

Characterizing a Practice-based Research Network: Oregon Rural Practice-based Research Network (ORPRN) Survey Tools

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Objective: To present the survey methods and instruments used to characterize a geographically and professionally diverse rural practice-based research network (PBRN).

Methods: A cross-sectional study of Oregon PBRN (ORPRN) member practices and clinicians using a 3-part survey including a survey of the practices, of clinician members, and an anonymous survey of clinician satisfaction.

Results: A total of 31 of 32 (97%) participating ORPRN practices completed the practice survey, 96 of 129 (74%) clinicians within these practices completed the clinician member survey, and 81 of 129 (63%) clinicians completed an anonymous survey of clinician satisfaction.

The survey provided a detailed description of the structure of member practices, patient and clinician demographics, services provided by the practices, and access to specialty and ancillary services.

Conclusions: Survey tools that describe the network practices and individual clinician characteristics contribute to an understanding of the research capacity of an individual PBRN. (J Am Board Fam Med 2007;20:204–219.)

A primary care PBRN represents a group of primary care clinicians in multiple practice sites collaborating with each other and with research investigators to study health care issues of mutual interest. The history and role of PBRNs in primary care research are well described.^{1,2} Over the past 12 years, the growth of PBRNs has been substantial.

In 1994, there were 28 active primary care PBRNs in North America.³ The growth in the number and type of primary care networks began when, in 1999, US government legislation (Public Law 106-129) directed the Agency for Healthcare Research and Quality (AHRQ) to link research to clinical practice by including the use of PBRNs in

primary care. The ORPRN was 1 of 36 PBRNs awarded a developmental grant in 2002 (available at www.ahrq.gov/research/pbrnproj.htm). The growth of PBRNs has continued, and as of July 2006, 94 primary care research networks are registered with AHRQ's PBRN Resource Center located at Indiana University. The Federation of Practice-Based Research Networks (FPBRN) was established in 1997 by the American Academy of Family Physicians to stimulate the growth and development of research at the primary care practice level and to encourage communication among networks. The FPBRN July 2006 Network Inventory lists 49 member networks. Of these 49 networks, 5 are national, 21 are statewide, and 23 are regional.⁴

PBRNs provide a community-based setting for research studies and ideas. Primary care PBRNs have an important role in providing information about the burden of illness in the community, and the burden of chronic care management and disease prevention on practices in the community. The National Institute of Health's Roadmap Initiative recognizes PBRNs as a tool to overcome the roadblock of translating efficacy and effectiveness studies into action at the community practice level.⁵ The Roadmap Initiative recently funded a program of Clinical and Translational Science Awards

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(CTSAs) to transform clinical and translational research. The 12 academic health centers receiving first round CTSA implementation awards describe strong collaborations with community partners—clinicians, practices, and organizations with PBRNs as a key element of infrastructure.

When considering a PBRN as a setting for research, it is important to understand the specific settings in which the research will take place. For clinical research, it is important to have information about the patient populations served by the practices. For health services research, it is important to know about the practices and clinicians in addition to the patient population. Unfortunately, it has not been the standard in PBRN research to gather comprehensive data about participating practices. For those that have gathered such data, there has been no effort to standardize the approach across networks, nor has the quality of collected data been scrutinized.

It was the goal of ORPRN to conduct a survey of its members to develop a comprehensive descriptive database of participating practices, clinicians, and patient populations. This study reports on the initial development of the database; subsequent waves of the survey will allow investigators to track trends over time among the practices, clinicians, and patients who collectively make up ORPRN. Further, we sought to understand the process by which practices obtained the requested data, and how they would use their own data systems to identify hypothetical patient cohorts. This information is critical for helping ORPRN members move toward increasingly valid and reliable methods of working as a part of the network over time. The objectives of this study were to determine member practices' willingness and ability to gather and share descriptive data and to evaluate our methods of data collection in an effort to begin to move toward a more standardized approach to describing PBRNs.

Methods

Completion of the practice and clinician surveys is a requirement for membership as defined by the ORPRN bylaws. We developed a survey for clinicians and practices to be implemented every 2 years through interview and self-report.

Survey Development

ORPRN's survey was designed to meet 5 objectives:

1. To describe the characteristics of clinicians and practices participating in the network.
2. To understand the structure, business operations, financial support, and stability of the practices.
3. To identify the information technology use and research capacity of the practices and clinicians.
4. To identify gaps in the network's composition of practices and clinicians to direct future recruitment.
5. To connect in a meaningful way with the practices and clinicians, providing them perspective on how they compare with the overall network.

In constructing the survey instrument, key factors included the time and effort that the practice staff and clinicians were willing to commit to the study and identifying information valuable to clinician members and the research network. The 10 rural clinician members of the ORPRN Steering Committee were consulted to incorporate these considerations into the survey tool. A literature review of the methods used to describe other networks (clinicians, practices, and patients) found considerable variation ranging from the initial age-sex patient registry used by the Ambulatory Sentinel Practices Network (ASPN),⁶ to the Primary Care Network Survey conducted by 20 AHRQ-supported PBRNs in 2004,⁷ to the work done by Stange and colleagues⁸ to describe the context and content of family practice in their work on how practices provide primary health care in the family practice office.

AHRQ developed the Primary Care Network Survey (PRINS) tools including PRINS-1, a 22-item self-reported questionnaire to assess demographics of clinicians, patient volume, business relationships, practice setting, and laboratory testing; and PRINS-2 a 19-item tool designed to characterize the clinician-patient visit.⁷ The PRINS tools and the National Ambulatory Medical Care Survey (NAMCS) describe individual clinicians rather than characterizing the practice. In addition, NAMCS does not include nonphysician clinicians in their surveys.⁹

With input from clinician network members, ORPRN investigators developed 3 instruments: a practice survey, a clinician survey, and an anony-

mous clinician satisfaction survey (see appendices for the surveys). To allow for national comparison, a subset of questions from PRINS-1 and the Community Tracking Study (CTS) Physician Survey, from the Center for Studying Health System Change, were included. The CTS physician survey is a longitudinal project designed to provide a perspective on the health care delivery system. The questions address sources of revenue, quality of care, information technology, practice ownership, access to services, and career satisfaction.¹⁰ In addition, we used items from the Oregon Medical Association physician survey¹¹ and the Oregon Health Workforce Project survey¹² to allow network comparisons with statewide data.

The survey instrument designed to assess the practices (Appendix 1) consisted of 21 items separated into 5 domains: practice ownership and history, use of information technology, demographics of the practice panel, staffing patterns, and several research scenarios designed to illustrate practice patient data management familiarity and capacity. The data scenarios addressed the practice's ability to identify unique patients and specified cohorts of patients.

A second survey of clinicians (Appendix 2) included 32 items separated into 6 domains: clinician demographics, practice description, scope of practice, availability of services in the community, technology utilization and attitudes, and current quality improvement and research activities and interests.

A final survey (Appendix 3) was designed to collect data anonymously from clinicians, to allow unbiased assessments of clinician opinions and attitudes. This last survey consisted of 5 items, including overall satisfaction with medical practice, retention plans, control of practice income and operations, practice attributes influencing quality of care, and net income.

Eligibility

The criteria for membership in ORPRN include practice location in rural Oregon, participation in a prior ORPRN research study, or an expressed interest to participate in a future study. ORPRN uses the Oregon Office of Rural Health definition of rural, which includes areas at least 10 miles away from a population center of 30,000 or greater. Only practices and clinicians that fit the ORPRN criteria for membership were invited to participate in these surveys.

Clinician members of ORPRN must be primary care practitioners, including family physicians, general internists, or pediatricians; family, adult, or pediatric nurse practitioners; or physician assistants. Clinicians who do not actively see patients and physicians-in-training (residents) were excluded.

A total of 32 practices and 129 clinicians fit the definitions of ORPRN membership; Figure 1 displays the locations of ORPRN practices.

Data Collection

All 3 surveys were administered on paper and were distributed in August 2005 to ORPRN's Practice Enhancement and Research Coordinators (PERCs). PERCs are regional research assistants who live in rural Oregon, each covering a geographic portion of the statewide network. Between August and December 2005, the PERCs traveled to each practice to meet with a practice representative, usually the practice manager or administrator, to discuss the survey project and interview this representative to gather information for the practice survey. The PERC mailed the practice and clinician surveys to the practice representative before the visit and encouraged them to look at the questions before the interview. The practice survey was completed during the interview. In approximately half of the practices, the site representative had collected required survey information before the interview.

In addition, the PERCs asked the practice representative to distribute and collect completed surveys for each ORPRN clinician in the practice. This representative also distributed the anonymous survey of clinicians along with a stamped-addressed envelope; these surveys were sent directly by the clinician to the ORPRN office at Oregon Health and Science University when complete.

A follow-up electronic query of the site representatives was conducted regarding the source of data for the number of active patients, payer mix, and patient characteristics and responding to the data scenarios.

Data Management and Statistical Analysis

All surveys were reviewed for completeness and data were entered into an Access database for analysis; data were cross-checked by a second person for accuracy. Descriptive statistics were generated for all data.

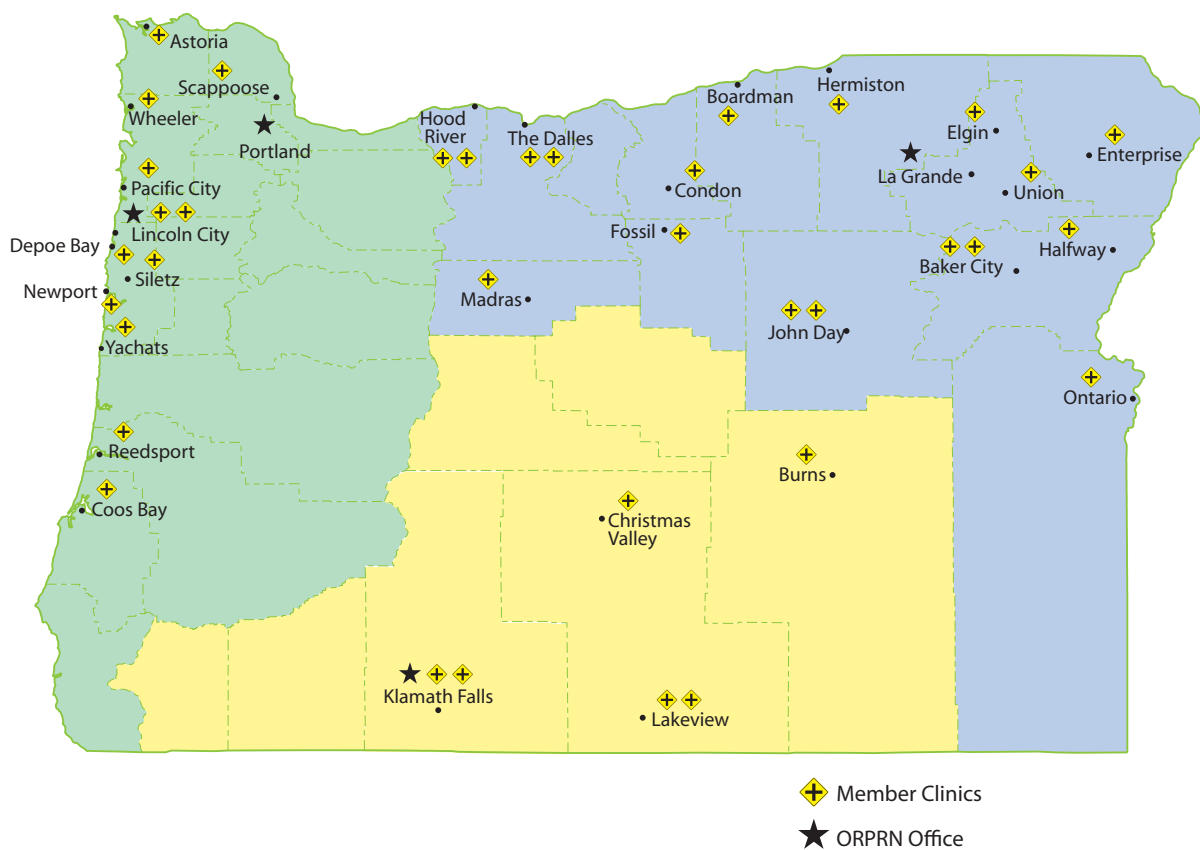


Figure 1. Map of the locations of member practices of the Oregon Rural Practice-based Research Network (ORPRN).

Results

Thirty-one of 32 (97%) practices completed the practice member survey. In almost all the practices this survey was completed by a person identified as the practice manager or administrator. Ninety-six of 129 primary care clinicians (74%) completed the survey of clinician members. Fifteen clinicians refused, and 18 did not respond despite 2 requests to complete the survey. Eighty-one of 129 clinicians (63%) returned the anonymous survey of clinicians.

The survey data provided a detailed description of the network, characterized at the practice, clinician, and patient level (see Tables in Appendix 4).

The data scenario responses were free-text. All 31 practices responded with 30 of the practices listing billing software as their source of information for the scenarios. One practice listed the electronic health record as their sole data source. Twenty-eight of the 31 practices responded to the question “Does your practice have any disease registries?” Of these respondents, 32% (9 of 28) reported having at least 1 disease registry.

The follow-up e-mail inquiry of the practice managers revealed that multiple methods of data collection were used. A best-estimate method was used by approximately three fourths of the practices to generate the responses regarding the number of active patients; whereas, billing software data provided responses regarding patient ages and payer mix in approximately two thirds of the practices. The electronic inquiry asked for the specific billing software used by practices. Thirteen different software products were named with 3 practices not specifying a brand of software [OCHIN (3), Medical Manager (5), Medisoft (5), Next Gen (5), Healthco (2), McKesson, Cerner, MARS, Meditech, Clinic Pro, Misys Tiger, Practice Partner, and Centricity].

Discussion

A robust description of the practices and clinicians in a PBRN provides a number of important benefits. These benefits include: (1) describing the network for grant proposals, academic and govern-

ment partners, communities, and patients; (2) understanding the structure and capacity of member practices for research; and (3) connecting with member practices and clinicians.

The results of the survey of ORPRN clinicians and practices have been included in the ORPRN newsletter and several recent grant submissions, including the institution's successful National Institutes of Health Clinical and Translational Science Award proposal. Organizational partners, such as the statewide quality improvement organization and the state immunization program office have used ORPRN survey data in seeking funding for collaborative projects. Network staff, including the PERCs and network director, have presented the data to rural Oregon practices, hospitals, and community organizations.

The survey tools and methods that we used were acceptable to the practice administrators and clinicians, resulting in a high completion rate. Rather than being perceived as burdensome, the ORPRN survey has largely been viewed positively, having meaningfully engaged practice administrators and clinicians in the network, and providing data back to them about other rural practices in our geographically diverse state. Often PBRN studies involve a small subset of clinicians or practices and rarely does the entire membership of the network participate in a given study. Clinicians are interested in how they and their practices compare with others in the network. Timely feedback is important in maintaining clinician interest in the network. Practice and clinician-specific reports are delivered to the practices by the responsible PERC. Local meetings of the primary care clinicians are scheduled to examine the context of the ORPRN survey data combined with community health data from the Oregon Office of Rural Health. It is anticipated that these meetings will create a better understanding of important health areas for research and quality improvement.

A limitation of using self-reported survey tools such as PRINS, NAMCS, and the ORPRN member survey is that practices and clinicians used a variety of methods to report data on patient visits, insurance coverage, and patient age-breakdown, and a validation of these numbers has not occurred. Validating the data in a subset of practices would be helpful.

The utility of the data collected need not be limited to cross sectional assessments. For example,

ORPRN will conduct the practice and clinician surveys every 2 years, allowing for a longitudinal measure of trends in the rural health care market, as well as an assessment of the network's success in adding communities, practices, and clinicians so as to be maximally generalizable to the rural health care environment.

The ORPRN survey method provides a practice context as well as the clinician context in describing the settings for primary care practice-based research. We offer our survey instruments for use by other networks to facilitate cross-network comparisons (see appendices).

We acknowledge the contributions of ORPRN PERCs: Ann Ford, Monica Goubaud, and Julie Reynolds. We also thank the 31 ORPRN Practices and their clinicians: Baker Clinic, Eastern Oregon Medical Associates, Elgin Family Health Center, Union Family Health Center, Dunes Family Health Center, Lincoln City Medical Center, Strawberry Wilderness Family Clinic, Robert E. Holland, Russel J. Nichols, Winding Waters Clinic, Pine Eagle Clinic, La Clinica del Carino Family Health Center, Klamath Open Door Family Medicine, Cascades East Family Practice Residency, OHSU Family Medicine-Scappoose, Yachats Community Health Clinic, Gilliam County Medical Clinic, Columbia Hills Family Medicine, High Desert Medical Center, Rinehart Clinic, Bayshore Family Medicine, Treasure Valley Pediatric Clinic, North Bend Medical Center, Columbia River Community Health Services, Asher Community Health Center, Thomas H. Hodge, Maria Bolanos-McClain and Ken McClain, Madras Medical Group, Lake County Medical Clinic, C. Scott Graham, North Lake Clinic.

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Appendix 1. Clinical Practice Member Characterization Survey



Oregon Rural Practice-based Research Network (ORPRN)

OHSU

Completing this form is one of the requirements for ORPRN membership.
 PERCs, please check the box or boxes that apply, or fill in the blanks for each of the questions below.
 *Note: This information is for internal ORPRN use, and will only be reported to describe the network in future grant applications and publications. None of this information will be reported or identified for individual clinicians or practices.

Practice Name: _____ Date: ____/____/____
MM DD YY

Mailing Address _____

City _____ State _____ Zip code _____ Main phone # _____

Website _____ Fax # _____ After hours phone # _____

Primary ORPRN Site representative: _____ Phone: _____
 E-mail: _____
 Primary ORPRN Clinician contact: _____ Phone: _____
 E-mail: _____
 Practice Medical Director: _____ Phone: _____
 Practice Manager: _____ Phone: _____

PRACTICE INFORMATION

1. Year the practice was established in this community? _____
2. Who owns the practice's building?

<input type="checkbox"/>	Hospital
<input type="checkbox"/>	Physician or physician group
<input type="checkbox"/>	Hospital system
<input type="checkbox"/>	Other health care corporation

 Other: specify: _____
3. Who owns the practice?

<input type="checkbox"/>	Hospital
<input type="checkbox"/>	Physician or physician group
<input type="checkbox"/>	Hospital system
<input type="checkbox"/>	Other health care corporation

 Other: specify: _____
4. What is the ownership status of the practice?

<input type="checkbox"/>	Private business
<input type="checkbox"/>	Not for profit
<input type="checkbox"/>	Public organization
5. Is the practice a Federally Certified Rural Health Clinic?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No
6. Is the practice a Federally Qualified Health Center?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

7. Is the practice a Community Health Center? Yes
 No

PRACTICE TECHNOLOGY

8. Estimate the number of computers in use at this practice site: _____

9. Does your practice have access to the internet? Yes
 No

9a. If yes, what type of internet connection does your practice have? Dial-up
 High speed

9b. If yes, how many of the computers in use are connected to the internet? _____

9c. If you have dialup, is high speed internet available in your community? Yes
 No

10. What operating system does your practice use (check all that apply)? Windows '97
 Windows '98
 Windows 2000
 Windows XP
 NT
 Mac

11. Do you have videoconferencing capability at your practice site? Yes
 No

11a. If no, please list where you can go to access videoconferencing? _____

12. Does your practice have electronic health records (EHR)? Yes
 No

IF YES TO Q12 ANSWER 12a-12h; If NO, SKIP TO 13a-13e

12a. What is the name of your electronic health record (EHR) system? _____

12b. What year was it implemented? _____

12c. Are labs and imaging integrated into your EHR system? Yes
 No

12d. Are hospital admissions integrated into your EHR system? Yes
 No

12e. Are prescriptions integrated into your EHR system? Yes
 No

12f. Do you have any archived records? Yes
 No

12g. If you have archived records, where are they stored? On the property
 Off the property

12h.1. If yes, what record dates are currently stored? _____ to _____

12h. Degree to which your medical records are paperless?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0-25%	26-50%	51-75%	76-100%

12i.1. If yes, what record dates (in years) are currently stored? _____ to _____

IF NO TO Q12:

13a. In what format are your paper chart notes? Handwritten
 Transcribed
 Both

13b. Do you have plans to implement an EHR system in the next year? Yes
 No

13c. Do you have any archived records? Yes
 No

13d.1. If yes, what record dates (in years) are currently stored? _____ to _____

13e. If you have archived records, where are they stored? On the property
 Off the property

14. Does your practice have any patient registries? Yes
 No

14a. If yes, please list by disease: _____

14b. If yes, where are they stored? In EHR system
 Outside EHR system
 Paper-based

Appendix 2. Clinician Characterization Survey



Oregon Rural Practice-based Research Network (ORPRN)

OHSU

Completing this form is one of the requirements for ORPRN membership. Please check the box or boxes that apply, or fill in the blanks for each of the questions below.
 *Note: This information is for internal ORPRN use, and will only be reported to describe the network in future grant applications and publications. None of this information will be reported or identified for individual clinicians or practices.

Name: _____

Practice Name: _____

Date: ____/____/____
 MM DD YY

CLINICIAN DESCRIPTION

1. Your Sex: Male
 Female
2. Your Age: < 30
 30-39
 40-49
 50-64
 65+
3. Ethnicity: Not Hispanic or Latino
 Hispanic or Latino
4. Race (check all that apply):
 White
 Black/African American
 Asian
 Native Hawaiian/Other Pacific Islander
 Native American/ Alaska Native
5. Year you graduated from medical school, received a PA, or Advance Practice Nursing Degree? _____
6. What is your degree? MD
 DO
 NP/APN
 PA
7. What is your specialty (check all that apply)? Family Medicine
 Internal Medicine
 Pediatrics
 Other: specify: _____

8. How many years have you been in practice? _____

CLINICAN PRACTICE DESCRIPTION

9. How many years have you been at this practice? _____
10. Are you a full or part owner, employee, or independent contractor? Owner
 Employee
 Contractor
11. Do you practice medicine at other sites? Yes
 No
- 11a. If yes, please list locations:

For the following, please estimate:

12. Total number of patients you cared for at this office location in the **past year** (your total patient panel)? _____
13. Number of ambulatory patient visits do you have at this office location per **week** (include only your patients, not the entire practice)? _____
14. Number of hours per **week** spent providing direct patient care (do not count teaching or other administrative sessions)? _____
15. Number of hours per **month** spent teaching medical or nursing students, residents, or other health care personnel? _____
16. Number of on-call days you have each **month**? _____

17. Estimate the sex breakdown of **your current patient panel** at this practice?

<input type="text"/>	Male
<input type="text"/>	Female
100%	Total

17a. Estimate the age breakdown of **your current patient panel** at this practice?

<input type="text"/>	Birth-4
<input type="text"/>	5-14
<input type="text"/>	15-44
<input type="text"/>	45-64
<input type="text"/>	65-74
<input type="text"/>	>75
100%	Total

17b. Estimate the ethnicity breakdown of **your current patient panel** at this practice?

<input type="text"/>	Not Hispanic or Latino
<input type="text"/>	Hispanic or Latino
100%	Total

17c. Estimate the race breakdown of **your current patient panel** at this practice?

<input type="text"/>	White
<input type="text"/>	Black/African American
<input type="text"/>	Asian
<input type="text"/>	Native Hawaiian/Other Pacific Islander
<input type="text"/>	American Indian/Alaska Native
100%	Total

18. Do you perform any of the following medical services (check all that apply)?

<input type="checkbox"/> General primary care	<input type="checkbox"/> Gynecologic care
<input type="checkbox"/> Emergency room care	<input type="checkbox"/> Labor and delivery professional services
<input type="checkbox"/> Urgent care	<input type="checkbox"/> Postpartum care
<input type="checkbox"/> Family planning	<input type="checkbox"/> Developmental screening
<input type="checkbox"/> Immunizations	<input type="checkbox"/> Home visits
<input type="checkbox"/> Care of hospitalized patients	<input type="checkbox"/> Nursing home care
<input type="checkbox"/> Mental health treatment/counseling	<input type="checkbox"/> Hospice care
<input type="checkbox"/> Substance abuse services	

19. Do you perform any of the following procedures (check all that apply)?

<input type="checkbox"/> Flexible sigmoidoscopy	<input type="checkbox"/> Ultrasound scanning in pregnancy
<input type="checkbox"/> Colonoscopy	<input type="checkbox"/> Colposcopy
<input type="checkbox"/> Exercise testing	<input type="checkbox"/> EGD (upper GI tract endoscopy)

20. How often are you able to obtain the following:

Always	Almost always	Frequently	Sometimes	Rarely	Never
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20a. Referrals to specialists on a timely basis?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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20b. Access to general surgery on a timely basis?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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20c. Referrals to dentists on a timely basis?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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20. How often are you able to obtain the following:	Always	Almost always	Frequently	Sometimes	Rarely	Never
20d. Physical therapy services?						
20e. Nutritional counseling services?						
20f. Non-emergency hospital admissions on a timely basis?						
20g. Adequate length of stay for your patients in the hospital?						
20h. Diagnostic imaging services?						
20i. Referrals to obstetrician care?						
20j. Inpatient mental health care?						
20k. Outpatient mental health services?						
20l. Substance abuse services?						
20m. Nursing home care?						
20n. Hospice care?						

TECHNOLOGY

21. Please list your preferred e-mail address to receive information from ORPRN: _____

22. How often do you check this e-mail address?

Several times/day	1x / day	1x / week	Seldom

23. Do you use e-mail to communicate with your patients?

Yes	No

24. Do you use a personal data assistant (PDA) in your practice (e.g. Blackberry, Palm, etc.)?

Yes	No

25. What proportion of your patients do you think have access to the Internet? (Please check one of the following:)

All	Most	Some	Very Few	None	Don't know

26. Do your patients discuss information with you about their condition or treatment that they have obtained from the Internet?

Often	Never	Sometimes	Seldom

27. Do you believe that the use of email to communicate with patients enhances medical practice?

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly

28. Do you consider a practice website useful and important?

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PRACTICE QUALITY IMPROVEMENT AND RESEARCH

29. Are you currently involved in any quality improvement projects?

	Yes
	No

29a. If yes, please describe:

30. Are you currently involved in any research projects?

	Yes
	No

30a. If yes, please describe:

31. What important problems and/or questions do you have in your practice that ORPRN could address through research?

32. Is there anything else you would like ORPRN to know about you or your practice?

- THANK YOU -

Appendix 3. Anonymous Satisfaction Survey of Clinician Members



Oregon Rural Practice-based Research Network (ORPRN)

OHSU

This is an anonymous, optional survey. Please check the box or boxes that apply, or circle the appropriate number for each of the questions below. Return in the envelope supplied.

1. Thinking very generally about your satisfaction with your overall career in medicine, would you say that you are CURRENTLY:

<input type="checkbox"/>	Very satisfied
<input type="checkbox"/>	Somewhat satisfied
<input type="checkbox"/>	Somewhat dissatisfied
<input type="checkbox"/>	Dissatisfied

2. Do you plan on leaving your current practice or retiring in the next 5 years?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

3. Where 1 is not important and 10 is very important, how important is each of the following to you: (Please circle the appropriate number)

3a. Your income?	1	2	3	4	5	6	7	8	9	10
	Not important				neutral					very important
3b. Control over working hours?	1	2	3	4	5	6	7	8	9	10
	Not important				neutral					very important
3c. Control over your clinical decisions?	1	2	3	4	5	6	7	8	9	10
	Not important				neutral					very important
3d. Control over your practice's business decisions?	1	2	3	4	5	6	7	8	9	10
	Not important				neutral					very important

4. For each of the following, determine whether you agree or disagree with the statements below:

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
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4a. I have adequate time to spend with my patients during their office visits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4b. I have the freedom to make clinical decisions that meet my patients' needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4c. It is possible to provide high quality care to all of my patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4d. I can make clinical decisions in the best interest of my patients without the possibility of reducing my income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4e. The level of communication I have with specialists about the patients I refer to them is sufficient to ensure the delivery of quality care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4f. I feel very isolated medically in my practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4g. My information technology access and utility is adequate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. What was your 2004 net income last year from the practice of medicine after expenses but before taxes?

<input type="checkbox"/> Less than \$ 25,000	<input type="checkbox"/> \$75,000 to less than \$100,000	<input type="checkbox"/> \$250,000 or more
<input type="checkbox"/> \$25,000 to less than \$50,000	<input type="checkbox"/> \$100,000 to less than \$150,000	
<input type="checkbox"/> \$50,000 to less than \$75,000	<input type="checkbox"/> \$150,000 to less than \$250,000	

Appendix 4. Practice and member characteristics of the Oregon Rural Practice-based Research Network (ORPRN)

Table 1. Characteristics of the ORPRN Practices (N = 31 practices)

Characteristic	Percentage
Private practice	58%
Certified rural health clinic	48%
High-speed Internet access	93%
Electronic health record	39%
Accepting new Medicaid patients	96%
Accepting new Medicare patients	96%
Active patient panels per practice (mean)	5663
Patient visits per week (mean)	210
Clinician FTE* (mean)	3.6
Nonclinician FTE† (mean)	10.3

* 1.0 FTE = 32 hours of office patient care per week.

† 1.0 FTE = 40 hours per week.

Table 2. Characteristics of Patients in ORPRN Practices (N = 31 practices; 166,003 patients)

Characteristic	Mean	Median	Range
Gender			
Male	44%	43%	35% to 60%
Female	56%	57%	40% to 65%
Age			
Birth to 4 years	11%	7%	0% to 55%
5 to 14 years	11%	10%	0% to 35%
15 to 44 years	27%	27%	0% to 60%
45 to 64 years	24%	26%	0% to 40%
65 to 74	15%	12%	0% to 40%
75 years or older	10%	10%	0% to 40%
Ethnicity			
Hispanic/Latino	12%	3%	0% to 50%
Not Hispanic/Latino	88%	97%	50% to 100%
Overall payment breakdown			
Medicare	25%	25%	0% to 70%
Medicaid	23%	18%	4% to 65%
Private	37%	35%	10% to 73%
No insurance	13%	10%	0% to 54%
Other	4%	0%	0% to 74%

Table 3. Characteristics of ORPRN Clinicians (N = 96)

Characteristic	Percentage
Degree	
Physician	66%
Nurse practitioner	18%
Physician assistant	17%
Specialty*	
Family medicine	88%
Internal medicine	7%
Pediatrics	7%
Other	2%
Primary care/occupational medicine	1%
Hospice/palliative care	1%
Age	
Under 30 years	3%
30 to 39 years	29%
40 to 49 years	25%
50 to 64 years	41%
65 years or older	2%
Sex	
Female	43%
Male	57%
Use E-mail with patients	17%

* Multiple responses allowed.

Table 4. Services Provided by ORPRN Clinicians

Service	ORPRN Clinicians (n = 96)	ORPRN Family Physicians (n = 55)
General primary care	99%	100%
Emergency room care	46%	58%
Care of hospitalized patients	64%	93%
Mental health treatment/counseling	77%	84%
Substance abuse services	32%	44%
Labor and delivery professional services	31%	55%
Home visits	57%	66%
Nursing home care	68%	91%
Hospice care	56%	78%
Flexible sigmoidoscopy	21%	29%
Colonoscopy	16%	26%
Exercise testing	28%	42%
Ultrasound scanning in pregnancy	12%	18%
Colposcopy	33%	51%
Upper GI Tract Endoscopy	17%	26%

Table 5. ORPRN Clinicians' Report of Availability of Services to Their Patients (n = 96)

Service	Always/Almost Always Available	Frequently Available	Sometimes/Rarely, Never Available
Access to general surgery on a timely basis	81%	14%	5%
Referrals to dentists on a timely basis	17%	25%	58%
Nutritional counseling services	49%	22%	29%
Diagnostic imaging services	82%	14%	4%
Inpatient mental health care	12%	13%	76%
Outpatient mental health services	20%	27%	53%
Hospice care	92%	4%	5%