON SURVEY RESPONSES: Organizations

EXTRAPOLATED ADOPTION RATES - BY PRACTICE TYPE	All Entities	% Total in Aug-Oct 2006	% Total Plus 1 Year	% Total Plus 2 Years
Clinician Names	324	16.0%	21.0%	31.2%
Clinic/Practice Names	697	32.1%	46.2%	62.1%
FQHCs/Safety Net	27	29.6%	44.4%	70.4%
Public/Other Clinics	49	20.4%	28.6%	46.9%
Health System Practices/Clinics	23	52.2%	78.3%	91.3%
Community Hospitals	2	50.0%	50.0%	100.0%
Ambulatory Surgery Centers	7	14.3%	14.3%	28.6%
Kaiser, OHSU, VA	3	100.0%	100.0%	100.0%
No Name/info	34	5.9%	11.8%	29.4%
Total	1,166	26.8%	38.0%	52.7%

Table 22-2: Extrapolated EHR Adoption BASED ON SURVEY RESPONSES: Clinicians at All Organizations

EXTRAPOLATED ADOPTION RATES - BY PRACTICE TYPE	Clinicians at All Entities	% Total in Aug-Oct 2006	% Total Plus 1 Year	% Total Plus 2 Years
Clinician Names	428	16.8%	22.7%	34.6%
Clinic/Practice Names	3,908	37.7%	56.7%	75.7%
FQHCs/Safety Net	237	34.6%	38.8%	76.8%
Public/Other Clinics	313	42.2%	47.0%	83.4%
Health System Practices/Clinics	917	95.1%	97.6%	98.6%
Community Hospitals	15	53.3%	53.3%	100.0%
Ambulatory Surgery Centers	121	7.4%	7.4%	47.1%
Kaiser, OHSU, VA	2,104	100.0%	100.0%	100.0%
No Name/info	102	5.9%	55.1%	69.9%
Total	8,144	58.4%	69.1%	82.3%

2006 Oregon Ambulatory EHR Survey

CLINICIAN ORGANIZATIONS - TRAJECTORY

Table 23-1: Extrapolated EHR Adoption: Clinician Organizations

EXTRAPOLATED ADOPTION RATES BY PRACTICE SIZE	All Entities	% Total in Aug-Oct 2006	% Total Plus 1 Year	% Total Plus 2 Years
Unidentified size	3	0.0%	33.3%	66.7%
Solo	414	21.0%	25.8%	33.6%
2 to 4	366	26.2%	39.6%	55.2%
5 to 9	150	34.7%	52.7%	78.0%
10 to 19	58	53.4%	69.0%	84.5%
20 to 49	22	27.3%	59.1%	81.8%
50 +	8	50.0%	62.5%	87.5%
Total	1,021	27.0%	38.2%	52.3%

Table 23-2: Extrapolated EHR Adoption: Clinicians at Clinician Organizations

EXTRAPOLATED ADOPTION RATES BY PRACTICE SIZE	Clinicians at All Entities	% Total in Aug-Oct 2006	% Total Plus 1 Year	% Total Plus 2 Years
Unidentified size	-			
Solo	414	21.0%	25.8%	33.6%
2 to 4	994	26.7%	40.3%	56.6%
5 to 9	942	35.0%	53.7%	78.2%
10 to 19	762	53.3%	69.0%	83.3%
20 to 49	623	22.6%	62.3%	84.4%
50 +	601	52.6%	64.2%	84.2%
Total	4,336	35.6%	53.4%	71.6%

Appendix D: Narrative Non-Adoption Comments

Survey question 3 asked respondents: Do you think your clinic will invest in EHR: within one year, within two years or not in the foreseeable future. Survey question 4 asked respondents to "check the **main reasons** your clinic DOES NOT expect to invest in electronic health records (EHR) in the foreseeable future:" In addition to eight check-box options, respondents could check a box with "Other(s) – Please specify." Of the 546 organizational entities indicating not in the foreseeable future, the Other box was checked by 177 respondents. The most frequent comments for Other responses include:

- Plan to retire soon or clinic may close   37 responses
- Practice too small   31 responses
- Staff satisfied with current system – does not want to change   20 responses
- Not relevant for our type of practice   13 responses
- Confidentiality/privacy/security concerns   12 responses

Some respondents used the Other-please specify option to amplify their responses to the available check boxes. Selected narrative comments that provide insight to clinician perspectives on EHR adoption are shown below. Some comments have been edited for clarity, spelling and to preserve anonymity. Comments longer than allowed by the online survey process are identified as truncated.

- Rural health clinic: one FNP and one receptionist. Am overwhelmed by clinical plus administrative tasks just to keep up day to day. Can't take on this large a project. Also, practice management system is old. We know we need to update, but don't know to what.
- Current EHR systems are not user friendly. Getting records from an office that uses an EHR system is a nightmare (tons of paper, duplications, hard to sift out important info!!)
- Decreased office productivity after implementation resulting in revenue loss.
- Distrust in system that relies entirely on computer system.
- Does not improve patient care - records can still be inaccurate due to the use of 'templates' that are completed without thinking. Used EMR previously and found it was nothing more than a very expensive word processor.
- Except for Medicare we are cash pay only--patients bill.
- Huge amount of material to tranform also doctor maintains records on computer which operates as EHR.
- In our ASC environment it would require the use of wireless tablets and with the use of per diem nursing, the learning curve would affect our patient flow and productivity. Our patients have repeatedly told us that the like our face to face eye contact an (truncated).
- Most systems are too cumbersome and do not seem applicable for our needs and how we prefer to chart.
- My colleagues that have gone to EHR aren't saving time or resources.
- No funding supplied by the government.
- No guarantees of company longevity (and continued support) in very fluid market.
- No incentive to change.
- Not a lot of interest in making such a major change this late in physicians' practice lives.

- Numerous problems voiced by other clinics and hospital staff.
- Physician feels we have a system that works well now. Physician feels that there is increased risk of privacy violations with electronic records; and that the dictations he reads now that are generated by EHR modules are hard to read and interpret, contain (truncated).
- We are associated with Legacy Health, OHSU, and Kaiser. They all use different systems.
- We are committed to non-electronic records management.
- What do you mean by electronic health records? We use MS Word on the computer and soon will not be keeping paper-based notes, but will keep signed releases, etc.
- What to do when computer does not work? Cannot access chart.
- Why would insurance companies invest in this? Oh, so they can implement Pay for Performance which means their costs go down, their profit goes up.-.not to benefit the patient!

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Mr. Witter is the principal in Witter & Associates providing consulting support to health care organizations seeking to improve quality performance through innovative solutions including health information technologies. Recent projects include cost-benefit and financing assessments for a regional health information exchange, Oregon statewide health technology benefits analysis, and program evaluation of the Oregon Chronic Disease Data Clearinghouse. Mr. Witter has over thirty years experience in the leadership, operations and finances of health care organizations. Mr. Witter spent six years at the Association of American Medical Colleges (Washington, DC) serving as Vice President of Enterprise (business) Development, Vice President of Information Resources (CIO) and Director of the Clinical - Administrative Data Service. Mr. Witter spent six years as president and CEO of the Academic Medical Center Consortium (Rochester, NY), an organization created by twelve major teaching hospital CEOs to conduct major health services research-based initiatives to improve quality and operations. Mr. Witter spent seventeen years at the Oregon Health Sciences University serving as, Interim University President, Vice President for Administration, Director of the Biomedical Information and Communication Center, University Hospital CEO, COO and CFO . Mr. Witter holds bachelor and master degrees in economics.

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