

The contribution of qualitative research to the development of tailor-made community-based interventions in primary care: a review

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Background: In recent years, a trend in the use of tailor-made approaches and pragmatic trial methodology for evaluating effectiveness has been visible in programs ranging from large-scale national health prevention campaigns to community-based initiatives. Qualitative research is used more often for tailoring interventions towards communities and/or local care practices. This article systematically reviews the contribution of qualitative research in developing tailor-made community-based interventions in primary care evaluated by means of the pragmatic trial methodology. **Methods:** A systematic search of Pubmed/Medline and Embase revealed 33 articles. Using a literature mapping process, the articles were arranged according to the development phases identified in the MRC framework for the development of complex interventions to improve health. **Results:** The review showed qualitative research is mainly used to provide insight into the contextual circumstances of the interventions' implementation, delivery and evaluation. To a lesser extent, qualitative research findings are used for tailoring and improving the design of the interventions for a better fit with daily primary care practice. Moreover, most qualitative findings are used for tailoring the interventions' contextual circumstances so that the interventions are performed in practice as planned, rather than adjusted to local circumstances. **Conclusions:** Pragmatic trials seem to be oxymoronic. Although the pragmatic trial methodology establishes the effectiveness of interventions under natural, non-experimental conditions, no pragmatic fit is allowed. Qualitative research's contribution to the development of tailor-made community-based interventions lies in providing ongoing evaluations of the dilemmas faced in pragmatic trials and allowing for the development of true tailor-made interventions.

Keywords: developing tailor-made community-based interventions, pragmatic trials, primary care, qualitative research, tailor-made approach.

Introduction

In recent years, a trend is visible in programs ranging from large-scale national health prevention campaigns to community-based initiatives. There is a growing notion that interventions need to be directed at specific communities in society and should to be tailored to the specific health problems and needs of these communities.¹ In fact, it is believed that uniform and standard interventions—which are applicable to the whole population—will not diminish inequalities in health.

These tailor-made approaches demand a different manner for establishing the effectiveness of interventions. Conventional RCTs are not considered appropriate for evaluating complex community-based interventions because of the rigidity of their designs and their perceived preoccupation with measuring outcomes, rather than the process in care practices.² Pragmatic randomized controlled trials that establish the effectiveness of interventions under routine conditions—also known as pragmatic RCTs or pragmatic trials—are presented as an alternative.³ In order to evaluate the effectiveness of interventions, conventional RCTs require

that interventions are standardized, implemented uniformly among sites and target a homogenous patient population. These requirements, however, do not always match the complex character of routine care. In contrast, pragmatic trials allow interventions to incorporate variations in practice at the different sites and for targeting a heterogeneous patient population.

A recent trend is the use of qualitative research in conjunction with pragmatic trials. Various authors have argued that qualitative research can have a valuable contribution to quantitatively oriented research designs like pragmatic trial research, as it enables making appropriate adjustments during intervention development, for making interventions more sustainable, with a better fit to the communities and/or local care practices.⁴ The combination of methods is perceived to be the best strategy for developing and evaluating interventions that fit and reflect primary care practice. For example, medical interventions and/or technologies can be tailored and improved through the understanding of the dynamics and complexity of care practices qualitative research leads to.⁵ However, how qualitative research actually contributes to the development of community-based interventions remains largely unexplored. Therefore, this article aims to review the contribution of qualitative research to developing community-based interventions in primary care evaluated by means of the pragmatic trial methodology.

Methods

For this review, we searched the Pubmed/Medline database and the Embase database for editorials, reviews, meta-analyses, RCTs, case reports, controlled clinical trials, evaluation studies written in English. We searched these databases for articles

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published until June, 2007, without establishing a starting point. We did restrict our search to pragmatic trials performed within primary care, which is a good example of a health-care setting in which tailor-made, community-based interventions are conducted. Primary healthcare provides 'heterogeneous medical services', by means of 'different (para)medical disciplines' coordinated for a 'heterogeneous patient population'.⁶ For the search we used various combinations of the keywords: pragmatic trial, pragmatic randomized controlled trial, pragmatic RCT, clinical trials, qualitative research, ethnography, evaluation studies, program evaluation, primary care, general care, primary healthcare, primary nursing care, family practice, routine care, community care, general practice, family physicians, GP care, health promotion, health education, preventive health services, both MeSH and free text. Based upon title and abstract, 239 articles returned in the search were considered relevant. However, because of a large heterogeneity in articles, it was necessary to narrow the inclusion criteria. We excluded articles that did not refer to how qualitative research was used in the development of the interventions. We critically assessed articles on the presence or absence of empirical data hereon. At this point, viewpoint papers, theoretical and methodological discussions or description papers were excluded unless they were considered to make a special contribution to the review. Articles were excluded from this review if the articles:

- (i) Reported on pragmatic trials or RCTs performed in routine primary care without the explicit indication of having also used qualitative research or when they did report on the use of qualitative research but did not present evidence on its contribution to the trials and/or the development of interventions.
- (ii) Reported on evaluation studies other than RCTs or pragmatic trials performed in routine primary care, e.g. evaluations of general organizational and/or care reform initiatives in primary care induced by national policy recommendations.
- (iii) Reported on community interventions that were evaluated by means of RCT or pragmatic trial designs combined with qualitative research, but not conducted in primary care or in particular GP care, e.g. articles that reported on trials performed in hospital emergency departments, maternity clinics, physiotherapy clinics, mental health services, community care services, psychiatry, geriatrics and rehabilitation departments.
- (iv) Reported on qualitative studies performed in primary care without the explicit indication that these were performed within the context of a pragmatic trial or an RCT in routine primary care.
- (v) Published the research protocols of RCTs or pragmatic trials to be performed in routine primary care, in which qualitative research is intended to be used, but which do not yet provide empirical evidence on the contribution of qualitative research.
- (vi) Did not report on empirical evidence but had general methodological content, e.g. articles that described the general characteristics of mixed methods research such as the order, the quality of the different data sets, and the methodological strengths and weaknesses of mixed methods research projects.
- (vii) Reviewed literature on the effectiveness of treatments and/or health services in primary care, in which RCTs, pragmatic trials and qualitative studies were included, but did not report on the contribution of qualitative research to RCTs or pragmatic trials in primary care.
- (viii) Reported on drug treatments being evaluated by means of RCT or pragmatic trial design in combination with qualitative research, but which were not performed in primary care.

As a result of this exclusion process, 33 articles were included in this review. We applied a literature mapping process⁷ based upon the MRC framework for the development of complex interventions to improve health.⁸ According to the MRC framework, the development cycle of new interventions consists of six sequential phases: the exploration of relevant theory, modelling the preliminary interventions, pilot-testing the preliminary interventions, evaluating the definite interventions and evaluating the long-term implementation of interventions. We used these development phases to arrange the literature and analyze the contribution of qualitative research in developing interventions tested in pragmatic trials. Because only a small number of articles ($n=3$) report on the contribution of qualitative research to the selection and modelling of interventions, we combined the theory and modelling phases in our analysis.

Results

The features of the studies we reviewed are summarized in Table 1.

Exploring relevant theory and modelling preliminary interventions

Although, we consider qualitative research findings to be relevant for exploring relevant theory, none of the included articles refer to the use of qualitative research for selecting intervention components. Yet, three of the included articles report on the use of qualitative research for the refinement of intervention components.⁹⁻¹¹ Qualitative research findings can be used either to refine the components of the interventions or to tailor intervention procedures toward the local circumstances of primary care practices. In one article, information from semi-structured interviews, questionnaires and panel interviews with diabetic patients and health-care professionals was used to refine the components of a self-management programme and tailor it to the wishes and perceived needs of the target population people with type 2 diabetes.¹¹ Yet, qualitative research on the circumstances of practice seems to provide more possibilities for adjustment. In two studies, individual and focus-group interviews generated information on practice conditions,¹⁰ as well as on the barriers or facilitators to guideline implementation and changing professional practice that might impede the intervention being carried out as planned.⁹ Both Corrigan *et al.* and Flottorp *et al.* indicated that their findings provided an analysis of the possible obstacles to implementation of the guidelines under study; the articles failed to provide information on how the intervention was modelled towards these obstacles.

In summary, qualitative research in the modelling phase is used foremost to tailor interventions to the specific primary care settings in which they will be applied. It offers suggestions for tailoring interventions to anticipated new conditions and routines of the primary care centres by providing an inventory of the possible barriers that may impede interventions in primary care from being carried out as planned.

Pilot-testing preliminary interventions

Qualitative research in a pilot study provides information on whether or not the preliminary interventions correspond with the anticipated practice conditions and routines that have been previously identified. It also evaluates whether or not the anticipated effects are generated when performed under routine conditions. Based upon this information, any

Table 1 Features of studies reviewed

References	Applied in intervention development phase	Qualitative research methods used	Information generated	Contribution to development of interventions
Sturt <i>et al.</i> ¹¹	Modelling	Semi-structured interviews, questionnaires and panel interviews with diabetic patients and health-care professionals	Information on current self-management activities among patient, their preferred content and needs for additional support and information of primary care professionals on perceived suitability of the set-up of the programme	Tailoring intervention towards target population
Flottorp <i>et al.</i> ⁹	Modelling	Focus-group and semi-structured interviews with health-care professionals	Information about barriers or facilitators to guideline implementation and changing professional practice	Tailoring intervention towards obstacles
	Pilot	Semi-structured interviews with health-care professionals	Information on the administration of the preliminary intervention, experiences with delivery and participation in project and perceived effects	Alteration of professional behaviour; tailoring practice towards intervention modelled
Corrigan <i>et al.</i> ¹⁰	Modelling	Semi-structured individual and focus-groups interviews with patients and staff	Information on barriers identified by patients and staff and practice conditions that may impede upon intervention being carried out as planned	Tailoring intervention towards practice conditions identified
	Pilot	Semi-structured individual and focus-group interviews	Information on experiences with delivering, receiving and participation in project and perceived effects	Tailoring intervention procedures to practice
Clavarino <i>et al.</i> ¹²	Pilot	Focus-group interviews with consumers and health-care professionals	Information on perspectives on process of colorectal cancer screening, experiences with methods of service delivery, kit characteristics and perceived impact	Alteration of professional behaviour; tailoring practice to new method of screening
Moffatt <i>et al.</i> ¹³	Pilot	Semi-structured interviews with participants	Information on participants' views on intervention, outcomes, acceptability and research process	Adjustment of surrounding evaluation/pragmatic trial
Moffatt <i>et al.</i> ¹⁴	Pilot	Semi-structured interviews with participants	Information on participants' views on intervention, outcomes, acceptability and research process	Adjustment of surrounding evaluation/pragmatic trial
Rousseau <i>et al.</i> ²⁴	Definite	Qualitative interview study with primary care professionals	Insights into attitudinal and contextual influences on the use of computerized decision support	Assessment of implementation and delivery of intervention to explain effects
Getrich <i>et al.</i> ²⁵	Definite	Ongoing ethnographic research with participant observations and semi-structured interviews with intervention participants	Information on impact of practice characteristics on the fidelity of participants to the intervention	Assessment of implementation and delivery of intervention to explain effects
Harrison <i>et al.</i> ²⁹	Definite	Qualitative interviews with GPs	Information on attitudes to guidelines, practice information, processes and aspects of practice 'culture' and experiences with delivering the intervention	Assessment of implementation, delivery and perceived effects of intervention to explain effects
Smith <i>et al.</i> ³²	Definite	Focus-group discussions with diabetic patients	Information on patients' views and experiences with diabetic service change	Assessment of delivery and perceived usefulness of intervention to explain effects
Rogers <i>et al.</i> ³¹	Definite	Semi-structured interviews with patients	Information on patients' experiences with a self-help clinic and the processes underlying referral and utilization	Assessment of implementation, delivery and perceived usefulness to explain effects
Backer <i>et al.</i> ¹⁵	Definite	Ongoing ethnographic research with participant observations and semi-structured interviews with primary care staff	Information on interactional patterns among staff, procedures of screening activities and attitudes on and experiences of staff with improvement of service delivery	Assessment of implementation, delivery and perceived usefulness of intervention to explain effects
Bosworth <i>et al.</i> ³³	Definite	Interviews with patients	Information on patients' experiences with receiving the intervention	Assessment of perceived usefulness of intervention to explain effects
Heisey <i>et al.</i> ²³	Definite	Semi-structured interviews with female potential participants	Information on knowledge and attitudes toward chemoprevention of breast cancer	Assessment of perceived usefulness of intervention to explain effects
Légaré <i>et al.</i> ²⁸	Definite	Non-participant observations of workshops directed at primary care staff	Information on the staff's views and perceptions of the intervention	Assessment of perceived usefulness of intervention to explain effects
Rowan <i>et al.</i> ³⁴	Definite	Semi-structured interviews with primary care staff	Information on attitudes of staff on performance assessments of preventive services	Assessment of perceived usefulness of intervention to explain effects
Walsh <i>et al.</i> ³⁰	Definite	Semi-structured focus-group interviews with patients and staff	Information on experiences with administering and receiving the intervention	Assessment of implementation, delivery and perceived usefulness of intervention to explain effects

(continued)

Table 1 Continued

References	Applied in intervention development phase	Qualitative research methods used	Information generated	Contribution to development of interventions
Sennun <i>et al.</i> ³⁶	Definite	Ongoing ethnographic research with observations and semi-structured interviews with community and health officers	Information on experiences with administering and receiving the intervention and attitudes towards improvement of service delivery	Assessment of impact of intervention and change in existing service provision
Shuval <i>et al.</i> ¹⁶	Definite	Focus-group and individual semi-structured interviews with staff	Information on experiences with and attitudes towards EBM and intervention	Assessment of impact of intervention and change in weaknesses of intervention
Burroughs <i>et al.</i> ¹⁷	Definite	Semi-structured interviews with patients and primary care staff	Information on existing care strategies and experiences with and attitudes towards change in service provision	Overview of barriers to change existing in daily care as explanation of intervention's effects
McCormick <i>et al.</i> ¹⁸	Definite	Audiotaped patient-provider communications on alcohol-related discussions	Information on alcohol use and nature of advice offered	Identified patient-provider interactions as barrier to change as explanation of intervention's effects
Weiss <i>et al.</i> ²¹	Definite	Follow-up interviews with patients	Information on patients' attitudes, use of decision aid and the influence of decision aid on decision making	Identified the ability of patients to incorporate behavioural changes into their lives as barrier to change as an explanation of intervention's effects
Bach-Nielsen <i>et al.</i> ¹⁹	Definite	Qualitative interview study with patients	Information on patients' knowledge of health risks and their perceptions on beneficial risk-lowering behavioural change	Identified the ability of patients to incorporate behavioural changes into their lives as barrier to change as an explanation of intervention's effects
Stewart <i>et al.</i> ²⁰	Definite	Semi-structured focus-group interviews with patients	Information on patients' knowledge and beliefs on importance of blood pressure in diabetes	Identified the ability of patients to incorporate behavioural changes into their lives as barrier to change as an explanation of intervention's effects
Heaven <i>et al.</i> ²²	Definite	Semi-structured interviews with GPs, patients and non-participant observations of GP-patient consultations	Information on patients' experiences participation in intervention and research project	Identified the understanding of patients of trial and/or prevention research as an explanation of intervention's effects
Rogers <i>et al.</i> ²⁶	Definite	Observations of the operation of outpatient clinics, qualitative interviews with patients and specialist consultants	Information on the uptake of the self-management system as planned, experiences of professionals, participants and information of the organizational arrangements	Assessment of implementation, delivery and perceived usefulness of intervention to explain effects
Barton <i>et al.</i> ³⁵	Definite	Single semi-structured in-depth interviews with primary caregivers	Information on caregivers' experiences with, attitudes toward and use of written asthma actions plans	Assessment of implementation, delivery and perceived usefulness of intervention to explain effects
Rowlands <i>et al.</i> ²⁷	Definite	Preliminary interviews with doctors and manager and non-participant observations of secondary care referral meetings	Information on the functioning of the practice, organizational context, attitudes and group dynamics	Identified the practice as a complex organization with established group dynamics as barrier to change as explanation of intervention's effects
Rowlands <i>et al.</i> ³⁹	Definite	Personal reflections of researchers conducting evaluation/pragmatic trial	Information on researchers' rationale for dealing with methodological dilemmas during design, implementation and evaluation/pragmatic trial	Description of methodological dilemmas and contextual circumstances of evaluation of intervention/pragmatic trial
Godwin <i>et al.</i> ³⁸	Definite	Personal reflections of researchers conducting evaluation/pragmatic trial	Information on researchers' rationales for choosing intervention, recruitment of participants, randomization procedures and blinding treatment allocation	Description of methodological dilemmas and contextual circumstances of evaluation of intervention/pragmatic trial
Fransen <i>et al.</i> ³⁷	Definite	Personal reflections of researchers conducting evaluation/pragmatic trial	Information on researchers' rationales for choosing intervention, blinding treatment allocation, choosing appropriate study population and choosing essential outcome measures	Description of methodological dilemmas and contextual circumstances of evaluation of intervention/pragmatic trial
Jansen <i>et al.</i> ⁴⁰	Definite	Ongoing ethnographic research with semi-structured interviews and participant-observations of trial researchers and staff-patient consultations	Information on researchers' rationales for dealing with methodological dilemmas during design, implementation and evaluation/pragmatic trial	Description of methodological dilemmas and contextual circumstances of evaluation of intervention/pragmatic trial
Blasinsky <i>et al.</i> ⁴¹	Long-term implementation	Site visits and semi-structured telephone interviews with primary care staff key informants	Information on implementation experiences, perceived and observed changes in professional/organizational culture and information on extent of continuation of intervention as originally modelled	Assessment of sustainability of intervention in daily practice

subsequent adjustments to the interventions can be made before the definite interventions are evaluated for effectiveness.

In one study, qualitative findings were used to tailor the design of a preliminary intervention to improve its workability for the primary care professionals. For example, through reducing the administrative load and increasing the flexibility in patient follow-up, the intervention's procedures were appropriated to existing practice conditions and routines.¹⁰ In five studies, qualitative research was used in this phase to evaluate the actual administration of the preliminary interventions and their fit with anticipated practice conditions and routines. In these studies, both staff and patients were interviewed about their experiences with delivering and receiving the pilot-tested interventions, about taking part in a research project and asked about the perceived effects of the interventions.^{9,10,12–14} The qualitative findings are mainly used to alter the context surrounding the interventions. They are minimally used for improving the design of the interventions.

In the remaining four studies, the qualitative findings were used to alter the contextual circumstances of the interventions. In two studies, attempts were made to alter professional behaviour and to tailor primary care practice towards the modelled interventions, e.g. additional interactive courses and training sessions attempted to change professional practice and increase adherence to the interventions.^{9,12} In the other two studies, the use of qualitative findings led to adjustments of the design of the pragmatic trials that surrounded the interventions and were set up to evaluate their effectiveness. The qualitative interviews used in both studies by Moffat *et al.* generated information to refine the outcome measures for evaluating the definite intervention.^{13,14} In conclusion, qualitative research is mainly used in the pilot-testing phase to adjust the preliminary interventions' contextual circumstances.

Evaluating definite interventions

In 24 of the included articles, qualitative research was used in the definite intervention phase. In this phase, the interventions are considered to be definite and are evaluated for their effectiveness under routine conditions. In this phase, qualitative research is mostly conducted parallel to the pragmatic trials and generates information on the actual performance and the perceived usefulness and impact of the interventions. No adjustments to the interventions are made based upon the information that qualitative research generates, because adjustments are considered to cause difficulties in establishing the effectiveness of the interventions.

Qualitative research is used to assess more thoroughly the contextual circumstances of the interventions' implementation and delivery, and subsequently to explain the effects via process evaluations. Qualitative research exploring the context of interventions' implementation and delivery provides an overview of the barriers to change that exist within the practices.^{15,17} For example, the provider–patient interactions during the intervention,¹⁸ the ability of included patients to incorporate behavioural changes into their lives,^{19–21} or the understanding patients had of trial or prevention research.^{22,23} Four major focal points can be distinguished. First, information about the implementation process is generated, such as how the implementation was affected by the attitudes of participants and the organizational structure of primary care practices.^{24–27} Second, information about the participants' experiences in administering and receiving the interventions in daily practice, as was the case in 10

studies.^{15,23,28–35} Third, the impact of the intervention is explored, such as the extent the interventions had changed the existing provision of services.^{15,16,36} Or finally, qualitative research focuses on the contextual circumstances of the interventions' evaluation of effectiveness.

Four studies presented the methodological issues that trial researchers have dealt with, e.g. choosing the right intervention, the recruitment of participants, randomization procedures and blinding treatment allocation, the contamination of study findings, fidelity of the participants to the intervention and the researchers' rationale for their methodological choices. This information is presented either in the form of personal reflections of trial researchers,^{37–39} or as the findings of external ethnographic observations.⁴⁰

In conclusion, qualitative research conducted parallel to the interventions' pragmatic trials provides additional information for interpreting and explaining the actual cause of the interventions' effects via process evaluations. Consequently, qualitative research, then, only generates information relevant for the development and evaluation of future interventions. It builds a growing overview of facilitators and obstructions related to the interventions being performed in primary care practice as planned. Qualitative research, then, only is able to act as a post-hoc allocation of success or failure to the interventions in this phase, in the hope of starting a learning cycle for the development of future interventions.

Evaluating long-term implementation

Qualitative research in the last phase of evaluating long-term implementation shows the actual fit of the implemented interventions with daily care conditions and routines. It underscores that the sustainability of interventions is dependent upon the extent to which the uniqueness of these daily primary care conditions and routines is taken into account during the interventions' development process. A continuous cycle of adjustment and evaluating interventions such that they have a better fit with primary care practices would result in a higher sustainability. Yet, only one study focused on the long-term implementation of an intervention. In fact, it showed the sustainability of the intervention in practice was different than anticipated.⁴¹

Discussion

The aim of this article was to review the contribution of qualitative research to developing tailor-made community-based prevention interventions in primary care evaluated by means of the pragmatic trial methodology. This proved to be a very recent development. All articles included in this review were published between 2001 and 2007. Qualitative research, this review showed, is mainly used to provide insight into the contextual circumstances of the implementation, delivery and evaluation of interventions. To a lesser extent, qualitative research findings are used for tailoring and improving the design of the interventions to better fit daily primary care conditions and routines. When qualitative findings are used for adjustments, though, they are mainly used to adjust or intervene upon the interventions' contextual circumstances such that the interventions are performed in practice as planned. The qualitative findings are not used to improve intervention design. In 26 articles, qualitative research was used in hind site to evaluate the interventions via process evaluations. Use of qualitative research for contributing to intervention selection and modelling was discussed in only

seven articles. Since the use of qualitative methods is a very recent development—reflected in the short length of the publication period—our conclusions may need to be reconsidered in a few years' time in order to include the advancements made in this field of research. It is our contention that the conclusions we draw reflect the current status of qualitative research's contribution to the development of interventions in primary care.

Although qualitative research is said to be important to the development of interventions, it actually makes a minimal contribution. Much like in RCTs, the interventions in pragmatic trials are still expected to resemble the original intervention as much as possible. Because adjustments are considered to obscure the actual cause of the interventions' effects,² the pragmatic trial methodology thus standardizes the design, content and delivery of the interventions. However, whereas the use of qualitative research for developing tailor-made interventions is considered to strengthen and improve the impact, effectiveness, and sustainability of interventions,⁴ the surrounding pragmatic trial methodology, in fact, 'prohibits' the interventions from being tailored to fit the dynamics and complexity of care practices. Pragmatic trials therefore seem to be a contradiction in terms. Though the pragmatic trial methodology is seen as allowing for interventions to fit the complexity and variability of care practices, this is at odds with establishing the effectiveness of these interventions under natural, non-experimental conditions, in which no pragmatic fit is allowed.

The findings of this review suggest that the development of interventions has become a goal in and of itself and is not seen as a means or infrastructure for making primary care practice more evidence-based. First, the intervention in itself is most important, and adjustments to its design are considered to be of minor detail and less relevant. Second, the shape of the preliminary interventions is portrayed as definite and independent from these conditions and routines in care practices. Once interventions are modelled, they are not to be improved and tailored any further such that they better fit and reflect practice. Any adjustments to the interventions are considered to obscure the actual cause of the interventions' effects; qualitative research is not to be used to refine the interventions any further. Thirdly, hardly any evaluations of interventions' long-term implementation are done, which might suggest that the majority of interventions are terminated after the trial phase, and resulting in a low sustainability rate.

This leads to the question of what contribution qualitative research then might have. Qualitative research in general provides insight into the variety of medical work practices and their organizational contexts.⁵ As the included articles of this review exemplify, qualitative research shows the dynamics of the organizational characteristics of the primary care practices, the work processes and routines of the health-care professionals, and the interprofessional relations among the different disciplines within (primary) care that are relevant for intervention development in general. However, for specific pragmatic trials evaluating specific interventions, this will not suffice, because local dynamics shape the content and form of local interventions. We argue, therefore, that the contribution of qualitative research lies in providing ongoing evaluations of the methodological and practical dilemmas that pragmatic trials face locally in order to accommodate solutions. We believe that pragmatic trial research avails with local solutions to its local dilemmas. Only then can one speak of true tailor-made interventions.

Conflicts of interest: None declared.

Key points

- The use of qualitative research in the development of tailor-made community-based interventions in primary care is a recent development. Yet, qualitative research findings are scarcely used for tailoring and improving the design of the interventions.
- The emphasis that is placed upon establishing the effectiveness of interventions via (pragmatic) trial methodology hinders tailoring interventions to fit the dynamics and complexity of care practices, resulting in a low sustainable rate of interventions.
- In order to develop high sustainable interventions, the view on effectiveness imbued in current health policy decision-making processes should accommodate for the durable use of qualitative research findings in all phases of the intervention development cycle of tailor-made community-based interventions in primary care.

References

- 1 Saan H, de Haes W. *Gezond effect bevorderen. Het organiseren van effectieve gezondheidsbevordering*. 1st edn. Woerden: NIGZ, 2005.
- 2 Hawe P, Shiell A, Riley T. Complex interventions: how "out of control" can a randomised controlled trial be? *Br Med J* 2004;328:1561–3.
- 3 Hotopf M. The pragmatic randomised controlled trial. *Adv Psychiatr Treatment* 2002;8:326–33.
- 4 Stange KC, Goodwin MA, Zyzanski SJ, Dietrich AJ. Sustainability of a practice-individualized preventive service delivery intervention. *Am J Prevent Med* 2003;25:296–300.
- 5 Zuiderent T. Blurring the center; on the politics of ethnography. *Scand J Information Syst* 2002;14:59–78.
- 6 Brotons C, Bjorkelind C, Bulc M, et al. Prevention and health promotion in clinical practice: the views of general practitioners in Europe. *Prevent Med* 2005;40:595–601.
- 7 Creswell JW. *Research design; qualitative, quantitative, and mixed methods approaches*. 2nd edn. Thousand Oaks/London/New Delhi: SAGE Publications, Inc., 2003.
- 8 MRC. *A framework for the development and evaluation of RCTs for complex interventions to improve health*. Report No.: 2000:18. London, Medical Research Council, 2000.
- 9 Flottorp S, Oxman AD. Identifying barriers and tailoring interventions to improve the management of urinary tract infections and sore throat: a pragmatic study using qualitative methods. *BioMed Central Health Services Research* [serial on the Internet]. 2003; 3: Available at: <http://www.biomedcentral.com/1472-6963/3/3> (07 August 2007, date last accessed).
- 10 Corrigan M, Cupples ME, Smith SM, et al. The contribution of qualitative research in designing a complex intervention for secondary prevention of coronary heart disease in two different healthcare systems. *BioMed Central Health Services Research* [serial on the Internet]. 2006; 6: Available at: <http://www.biomedcentral.com/1472-6963/6/90> (08 March 2007, date last accessed).
- 11 Sturt J, Taylor H, Docherty A, et al. A psychological approach to providing self-management education for people with type 2 diabetes: the Diabetes Manual. *BioMed Central Family Practice* [serial on the Internet]. 2006; 7: Available at: <http://www.biomedcentral.com/1471-2296/7/70> (19 February 2009, date last accessed).
- 12 Clavarino AM, Janda M, Hughes KL, et al. The view from two sides: a qualitative study of community and medical perspectives on screening for colorectal cancer using FOBT. *Prevent Med* 2004;39:435–641.
- 13 Moffatt S, Mackintosh J, White M, et al. The acceptability and impact of a randomised controlled trial of welfare rights advice accessed via primary health care: qualitative study. *BioMed Central Public Health* [serial on

- the Internet]. 2006; 6: Available at: <http://www.biomedcentral.com/1471-2458/6/163> (11 August 2007, date last accessed).
- 14 Moffatt S, White M, Mackintosh J, Howe D. Using quantitative and qualitative data in health services research – what happens when mixed method findings conflict? [ISRCTN61522618]. BioMed Central Health Services Research [serial on the Internet]. 2006; 6: Available at: <http://www.biomedcentral.com/1472-6963/6/28/abstract> (11 August 2007, date last accessed).
 - 15 Backer EL, Geske JA, McIlvain HE, et al. Improving female preventive health care delivery through practice change: an every woman matters study. *J Am Board Family Pract* 2005;18:401–8.
 - 16 Shuval K, Shachak A, Linn S, et al. The impact of an evidence-based medicine educational intervention on primary care physicians: a qualitative study. *J Gen Intern Med* 2007;22:327–31.
 - 17 Burroughs H, Lovell K, Morley M, et al. 'Justifiable depression': how primary care professionals and patients view late-life depression? A qualitative study. *Family Pract* 2006;23:369–77.
 - 18 McCormick KA, Cochran NE, Back AL, et al. How primary care providers talk to patients about alcohol; a qualitative study. *J Gen Intern Med* 2006;21:966–72.
 - 19 Bach-Nielsen K-D, Dyrh L, Lauritzen T, Malterud K. Long-term impact of elevated cardiovascular risk detected by screening; a qualitative interview study. *Scand J Primary Health Care* 2005;23:233–8.
 - 20 Stewart J, Brown K, Kendrick D, Dyas Jobot on behalf of Nottingham Diabetes and Blood Pressure Study Group. Understanding of blood pressure by people with type 2 diabetes: a primary care focus group study. *Br J Gen Pract* 2005;55:298–304.
 - 21 Weiss MC, Montgomery AA, Fahey T, Peters TJ. Decision analysis for newly diagnosed hypertensive patients: a qualitative investigation. *Patient Educat Counsel* 2004;53:197–203.
 - 22 Heaven B, Murtagh M, Rapley T, et al. Patients or research subjects? A qualitative study of participation in a randomised controlled trial of a complex intervention. *Patient Educat Counsel* 2006;62:260–70.
 - 23 Heisey R, Pimlott N, Clemons M, et al. Women's views on chemoprevention of breast cancer. *Can Family Physic* 2006;52:624–5.
 - 24 Rousseau N, McColl E, Newton J, et al. Practice based, logitudinal, qualitative interview study of computerised evidence based guidelines in primary care. *Br Med J* 2003;326:314.
 - 25 Getrich C, Heying S, Willging C, Waitzkin H. An ethnography of clinic "noise" in a community-based, promotora-centered mental health intervention. *Soc Sci Med* 2007;65:319–30.
 - 26 Rogers A, Kennedy A, Nelson E, Robinson A. Uncovering the limits of patient-centeredness: implementing a self-management trial for chronic illness. *Qual Health Res* 2005;15:224–39.
 - 27 Rowlands G, Willis S, Singleton A. Referrals and relationships: In-practice referrals meetings in a general practice. *Family Pract* 2001;18:399–406.
 - 28 Légaré F, O'Connor AC, Graham I, et al. Supporting patients facing difficult health care decisions; use of the Ottawa Decision Support Framework. *Canad Family Physic* 2006;52:476–7.
 - 29 Harrison S, Dowsell G, Wright J, Russell I. General practitioners' uptake of clinical practice guidelines: a qualitative study. *J Health Serv Res Policy* 2003;8:149–53.
 - 30 Walsh B, Yardley L, Donovan-Hall M, Smith H. Implementation of nurse-delivered vestibular rehabilitation in primary care: a qualitative study of nurses' views on involvement in an innovative service. *J Clin Nurs* 2007;16:1072–81.
 - 31 Rogers A, Oliver D, Bower P, et al. Peoples' understanding of primary care-based mental health self-help clinic. *Patient Educat Counsel* 2004;53:41–6.
 - 32 Smith SM, O'Leary M, Bury G, et al. A qualitative investigation of the views and health beliefs of patients with Type 2 diabetes following the introduction of a diabetes shared care service. *Diabetic Med* 2003;20:853–7.
 - 33 Bosworth HB, Olsen MK, Gentry P, et al. Nurse administered telephone intervention for blood pressure control: a patient-tailored multifactorial intervention. *Patient Educat Counsel* 2005;57:5–14.
 - 34 Rowan MS, Hogg W, Martin C, Vilis E. Family physicians' reaction to performance assessment feedback. *Canad Family Physic* 2006;52:1570–1.
 - 35 Barton CA, Sulaiman ND, Clarke DM, Abramson MJ. Caregivers' use of, and attitudes towards, written asthma action plans in North-West Melbourne. *Primary Care Resp J* 2005;14:143–6.
 - 36 Sennun P, Suwannapong N, Howteerakul N, Pacheun O. Participatory supervision model: building health promotion capacity among health officers and the community. Rural and Remote Health [serial on the Internet]. 2006; 6: Available at: <http://www.rrh.org.au> (20 August 2007, date last accessed).
 - 37 Franssen GAJ, van Marrewijk CJ, Mujakovic S, et al. Pragmatic trials in primary care; Methodological challenges and solutions demonstrated by the DIAMOND-study. BioMed Central Medical Research Methodology [serial on the Internet]. 2007; 7: Available at: <http://www.biomedcentral.com/1471-2288/7/16/abstract> (24 April 2007, date last accessed).
 - 38 Godwin M, Ruhland L, Casson I, et al. Pragmatic controlled clinical trials in primary care: the struggle between external and internal validity. BioMed Central Medical Research Methodology [serial on the Internet]. 2003; 3: Available at: <http://www.biomedcentral.com/1471-2288/3/28> (13 September 2006, date last accessed).
 - 39 Rowlands G, Sims J, Kerry S. A lesson learnt: the importance of modelling in randomized controlled trials for complex interventions in primary care. *Family Pract* 2005;22:132–9.
 - 40 Jansen YJFM, Bal R, Bruijnzeels M, et al. Coping with methodological dilemmas; about establishing the effectiveness of interventions in routine medical practice. BioMed Central Health Services Research [serial on the Internet]. 2006; 6: Available at: <http://www.biomedcentral.com/bmchealthservres/> (13 December 2006, date last accessed).
 - 41 Blasinsky M, Goldman HH, Unutzer J. Project IMPACT: A report on barriers and facilitators to sustainability. *Admin Policy Mental Health Mental Health Serv Res* 2006;33:718–29.

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