ORIGINAL RESEARCH

Clinician Use of Primary Care Research Reports

William R. Phillips, MD, MPH, Elizabeth Sturgiss, BMed, FRACGP, MPH, PhD, Angela Yang, BS, Paul Glasziou, MBBS, FRACGP, PhD, Tim Olde Hartman, MD, PhD, FP/GP, Aaron Orkin, MD, MSc, MPH, CCFP (EM), FRCPC, Grant M. Russell, MBBS, MFM, FRACGP, PhD, and Chris van Weel, MD, PhD, FRCGP (Hon), FRACGP (Hon)

Purpose: **To assess how primary care practitioners use reports of general health care (GHC) and primary care (PC) research and how well reports deliver what they need to inform clinical practice.**

Methods: **International, interprofessional online survey, 2019, of primary care clinicians who see patients at least half time. Respondents used frequency scales to report how often they access both GHC and PC research and how frequently reports meet needs. Free-text short comments recorded comments and suggestions.**

Results: **Survey yielded 252 respondents across 29 nations, 55% (121) women, including 88% (195) physicians, nurses 5% (11), and physician assistants 3% (7). Practitioners read research reports frequently but find they usually fail to meet their needs. For PC research, 33% (77) accessed original reports in academic journals weekly or daily, and 36% found reports meet needs "frequently" or "always." They access reports of GHC research slightly more often but find them somewhat less useful.**

Conclusions: **PC practitioners access original research in academic journals frequently but find reports meet information needs less than half the time. PC research reflects the unique PC setting and so reporting has distinct focus, needs, and challenges. Practitioners desire improved reporting of study context, interventions, relationships, generalizability, and implementation. (J Am Board Fam Med 2021;34:648–660.)**

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Introduction

Primary care (PC) research is a broad and growing discipline[1] that includes work done by PC investigators, studies conducted in PC settings, and research about PC done by those in other specialties and disciplines. PC is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.[2] Due to its unique approach to health care and patients, PC research has developed distinct approaches,[3] with emphasis on patient-centered perspectives, multiple and chronic conditions, interdisciplinary teams, mixed methods, synthesis, translation, and implementation. The diverse users of PC research—including clinicians, researchers, educators, patients, communities, and policy makers—have varied needs for how research is reported.

Researchers, journals, and users across many fields are exploring ways to improve the reporting of research.[4] The EQUATOR network catalogs the growing number of guidelines that make recommendations and requirements for the reporting

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From the University of Washington, Seattle (WRP, AY); Monash University, Melbourne, Victoria, Australia, (ES, GMR); Bond University, Robina, Queensland, Australia (PG); Radboud Institute of Health Sciences, Radboud University, Nijmegen, The Netherlands (TOH, CvW); University of Toronto, Toronto, Ontario, Canada (AO); Australia National University, Canberra, ACT, Australia (CvW).

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Corresponding author: William R. Phillips, MD, MPH, Department of Family Medicine, Box 356390, University of Washington, Seattle, WA 98195 (E-mail: wphllps@uw.edu).

of medical research (https://www.equator-network.org).[5] Many of these guidelines have been widely adopted,[6–8] with potential benefits including more effective dissemination, translation, and implementation of new knowledge and reduction of research waste.[9] EQUATOR provides a core set of reporting guidelines that focus on key research methods, but the bulk of the 400-plus guidelines are specific to disciplines or subjects. Not one focuses on PC.[10]

Consensus Reporting Items in Studies in Primary Care (CRISP) is an international initiative to explore strategies for improving the reporting of PC research (https://sites.uw.edu/crisprec/). Our goal is to help those who produce PC research—investigators, reviewers, and editors—improve reporting to make study findings more useful to the users of research working across the diverse settings where PC can improve the health of people and populations.

Little is known about how well PC research reports meet the needs of key users or how to improve current reporting practices. We recently surveyed an international, interprofessional, interspecialty community of PC researchers and identified opportunities to improve PC research reports.[10] That survey did include some PC practitioners, but we felt that their central role in bringing research results to patient care deserved further study. We, therefore, conducted this second survey focused on the needs and suggestions of PC practitioners for the reporting of PC research.

This practitioner survey had 3 specific aims: (1) Document how PC practitioners access original reports of both general health care (GHC) research and PC research, (2) assess how useful practitioners find current research reports in meeting their needs in practice, and (3) identify problems and elicit suggestions for improving PC research reports. Our overall goal is to identify elements for possible inclusion in recommendations. With these findings, we plan a Delphi study to refine and prioritize items for PC research reports.

Methods

We conducted an anonymous online survey using Qualtrics XM software (Qualtrics, Seattle, WA), June-September 2019. Development and conduct of this practitioner survey followed procedures used for our earlier researcher survey.[10] The questionnaire collected demographic information, profession, specialty, and years since completion of training. We formulated questions based on our longer survey of the more general PC research community,[10] working to make this questionnaire shorter and more relevant for clinical practice, to increase completion by busy practitioners. We field-tested several drafts with a variety of PC practitioners from several nations. Our international author group of PC researchers refined the final questions.

We offered these working definitions to the participants: "General health care research" includes all research on patients, health care systems, and public health. "Primary care research" is a subset of health care research that focuses on PC patients, conditions, problems, and settings of care.

We asked 2 questions about reports of both GHC research and PC research. (See questionnaire, Appendix 1.) (1) "How often do you read original research reports in academic journals (using a 6-point Likert scale of 1 = never, 2 = a few times a year, 3 = once a month, 4 = once a week, 5 = a few times a week, and 6 = daily)?" (2) "How often do research reports deliver what you need to: a. understand the take-home messages; b. apply findings to your patients, practice, and community; c. change your clinical practice; d. critically appraise study quality; and e. consider further scholarship/research in your own context (using a 4-point Likert scale of 1 = rarely, 2 = sometimes, 3 = frequently, and 4 = always)?"

We invited open-ended short text answers to the question: "In what ways could PC research reporting be improved?"

We distributed the link to the online survey widely, through e-mail, social media, and posts on national and international PC organization websites. To leverage recruitment, we used snowball sampling,[11] asking respondents to forward the survey link to practicing PC clinicians, emphasizing nonphysicians and those outside of North America and Europe.

We targeted practicing PC clinicians and restricted respondents to those who answered "Yes" to the question: "Do you spend most of your working week as a clinician in primary care?"

We used descriptive statistics to summarize respondent characteristics and their Likert scale responses.

We planned a priori and tested for differences between the Likert scale scores for usefulness of GHC and PC research reports, using the Wilcoxon matched pairs signed-rank test, 2-tailed with

$\alpha = 0.01$. We used this nonparametric test for the expected non-Gaussian distributions and nonequidistant scale of the Likert scores. We planned 5 comparisons and selected $\alpha = 0.01$ to account for multiple tests. Calculations were done with Excel and Statistics Test Calculator (Statistics Kingdom, Melbourne, Australia, http://www.statskingdom.com).

To describe the comments, we used a template analysis procedure[12] parallel to that of our earlier survey of PC researchers.[10] Our initial template was based on the categories we identified in that survey. The coding team included an experienced family medicine clinician-researcher (WR, US), an early career practicing family physician with research PhD (LS, Australia), and a public health university student (AY, US).

After a validation round of coding by 2 readers on 30 comments, we categorized the comments of all respondents, with each comment reviewed by at least 2 team members and discussions to resolve differences. Using an iterative process, we added or combined categories to include concepts that emerged from the comment data. We had final feedback on comments and categories from all authors.

This study was granted a waiver by the Human Subjects Division of the University of Washington, Seattle. Participants gave informed consent before they proceeded with the survey. The survey was anonymous, open, and offered no incentive.

Results

Our survey yielded 320 responses, of which 252 met the PC practitioner inclusion criterion and form our study group. They came from across 29 nations, with 55% (117) from North America and 20% (42) from Europe (Table 1); 55% (121) were women. Most were physicians, 88% (195), of which 88% (144) were family physicians (FPs)/general practitioners (GPs). Other professional groups included nurses and nurse practitioners, 5% (11), and physician assistants, 3% (7). Years of experience varied widely. Online questionnaire completion rate was 76%, with mean completion time of 18 minutes.

Accessing Research Reports

Almost all respondents reported they access GHC research frequently; 71% (180) reported every week

Table 1. Characteristics of Survey Respondents

	Number	%
Total	252	100
Gender* (n = 221 answering)		
Male	98	44
Female	121	55
Other gender categories	2	1
Not answered	31	
Nationality* (n = 214 answering)		
United States of America	93	43
Netherlands	28	13
South America	17	8
Canada	15	7
Australia	15	7
Africa	13	6
North America (Caribbean)	9	4
United Kingdom	8	4
Asia	7	3
Europe (other)	5	2
Oceania (other)	4	2
Not answered	38	
Primary profession*† (n = 221 answering)		
Physician	195	88
Nursing and nursing practice	11	5
Educator	9	4
Physician assistant	7	3
Public health	7	3
Scientist	5	2
Administration	5	2
Clinical psychology	4	2
Social work	4	2
Pharmacy	3	1
Behavioral science	1	1
Other	6	3
Not answered	31	
Type of physician* (n = 163 answering)		
Family medicine/general practice	144	88
Internal medicine	14	9
Pediatrics	4	2
Other	1	1
Not answered	89	
Years since completion of professional training (n = 184 answering)		
0–9	61	33
10–19	54	29
20–29	49	27
30–39	18	10
40–49	2	1
Not answered	68	

Online survey 2019. n = 252.
*Options are displayed here in rank order, not as presented on the questionnaire.
†More than one option possible.

to every day (Table 2). They access GHC research from a wide variety of sources, with academic journals being most common, 87% (219). Overall, 41% (104) reported they read original GHC research reports in academic journals weekly or daily. Other common sources include clinical practice guidelines, newspapers, and informal discussions with colleagues. When considering just PC research, respondents access reports a little less frequently; 33% (77) did so weekly or daily.

Usefulness of Research Reports

The percent of respondents who reported that published reports of GHC research meet their needs "frequently" or "always" ranged from a high of 56% (133) for understanding the take-home message, to a low of 17% (39) for changing clinical practice. Across all 5 listed uses of research, a mean 31% of practitioners reported that GHC reports meet their needs "frequently" or "always" (Table 2).

When considering the subset of PC research, higher percentages of respondents found that published reports meet their needs "frequently" or "always," ranging from a high of 63% (151) for understanding the take-home message to a low of 18% (43) for changing clinical practice. Across all 5 listed uses, a mean 36% of practitioners reported that PC research reports meet their needs "frequently" or "always" (Table 2).

Practitioners rated PC research reports more often useful than GHC reports for every use except critical appraisal of study quality. Differences were small but statistically significant. (See Appendix 2 for details of the statistical tests and findings.)

Comments and Suggestions

Overall, 60% (141/252) of respondents offered comments, including those from non-English-speaking countries, both in Europe and North America (16/27) and from other regions (22/35).

Comments are organized into categories and subcategories, summarized in Table 3, with exemplar quotations from a variety of respondents.

Practitioner respondents emphasized that PC practice and research is different from in other medical and health fields in important ways.

"Patients and PC research are not the same as subjects in other research. They often have an ongoing history with their FP, other clinician or practice. This can be a big factor in diagnosis, choice of treatment, adherence, and even effectiveness of treatment." (Physician, FP; Ireland; M).

"PC research is much more than health services research applied to primary care. It should involve work on the natural history of common problems, dynamics of care and healing, impact of illness and treatment of patients lives, etc." (Physician, FP; USA; M).

As a result, PC research has distinct perspectives, methods, audiences, and challenges that require different approaches to research reporting.

"FM and PC research often deal with clinician problems and care settings that are more complex than examined in research from other fields. I understand that sophisticated statistical techniques are required for analysis of this kind of work. However, the audience for research reports is not other statisticians and methodologists, but practitioners and their pts." (Physician, FP; Canada; F).

"I would like to see primary-care researchers, particularly, go beyond the usual "more research is needed" when discussing the findings and implications of their work. This would stimulate more thoughtful practice and scholarship." (Physician, FP; USA; M).

The overall message was the need for more information in research reports on the context of the research.

"Research reporting should be reported by taking into account practicality, usefulness, and the contextual nature of the environment of the practicing doctor." (Physician, FP; Malaysia; M).

"I see studies that claim would be "PC research," but I don't have enough information about either the practitioners or the patients to know if this really meets any definition of PC (let alone looks like my practice and community)." (Nurse; USA; F).

PC practitioners want to be involved in research, including reporting, and would like more time, training, and team involvement to help research reports be more applicable to PC practice.

"It would be helpful for the academic community to come to our office, not the FM clinic down the hall, and ask us what we need and how they can help." (Physician, FP; USA; M).

"Research universities should have liaisons to connect practicing primary care clinicians to researchers when they have ideas that may further research." (Physician, specialty not given; USA; F).

Table 2. Respondent Ratings of Access to General Health Care and Primary Care Research

How Often Do You Access Information about General Health Care Research? (n = 252 Answering)

Never n (%)	Few Times/Year n (%)	Once/Month n (%)	Once/Week n (%)	Few Times/Week n (%)	Daily n (%)	No Answer n
1 (0.4)	11 (4.4)	22 (8.7)	38 (15.1)	102 (40.5)	78 (30.9)	0

Where do you learn about general health care research?*† (n = 252 answering)

	Number†	%
Academic journals (original articles)	219	86.9
Clinical practice guidelines	200	79.4
Newspapers	149	59.1
Informal discussions with colleagues at work	147	58.3
Medical newspapers and magazines	132	52.4
Summaries in academic journals	133	52.8
Summaries of research (ie, clinical PEARLS)	111	44
Social media including Facebook and Twitter	73	29
Blogs on the Internet	60	23.8
Podcasts about research or clinical practice	49	19.4
Journal clubs	44	17.4
Pharmaceutical company representatives	26	10.3
Other	23	9.1
Guidelines from professional organizations	0	0
Not answered	0	0

How often do you read original general health care research reports in academic journals? (n = 252 answering)

Never n (%)	Few Times/Year n (%)	Monthly n (%)	Weekly n (%)	Daily n (%)	No Answer n
6 (2.4)	51 (20.2)	91 (36.1)	87 (34.5)	17 (6.7)	0

How often do general health research reports deliver what you need to:

	Rarely n (%)	Sometimes n (%)	Frequently n (%)	Always n (%)	No Answer n	Mean††
Understand the take-home messages	6 (2.5)	97 (41.1)	118 (50)	15 (6.4)	16	2.60
Apply findings to your patients, practice, and community	28 (11.9)	132 (55.9)	71 (30.1)	5 (2.1)	16	2.23
Change your clinical practice	55 (23.5)	140 (59.8)	36 (15.4)	3 (1.3)	18	1.94
Critically appraise study quality	38 (16.4)	125 (53.9)	54 (23.3)	15 (6.5)	20	1.94
Consider further scholarship/research in your own context	95 (41.1)	96 (41.6)	33 (14.3)	7 (3)	21	1.79

How often do you read original primary care research reports in academic journals?

Never n (%)	A Few Times/Year n (%)	Monthly n (%)	Weekly n (%)	Daily n (%)	No Answer n
2 (0.9)	56 (23.8)	100 (42.5)	70 (29.8)	7 (3)	17

Continued

Table 2. Continued

How often do primary care research reports deliver what you need to:

	Rarely n (%)	Sometimes n (%)	Frequently n (%)	Always n (%)	No Answer n	Mean[††]
Understand the take-home message(s)	3 (1.3)	81 (36)	118 (52.4)	23 (10.2)	27	2.72[§]
Apply findings to your patients, practice, and community	11 (4.9)	102 (45.7)	98 (43.9)	12 (5.4)	29	2.50[§]
Change your clinical practice	28 (12.5)	154 (68.7)	38 (17)	4 (1.8)	28	2.08[§]
Critically appraise study quality	31 (14.2)	125 (57)	53 (24.2)	10 (4.6)	33	2.19
Consider further scholarship/research in your own context	57 (25.7)	118 (53.1)	41 (18.5)	6 (2.7)	30	1.98[§]

Online survey 2019. n = 252.
*More than one option possible.
[†]Options are displayed here in rank order, not as presented on the questionnaire.
††Four-point Likert scale: 1 = rarely, 2 = sometimes, 3 = frequently, 4 = always. See Appendix 2 for differences between ratings of general health care (GHC) and primary care (PC) research reports.
§Significant difference in distributions of Likert scale scores, with PC scores higher than GHC scores, by Wilcoxon matched pairs signed-rank test, 2-tailed, alpha = 0.01. See detail in Appendix 2.

"Also engaging more practitioners in research would help. In that way, more practitioners would learn the language of research." (Physician, FP; researcher; Netherlands; M).

"Research reporting should be reported by taking into account practicality, usefulness, and the contextual nature of the environment of the practicing doctor." (Physician, FP; Malaysia; M).

Several respondents commented that added guidance could improve the value and usefulness of research reports, and they supported the development of PC research reporting guidelines.

"Developing a standard format of doing this report would help all primary care clinicians." (Physician, FP; Nigeria; M).

"CRISP is a great idea and I am happy you are asking clinical practitioners." (Physician, FP; South Africa; M).

Most comments across the variety of practitioner respondents paralleled the concerns voiced by the professional researchers in our previous survey, as displayed in the categories in Table 3.[10] However, practitioners added and emphasized several areas beyond the comments made by the researchers.

Practitioner comments added emphasis on building "Culture and Capacity" in PC to strengthen the skills and attitudes needed to sustain research activity, including reporting.

They specifically called for more "Research Training" and "Funding and Infrastructure" to support practitioners in research activities.

In the category of "Planning Research," practitioners added comments on the "Research Team," calling for better reporting of team composition and the involvement of clinicians, patients, communities and others in the research process.

In comments on "Dissemination of Research Findings," practitioners called for improved "Accessibility" of research findings, including establishing a "Clearinghouse" of PC research reports and providing "Summaries" in "Simple Language" accessible and comprehensible to busy clinicians and patients.

In the category of "Implementation of Research," practitioners commented on the need for research reports to provide more information to aid "Implementation in Practice" in 2 complementary areas: (1) "Organization and Management"—report organization and management methods to apply research findings in practice, and; (2) "Clinical Patient Care"—report how findings apply to patient care in practice.

Discussion

Among the international, interprofessional group of PC practitioners we surveyed, most report that they read original research reports frequently, but a majority find that reports do not provide the information they need.

This is the first survey of PC practitioners' use of original reports of GHC and PC research, and it offers the first description of their needs and

Table 3. Categories of Practitioner Comments on Reporting of Primary Care Research

Category
Subcategory
*Summary comment**
◦ "Respondent quotation."

CATEGORY	SUBCATEGORY
CULTURE AND CAPACITY	CULTURE AND CAPACITY *Build primary care culture, skills, and attitudes to sustain research activity, including reporting* ◦ "Also engaging more practitioners in research would help. In that way, more practitioners would learn the language of research." (Physician, FP; Researcher; Netherlands; M)† Research training ◦ "necesita motivar a los jovenes medicos residentes para medicina familiar y asi se involucren en investigacion primaria." (You need to motivate young resident doctors for family medicine and get involved in primary research) (PA; Administration, Clinical Psychology, Public Health, Social Work; Dominican Republic; F) Funding and infrastructure ◦ "Often underresourced in terms of manpower and physical resources." (Physician, FP; South Africa; M)
PLANNING RESEARCH	PLANNING ◦ "Why doesn't every research study done on PC or on some intervention to be implemented in PC have at least one PCP and one PC patient on the research team?" (Nurse; USA; F) Research question *Report the origin of the research question and how it is connected to patient care in practice* ◦ "Studies should arise from research questions that arise from problems of patients in primary care centers" (Physician, FP; Educator; Argentina; F) Research team†† *Report the composition and involvement of the variety of research team members through process of research, eg, practitioners, patients, nurses* ◦ "If and when the research team included: Practitioners, Patients, Community Representatives." (Social Worker; USA; F)
CONTEXT OF PC RESEARCH	CONTEXT *Description of the complex contexts of patients, problems, and practice* Clinicians *Description of clinicians, teams and how they are organized* ◦ "There are many models of delivering behavioral health to PC patients. We need more info on types of providers and how they are integrated into PC practice." (PA; USA; M) ◦ "When there is a multiprofessional team working on the intervention, the researchers need to make clear the interactions among the team members. Who sees the pt first; who administers the test or treatment; when do non-MDs refer to MDs, etc. Team members often have different roles in pt care and should be reported separately." (Physician, Pediatrics; Nation N/A; F) Patient population *Description of patients and populations in practice and community-based research* ◦ "To understand the impact of the research study, I need to know more than is usually reported about who the patients are, beyond the usual age/sex." (Physician, FP; Nation N/A; Gender N/A) Problem studied *Recognition and description of illness as it occurs in PC* ◦ "There is still too much single-diseased research in general including primary care that ignores treatment burden across diseases." (Physician, FP; Nation N/A; M) Relationships *Recognition and description of the relationships among patients, families, clinicians, and other members of PC teams* ◦ "What their relationship is: continuity pts? How long? First visit? Referred or primary?" (FP; Physician; Nation N/A; Gender N/A) ◦ "Researchers should collect and report information about the relationship between patients and clinicians in describing their research" (Physician, FP; Ireland; M) Types of interventions *Description of pragmatic and complex interventions in PC* Healthcare setting (includes medical records) *Recognition and description of the complex settings of care and work in PC* ◦ "Major quality, major information about ambulatory setting." (PA; Public Health; Argentina; F)

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Table 3. Continued

CATEGORY	SUBCATEGORY
RESEARCH METHODS	METHODS *Presentation of the underlying theory behind the research* Analytic methods ◦ "I would like to see research reports describe in their method sections more explanation of why certain statistical techniques are chosen." (Physician, FP; Canada; F) Study methods ◦ "Method sections often describe measures—like patient outcome measures—which appear to be research tools that we do not use in clinical practice. I want to have some information on the clinical validity of these tools in PC before I accept them as validated research tools. Many come from specialty researchers." (Physician, FP; USA; F)
DISSEMINATION OF RESEARCH FINDINGS	DISSEMINATION *Presentation of findings in accessible and comprehensible way to patients and communities affected* Accessibility†† *Presentation of findings in accessible and comprehensible way to PC clinicians* ◦ "Easier access to online journals." (Physician, FP; Jamaica; M) ◦ "'Open access' seems to be a fraud—it's not open to me. It often means that I cannot get access to some study I'm trying to find, even if it was linked from a newsletter or other pub aimed at practicing GPs. Sometimes you can go through a university or some other linkage, but this is not user-friendly or available at point of care. Is just another speedbump between research and practice." (Physician, IM; Canada; M) Audience ◦ "I think that an audience for primary care research is patients. As such the reporting should be patient-centered." (Physician, FP; USA; F) Clearinghouse function†† ◦ "Centralized repository list with links that is regularly updated and available on the major FM websites." (Physician, FP; USA; F) Publication process *Adequate space to describe PC research methods, results. and context* ◦ "By making it easier to publish findings and helping researchers to communicate their findings." (Physician, FP; Researcher; Netherlands; M) Reporting guidelines *Guidance from PC research reporting guidelines that are different than currently exist* ◦ "Developing a standard format of doing this report would help all primary care clinicians." (Physician, FP; Nigeria; M) Research reporting ◦ "I would like to see research reports describe in their method sections more explanation of why certain statistical techniques are chosen." (Physician, FP; Canada; F) Simple language†† ◦ "Succinct reporting." (Physician, FP; Educator; Australia; F) ◦ "Short and direct to the point." (Physician, FP; Brazil; F) ◦ "Incorporate simple language summaries" (Physician, FP; Educator; Nigeria; M) Summarize†† ◦ "The focus should be on applicability in 3 short sentences that summarize the findings." (Physician, FP; Denmark; F) ◦ "Work on providing summaries of a body of research. A single research paper is almost never worthy of changing practice (and hence seldom time efficient for me to read) unless it is a large and particularly well-done RCT." (Physician, FP; Canada; M)
IMPLICATIONS OF RESEARCH FINDINGS	IMPLICATIONS *Richer discussion of implications for research, practice, education, and policy* ◦ "Specifically a statement as to how this could be used to change clinical practice activities." (Physician, FP; USA; M) Generalizability *Description of the context in sufficient detail to assess generalizability to variety of PC contexts* ◦ "This means that findings/results of research should always be placed in the context of primary and community care." (Physician, FP; Netherlands; M) ◦ "Research in the primary care setting is different from hospitals in that the population is bigger with healthier persons, thus it is more difficult to prove something works. This fact frustrates the introduction of practices that are proven effective in hospital care but don't get access to the primary care healthcare." (Physician, FP; Netherlands; M) Impact†† ◦ "Consider the impact of recommendations when added to other likely protocols/ guidelines." (Physician, FP; Canada; F) Relevance *Demonstration that researchers and authors have grounded understanding of PC*

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Table 3. Continued

CATEGORY	SUBCATEGORY
	◦ "Research reporting should be reported by taking into account practicality, usefulness, and the contextual nature of the environment of the practicing doctor. For example, there is no reason for an expert panel to report about a conceptual framework that is pure conjecture (or based on available research but has no relevance to the clinical climate of most practitioners)." (Physician, FP; Researcher, Public Health, Behavioral Science; Malaysia; M)
	◦ "PC research should call out that it is done in/by/for PC, so we can focus our limited time on reading those studies that are most likely to be helpful to us and our pts." (Social Worker; USA; F)
IMPLEMENTATION OF RESEARCH	IMPLEMENTATION
	Description in details sufficient for implementation, application, and translation
	Implementation in practice—organization and management††
	Report organization and management methods to apply research findings in practice.
	◦ "The problem is not individual reports but rather the need for impartial processes of integrating a particular report into clinical decision support, which is the current and likely future interface between research and actual care delivery." (Physician, FP; New Zealand; F)
	Implementation in practice—clinical patient care††
	Report how findings apply to patient care in practice
	◦ "State what is new and its application in patient care." (Physician, Specialty N/A; Nigeria; M)
ETHICAL ISSUES	ETHICAL ISSUES
	Authorship
	Description of contributions among large, multidisciplinary collaborative author groups
	◦ "Do non-MDs and non-researchers get their due credit when the paper is finally published? In family medicine research, I often see that they do." (Social Worker; USA; F)
	Conflicts of interest—"competing interests"
	Information to help readers better assess potential conflicts of interest
	Ethical research

Online survey 2019. n = 252.
*"In what ways could PC research reporting be improved?"
†Respondent identification: (profession, medical specialty; research roles; nation; gender).
††Categories emerging from practitioner comments that were not emphasized in survey of researchers.
F, female; FM, family medicine; FP, family physician or general practitioner; IM, internal medicine; M, male; N/A, data not available; PA, physician assistant; RCT, randomized controlled trial.

suggestions for improvement in PC research reporting. Practitioners access research reports weekly or daily, suggesting active use of evidence in clinical PC practice. They recognize distinct needs for PC research and reporting. As might be expected, they generally found PC research reports to be somewhat more useful than GHC reports. These findings emphasize the potential for improved practices for reporting of PC research.

For both GHC and PC research, practitioners found that reports were least often useful for changing clinical practice. This may reflect the low fraction of published studies directly relevant to patient care decisions, the difficulties adapting findings to local practice populations and settings, and the high standards clinicians have for evidence to compel changes in established practices.

These PC practitioners—at least our respondents who are likely more avid readers of research than typical busy PC clinicians—report frequent reading of original research reports even though they find that current reports often fail to meet their needs. We asked about 5 important uses for research, but these readers may find reports useful for other purposes or across all uses in aggregate. It may also reflect their general interest in research relevant to PC or a commitment to scholarship.

PC practitioners in this survey expressed largely the same needs that we heard from a more general group of PC researchers in our previous survey.[10] Comments were similar across nations, professions, and research roles. They reflect fundamentals of PC: context, communication, relationships, care, and practicality. Practitioners' suggestions went beyond those of the researchers, adding emphasis on better reporting about research teams and more details on the implementation of interventions in the study protocol and on translation of the research findings in clinical practice. Practitioners also added recommendations to develop more capacity for research and its reporting and to improve ease of access to research findings.

Although our questions were focused on reporting, practitioners emphasized that reporting can only occur when time, resources, and capacity are present for the larger enterprise of PC scholarship. This mirrors other research that recognizes the need for more specific research capacity in PC.[1]

Making PC research reports more valuable to practitioners is essential if we are to empower the translation of new knowledge into improved patient care and health outcomes through more effective application of findings into routine PC practice.[13]

These findings add to the growing literature recognizing opportunities to improve reporting across a variety of research fields.[14] We do not suggest that the reporting of PC research is more or less effective than for GHC research or other fields. Our goal is to help improve the reporting of PC research to make new knowledge more helpful to readers, researchers, practitioners, and patients.[10] Improving reporting of these issues of particular concern in PC—context, implementation, relationships, and applicability—might offer approaches to improving the reporting of all health research.

This study is limited by its use of an online survey, snowball sampling, Likert scales, and short free-text responses. Likert scales can be blunt measures, but we did not observe ceiling effects. Our questions about how often reports "Deliver what you need" may not be the most sensitive measure of user satisfaction. Short-form comments do not provide deep understanding of respondent concerns. However, we had 309 free-text responses from these practitioners, with the breadth and depth of comments from professional researchers in our earlier survey.[10]

Our snowball sampling process was successful in generating broad participation, but the respondents cannot be considered representative of the population of PC practitioners. Our respondent group was interprofessional but mostly physicians; interspecialty but mostly FPs and GPs; international but mostly from North America and Europe. Other PC practitioners were not as well represented. We have no way to test how representative the respondents are of such a dispersed population of PC practitioners. Respondents may be more likely than typical practitioners to be active readers of original research reports, more involved in research and scholarship in their practices, and possibly connected by professional networks.

Our survey and sample may emphasize the use of research published in English. Our data rely on practitioner self-report and may risk social acceptability bias. We were not able to assess how often research findings were actually used in practice or influenced patient care or outcomes. Others have studied important questions about how practitioners use research in answering clinical questions at the point of patient care.[15] We asked about research reports published in journals. Further study of other dissemination strategies is needed to make research findings most accessible and useful to the variety of PC clinicians working across the spectrum of PC settings.

Practitioners want opportunities for more involvement in research and reporting. They need reports that deliver more information and on studies, interventions, and findings to enable them to apply new knowledge in practice, caring for their patients and serving their communities.

Using data from this practitioner survey and our completed survey of PC researchers,[10] we plan to conduct a Delphi study to identify a consensus list of items to provide guidance to help optimize the reporting of PC research.

Conclusions

PC practitioners frequently access original health research in academic journals but find that published research reports often fail to meet their clinical needs. Compared with GHC research reports, they access PC research reports slightly less often but find them useful more often. PC practitioners recognize distinct challenges and needs for PC research reporting that are different from those of GHC research. They call for better reporting of the context of patients, problems, and setting of care; more information on clinician-patient and team relationships; and better assessment of the generalizability and applicability of study findings in the great variety of PC practice settings. They want reports that make research findings more accessible, readable, and understandable to patients and partners in research and practice. These findings suggest that added guidance could help make research reports more useful for a variety of practicing PC clinicians.

We thank our colleagues around the world who completed and helped disseminate this survey.

To see this article online, please go to: http://jabfm.org/content/34/3/648.full.

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Appendix 1. CRISP Practitioner Questionnaire

We are conducting this brief survey to understand the views of clinicians about the reporting of primary care research. We need your expertise and opinions about the ways researchers could improve the way they report the research they do in, on, and about primary care. The results of this survey will help our CRISP team to inform an international Delphi study to develop consensus guidelines for reporting primary care research.

Your responses to this survey will be anonymous. Your participation is entirely voluntary, and you can skip any questions or quit at any time. This study has been reviewed and exempted by the Human Subjects Division of the University of Washington, Seattle, WA, USA.

After completing this short questionnaire, you will have the opportunity to volunteer to be an important part of our Delphi Group, which will work to develop a consensus list of reporting items in primary care.

Thank you.

Co-Conveners, CRISP

Do you spend most of your working week as a **clinician in primary care**?

- Yes
- No

For the purposes of this study, **health care research** includes all research on patients, health care systems, and public health.

How often do you access information about **health care research**? Please consider all sources of information (eg, journals, blogs, newspapers, magazines).

- Daily
- A few times a week
- Once a week
- Once a month
- A few times a year
- Never

Where do you learn about **health care research**? Select all that apply.

- Academic journals—original articles
- Newspapers
- Medical newspapers and magazines
- Blogs on the Internet
- Summaries in academic journals
- Social media including Facebook and Twitter
- Pharmaceutical company representatives
- Journal clubs
- Clinical practice guidelines
- Guidelines from professional organizations
- Podcasts about research or clinical practice
- Summaries of research (eg, clinical PEARLS)
- Informal discussions with colleagues at work (eg, lunchroom or tearoom)
- Other

How often do you read original **health care research** reports in academic journals?

- Daily
- Weekly
- Monthly
- A few times a year
- Never

How often do **health care research** reports deliver what you need to:

	Rarely	Sometimes	Frequently	Always
Understand the take-home message(s)				
Apply findings to your patients, practice, and community				
Change your clinical practice				
Critically appraise study quality				
Consider further scholarship/ research in your own context				

We are interested to learn if you find that **primary care research** is reported differently than general health care research. "Primary care research" is a subset of health care research that focuses on primary care patients, clinicians, problems, and settings of care.

How often do you read original **primary care research** reports in academic journals?

- Daily
- Weekly
- Monthly
- A few times a year
- Never

How often do **primary care research** reports deliver what you need to:

	Rarely	Sometimes	Frequently	Always
Understand the take-home message(s)				
Apply findings to your patients, practice, and community				
Change your clinical practice				
Critically appraise study quality				
Consider further scholarship/ research in your own context				

In what ways could **primary care research** reporting be improved?

Please share any other comments you have regarding the reporting of primary care research.

Gender

- Woman
- Man
- Non-binary/third gender
- Prefer to self-identify
- Prefer not to answer

Nation of primary practice: [pull-down menu]

What is your primary profession?

- Administration
- Behavioral Science
- Clinical Psychology
- Counsellor
- Dentistry/Oral Health
- Educator
- Nursing and Nursing Practice
- Occupational Therapy
- Pharmacy
- Physician
- Physician Assistant
- Physiotherapy
- Public Health
- Social Work
- Scientist, please specify type:
- Other

What type of physician are you?

- Addiction Medicine
- Adolescent Medicine
- Emergency Medicine
- Family Medicine/General Practice
- General Surgery
- Geriatrics
- Internal Medicine
- Internal Medicine—Subspecialty
- OB-GYN
- Pediatrics
- Pediatrics—Subspecialty
- Psychiatry
- Sports Medicine
- Surgery—Subspecialty
- Other

Number of years since completion of professional clinical training: _____

Appendix 2. Differences between Practitioner Ratings of Usefulness of Primary Care and General Health Care Research Reports

Question How often do research reports deliver what you need to:	GHC Research Reports Mean SD SEM	PC Research Reports Mean SD SEM	n Pairs	Difference* PC - GHC Usefulness Scale Z	 *P* value
Understand the take-home message(s)	2.60 0.65 0.04	2.72 0.66 0.04	225	−2.77	*P* = .0056
Apply findings to your patients, practice, and community	2.25 0.68 0.05	2.50 0.68 0.05	222	−5.24	*P* < .0001
Change your clinical practice	1.96 0.67 0.04	2.08 0.60 0.04	223	−3.34	*P* = .0008
Critically appraise study quality	2.18 0.79 0.05	2.20 0.73 0.05	218	−0.25	*P* = .80
Consider further scholarship/research in your own context	1.80 0.80 0.05	1.98 0.75 0.05	220	−3.73	*P* = .0002

Online survey 2019. n = 252.
*Wilcoxon matched pairs signed-rank test, 2-tailed, alpha = 0.01.
GHC, general health care; PC, primary care; SD, standard deviation.