

BMJ Open

BMJ Open is committed to open peer review. As part of this commitment we make the peer review history of every article we publish publicly available.

When an article is published we post the peer reviewers' comments and the authors' responses online. We also post the versions of the paper that were used during peer review. These are the versions that the peer review comments apply to.

The versions of the paper that follow are the versions that were submitted during the peer review process. They are not the versions of record or the final published versions. They should not be cited or distributed as the published version of this manuscript.

BMJ Open is an open access journal and the full, final, typeset and author-corrected version of record of the manuscript is available on our site with no access controls, subscription charges or pay-per-view fees (<http://bmjopen.bmj.com>).

If you have any questions on BMJ Open's open peer review process please email info.bmjopen@bmj.com

BMJ Open

Do physicians in the lead support a holistic healthcare delivery approach? A qualitative analysis of the stakeholders' perspectives

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-020739
Article Type:	Research
Date Submitted by the Author:	21-Nov-2017
Complete List of Authors:	Malik, Romana; OLVG Hospital, Department of Research and Education Hilders , Carina ; Erasmus School of Health Policy & Management Scheele, Fedde; OLVG Hospital , Department of Research and Education ; Athena Institute, Faculty of Earth and Life Sciences, VU University
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Health policy, Medical management, Patient-centred medicine, Qualitative research
Keywords:	Medical leadership, Physicians, Holistic care, Value-based healthcare, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Healthcare delivery

SCHOLARONE™
Manuscripts

TITLE

Do physicians in the lead support a holistic healthcare delivery approach? *A qualitative analysis of the stakeholders' perspectives*

AUTHORS

Romana F. Malik (RM) M.D.¹

Carina G. J. M. Hilders M.D., Ph.D.²

Fedde Scheele M.D., Ph.D.^{3, 4, 5}

AFFILIATIONS

¹ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164, 1006AE, Amsterdam, the Netherlands.

Telephone: +31-20 510 8960 @ romana_malik@hotmail.com

² Erasmus School of Health Policy & Management, Rotterdam, Burgemeester Oudlaan 50, 3062 PA, the Netherlands. Telephone: +31-10 408 9177 @ C.Hilders@rdgg.nl

³ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164, 1006AE, Amsterdam, the Netherlands.

Telephone: +31-20 480 7651 @ f.scheele@olvg.nl

⁴ VU Medical Center, Amsterdam, the Netherlands.

⁵ Athena Institute, Faculty of Earth and Life Sciences, VU, Amsterdam, the Netherlands.

CORRESPONDING AUTHOR Romana F. Malik (MD) OLVG Teaching Hospital, Department of Medical Education, Jan Tooropstraat 164, 1006 AE Amsterdam, the Netherlands
Telephone: +31-205108292 @ romana_malik@hotmail.com

WORD COUNT 4258 words (Main text, excluding abstract, endnotes and exhibits)

STRUCTURED ABSTRACT

Objectives Value-based healthcare (VBHC) implies that healthcare issues are addressed most effectively with the strategy of 'Physicians in the lead' (PIL). This study explores whether PIL also supports an holistic care approach that is increasingly demanded by patients.

Design A qualitative research design was used.

Setting This study was conducted in a general hospital in the Netherlands at a gynaecology department with an integrated strategy of PIL.

Participants Semi-structured interviews were conducted with 14 hospital stakeholders: 13 stakeholders of a gynaecology department (the client board (n=1), nurses (n=2), midwives (n=2), physicians (n=2), residents (n=2), the middle management (n=2) and the Board of Directors (n=2)) and a member of the Committee Innovation Healthcare Professions & Education.

Results PIL does not support a holistic healthcare delivery approach, mainly because of the strong biomedical focus of physicians. Although physicians can be educated to focus more on the holistic outcome than on cure and treatment, holistic care delivery requires more integration and teamwork in the hospital and across facilities in the care chain. As different healthcare professions are complementary to each other, a new strategy of a 'team in the lead' was suggested to meet the holistic healthcare demands. Besides a new strategy, there is a need for an extramural institution where patients are able to receive support in managing their own care. This institution should also facilitate services similar to the core function of a church or community centre. These services should help patients to deal with different holistic dimensions that are important for their wellbeing.

Conclusions PIL seems to hinder holistic healthcare delivery. A 'team in the lead' approach should be considered to meet the holistic healthcare demands. Further research should focus on observing PIL in different cultures and exploring the effectiveness of the strategy 'team in the lead'.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- To our knowledge, this is the first study to explore the strategy of PIL in the transition to holistic healthcare.
- As little is known about the advantages, disadvantages, opportunities for improvement and risks of the strategy PIL, it was convenient to conduct an exploratory study.
- The study is limited by the fact that it was conducted in one country. As the strategy of hospitals differ among countries, the content may be less relevant to settings without a strategy of PIL.
- Hospital stakeholders are internally oriented, which may have influenced the way they described the organization of holistic care.
- Because our results are based on interviews with stakeholders, they are likely to present a limited picture of the effects of the strategy of PIL on the transition to holistic healthcare.

INTRODUCTION

The healthcare system, which is traditionally organized around acute care delivery, seems to be inadequate for managing the changing healthcare demands of the increasing number of chronically ill and ageing patients.(1;2) To comply with these demands and manage the growing impact they have on the national healthcare budgets, a different approach to healthcare delivery is needed.(3-5) A relevant concept that is in line with the changing demands of patients is 'Positive Health' of Huber et al.(6) This holistic concept entails that the care approach to being 'healthy', which is currently mainly focused on biomedical facets such as diseases and their treatments, should also consider other dimensions of patients' lives, such as their psychological, social, and spiritual well-being (meaningfulness), their quality of life and their daily functioning.(6) Integration of these dimensions in the strategic approach of healthcare delivery may contribute to health system innovations.

In the process towards a feasible holistic healthcare delivery approach, several transition designs have been developed, among which Porter's 'Value-Based Healthcare Delivery' (VBHC).(7) VBHC uses a strategy of 'Physicians in the lead' (PIL). This strategy entails that physicians are engaged in organizational processes and that they are responsible for the quality and efficiency of their unit's care delivery. This arises from the belief that physicians have the power to lead the reform of healthcare and to provide care in an efficient way that takes the quality and costs into account.(8) The overarching aim is to create value for patients, where value is defined as the patient health outcomes per dollar spent.(7) This high-value care delivery system should be able to manage the healthcare needs of patients and control the high costs in healthcare.

1
2
3 VBHC comprises six interdependent components: 1. organizing healthcare around patients'
4 medical conditions (a full care cycle) rather than around physicians' medical specialties, 2.
5 measuring costs and outcomes for each patient, 3. developing bundled prices for the full
6 care cycle, 4. integrating care across separate facilities, 5. expanding geographic reach, and
7
8
9
10
11
12 6. building an enabling IT platform. VBHC provides many elements that could support the
13
14 desired health concept of holistic care. It includes medical rehabilitation in the full care
15
16 cycle, for instance, which is a way to improve health outcomes. It is based on value for
17
18 patients from the perception of the patients. Moreover, it prescribes integrated care that
19
20 exceeds the traditional boundaries of care that is usually provided by a physician.
21
22

23
24 Although the transition to VBHC in the healthcare delivery approach is already being
25
26 implemented, it has not been sufficiently substantiated in the literature whether the
27
28 strategy 'PIL' actually leads to the demanded holistic care. Although Porter does provide an
29
30 approach to the full cycle of care and to health outcomes, studies on the implementation of
31
32 VBHC in clinical practice do not comprise such holistic features of health proposed by Huber
33
34 et al. Moreover, Huber showed that there is a large discrepancy between the perspectives
35
36 of patients and care professionals concerning the relative importance of the various
37
38 dimensions.⁽⁶⁾ Whereas patients and nurses find all six dimensions almost equally
39
40 important, physicians indicate dimensions other than bodily functions as less important. As
41
42 patients seem to have a broader view on their health than physicians do and physicians do
43
44 not seem to sufficiently recognize the holistic nature of patient needs, the question arises
45
46 whether PIL are capable of introducing holistic care.
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 The aim of this research was to elicit various stakeholders' perspectives on the strategy 'PIL'
4
5 in the transition to holistic healthcare and to establish views on the advantages,
6
7 disadvantages, opportunities for improvement, and risks of the PIL strategy in this transition.
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

METHODS

Setting

This study was conducted in a general hospital in the Netherlands at a gynecology department that was halfway in the process of implementing VBHC and that already used an integrated strategy of PIL. Although all physicians in a unit share responsibility regarding the quality and efficiency of healthcare delivery, there is one physician in the lead in every unit. This physician in the lead receives support from an operational manager and a business administration manager, but remains ultimately responsible for the organizational processes, the performance, and the quality of healthcare delivery of the unit. Besides the managerial tasks, the physician in the lead is primarily required to remain a clinician. The Board of Directors facilitates management programs and monitors the results as well as the compliance of the unit with the interests of the hospital.

Study design

An interpretative and descriptive, qualitative design was used, based on the principles of phenomenology.^(9;10) By using these principles, knowledge was gained from an accurate and deep understanding of the stakeholders' perspectives from their individually perceived experiences.

Participants and procedure

Between April and June 2016, a physician (RM) conducted semi-structured face-to-face, in-depth interviews with members of all groups of stakeholders of a gynecology department; the client board (n=1), nurses (n=2), midwives (n=2), physicians (n=2), residents (n=2), the

1
2
3 middle management (n=2) and the Board of Directors (n=2). In addition, a member of the
4
5 advisory board for the Ministry of Health was interviewed: the Committee Innovation
6
7 Healthcare Professions & Education (n=1). All 14 stakeholders were approached for inclusion
8
9 by e-mail invitations, and all agreed to participate. Initially, the number of participants was
10
11 predetermined, yet, data saturation was taken into account for this research and was
12
13 reached. Each interview had an estimated duration of 30 to 60 minutes. The Ethical Review
14
15 Board of the hospital waived ethical approval for this study.
16
17
18
19
20

21 *Patient involvement*

22
23
24 Patients' perspectives receive a growing attention in the healthcare delivery approach.
25
26 Patients' preferences, priorities and experience are important markers that help patients
27
28 and physicians in the shared decision making care process. The strategies that are
29
30 implemented in healthcare should support such developments and should be constantly
31
32 optimized to meet the healthcare demands of patients. In order to meet the holistic
33
34 healthcare demands of patients, it is needed to explore whether the strategy of PIL support
35
36 a holistic approach. The client board of the hospital was involved in this research to
37
38 represent groups of patients. Patients were not involved in the recruitment to and conduct
39
40 of the study.
41
42
43
44
45

46 *Data collection*

47
48
49 Keywords and phrases such as "Physicians in the lead", "medical leadership", "value-based
50
51 healthcare", "holistic care", "healthcare transition", "healthcare delivery" were used in the
52
53 search engines PubMed and Google Scholar to find relevant literature in order to
54
55
56
57
58
59
60

1
2
3 theoretically frame the transition to value-based and holistic healthcare delivery and PIL. A
4
5 tailored topic list was drafted from theoretical concepts to structure the interviews and to
6
7 organize the data collection (Exhibit 1). In view of the exploratory goal of the study,
8
9 questions were mainly open. All participants provided written informed consent for audio-
10
11 recording the interview and publishing the data.
12
13

14 15 *Analysis*

16
17
18 The interviews were transcribed verbatim. The transcripts were anonymised for anyone
19
20 other than the interviewer (RM). A qualitative data analysis software program (MAX.QDA
21
22 2007) was used for coding the narratives. Data were categorized with open and axial coding.
23
24 This process was guided by the concept of Huber et al. and the research questions.(11) In the
25
26 final step of selective coding, core variables were identified.
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

RESULTS

Three central themes were derived from the analysis of the stakeholders' perspectives: the strategy of PIL in the transition to holistic healthcare delivery, the required organization of the transition, and a new strategy for hospitals to achieve holistic healthcare delivery.

PIL in the transition to holistic healthcare delivery

All stakeholders mention that a transition to value-based and holistic healthcare delivery seems to be inevitable and a very desirable development. But is introducing 'PIL' the same as introducing holistic care in the hospital?

Advantages

All stakeholders agreed that the main advantages of PIL are related to the dimensions 'bodily functions' and 'daily functioning' of Huber et al. The physicians themselves say that they are able to look at a patient with a holistic view. The extent to which the physician has a holistic view however, depends on the physician's specialty.

"Geriatricians and oncologists will look not only at the bodily functions but will have a broader view of components that add value for patients" (Resident) Besides, the physician's experience can have a beneficial influence on the extent to which the physician is capable of providing holistic care.

The physicians can lead the practice, as they have knowledge about the physical needs of patients, the treatments available for diseases, the resources that are needed for patient care, and developments in medical care. A physician in the lead is thought to make different decisions if the focus is on healthcare outcomes and quality of life. Physicians have a certain influence within a team, which can help in transferring a holistic vision to the rest of the

1
2
3 team.

4 5 6 **Disadvantages**

7
8 The first disadvantage of PIL for providing holistic healthcare is time. The short time frame
9
10 physicians have for each patient does not make it possible to deliver holistic care.

11
12
13 *“A physician has ten minutes for each patient, they do not have time to check whether*
14 *patients are healthy on all these dimensions. Moreover, I do not see any physician doing*
15 *this.” (Nurse)*

16
17
18 A second disadvantage is that physicians have a narrowed view due to their strong
19
20 biomedical focus. This focus is often at the expense of other dimensions; for instance, this
21
22 view rarely includes meaningfulness as part of the spiritual dimension. This may result in
23
24 more focus on diagnostics and interventions than desirable. A third disadvantage concerns
25
26 the physician’s engagement in management and leadership tasks. Initially a physician is
27
28 considered as a clinician and not a manager. The management course that is provided in the
29
30 hospital under investigation is considered insubstantial, as managers usually study
31
32 management for years. The time a PIL gets to be ultimately responsible and run a unit is
33
34 insufficient, as they still provide care and managing a unit is a complex and full-time task. PIL
35
36 manage to take care of their own unit, but they seem to lose sight of the bigger picture and
37
38 do not act in collaboration with other units, and the hospital's interests.

39 40 41 42 43 44 45 46 **Opportunities for improvement**

47
48 The main opportunity for improvement is educating physicians in the delivery of holistic
49
50 healthcare, but also in management and leadership. A second opportunity for improvement
51
52 is collaboration with other professions, such as nursing. Awareness of the content of the
53
54
55
56
57
58
59
60

1
2
3 work of other professionals is important, as is awareness of the way in which they are
4
5 complementary to each other.
6
7

8 *“We work with nurses every day, but we do not know anything about the content of their*
9
10 *education and what exactly they are competent and authorized to do.”(Resident)*
11
12

13 For the current PIL, a broader view based on collaboration and interrelations between units
14
15 and responsibility for hospital interest besides the unit's interests can be developed by
16
17 means of educational programs. Furthermore, not every physician is able to be a leader or
18
19 manager. This means that some physicians should mainly focus on patient care and some
20
21 should focus more on leadership and management tasks in addition to patient care.
22
23
24

25 26 **Risks**

27
28 Threats are mostly related to the consequences of the disadvantages or to failure to
29
30 implement the opportunities for improvement. One of the risks is that holistic healthcare is
31
32 not achieved because of the strong biomedical focus. Another risk is raised when self-
33
34 interest of the unit is prominent, rather than the interrelations with units. This has the
35
36 consequence that the hospital may not provide a full cycle of care for patients. Furthermore,
37
38 physicians may act based only on financial incentives and favor financial profit over quality
39
40 of care. On the other hand, physicians may favor quality over cost-containment. Therefore,
41
42 physicians are expected to work in the context of efficiency that considers both the costs
43
44 and quality of care. Moreover, a hierarchic structure, where only the physician is in the lead,
45
46 can cause insufficient representation of the perspectives of other professions. For other
47
48 professions, it can be very hard to make a change. It is important that the other professions
49
50 feel that they are being heard by the physician in the lead.
51
52
53
54
55
56
57
58
59
60

1
2
3 *“With this strategy there is one doctor at the top, if the doctor has a different view than the*
4
5 *rest of the team, it is a burden for the team.” (Midwife)*
6
7

8 **Required organization of holistic healthcare**

9

10
11 From the stakeholders’ perspectives, it became clear that the strategy of PIL is not sufficient
12
13 to meet the holistic requirements proposed by Huber et al. However, all the participants
14
15 confirmed that all six dimensions should be considered as important healthcare outcomes.
16
17 As patients’ health outcomes are not yet systematically measured, there is a lack of clarity
18
19 about who should be the one to take the lead in detecting the needs of patients and
20
21 arranging the process needed to improve their health status. All stakeholder groups
22
23 mentioned that the care is supposed to be value-based and holistic, but that this is often not
24
25 yet the case in practice. It appears to be an issue to organize holistic healthcare.
26
27
28
29
30
31

32 *“The reality is always more persistent than the ideas that are being launched. Things always*
33 *turn out differently than the perspectives that are outlined. As a patient, you are subject to*
34
35 *this.” (Client Board)*
36
37
38
39

40 **The care chain**

41

42 In order to provide value-based and holistic care, it is essential that the healthcare providers
43
44 have a shared vision. From the perspectives of several stakeholders, patients should be
45
46 supported in the direct environment or infrastructure outside the hospital in order to
47
48 achieve holistic healthcare. Nevertheless, a holistic approach should be the core of care
49
50 delivery of every link in the care chain, including hospitals. This means that professionals in
51
52 hospitals should consider the dimensions that are essential for patients to improve their
53
54 health and refer them to others if necessary. The arrangements for support and care
55
56
57
58
59
60

1
2
3 delivery should be made along the total care chain, as every link within the care chain
4
5 contributes and adds value in its own way to the holistic picture. This can only be achieved
6
7 by collaboration between a variety of disciplines in and outside the hospital.
8
9

10 *Roles in the organization of holistic healthcare*

11
12 From the stakeholders' perspectives, five important roles were defined besides PIL in
13
14 organizing holistic care:
15

16 *Patients*

17
18 All stakeholders agreed with the need for empowering patients. The structure of 'patients in
19
20 the lead' was mentioned several times. Patients in the lead were thought to be able to take
21
22 responsibility for their own health and to manage their care in a holistic way as far as
23
24 possible. Illness and age were mentioned as possible reasons why patients may not be able
25
26 to take responsibility for their own health.
27
28
29
30

31
32 *"In current society, people were not raised with the mentality to take responsibility for their*
33
34 *own health and manage their own care. It will take a generation to achieve this."* (Doctor)
35
36

37
38 Support is thus needed to guide and help patients in coordinating and managing their own
39
40 healthcare. Patients who are still not capable to manage their care, despite receiving
41
42 support, are dependent on safety nets. At this point, the question emerged who should help
43
44 the patient by fulfilling a coordinating role if these limits are reached and who should take
45
46 the lead in coordinating the healthcare of these patients.
47
48
49

50 *Informal caregivers*

51
52 A marked difference emerged in the perspectives of the various stakeholders on the role of
53
54 informal caregivers. The representatives of the Committee Innovation Healthcare
55
56
57
58
59

1
2
3 Professions and Education and of the Board of Directors outlined that there is a great
4
5 reliance on informal care, yet they were confident that informal caregivers can provide a
6
7 large part of the care that is needed. Several other stakeholders mentioned that society is
8
9 increasingly individualistic, which makes informal care delivery not a very viable or desirable
10
11 option. They expressed their concern that a majority of patients might not even have an
12
13 informal caregiver who would provide care that meets their health needs. Moreover, when
14
15 care is given by informal care givers, the privacy of patients can be at stake.
16
17

18
19 *If my father poops in his pants, my mother cannot ask the neighbors to help him. What about*
20
21 *his privacy? (Nurse)*
22
23

24 25 Nurses

26
27 All stakeholders said that nurses are an important link in the healthcare chain. They
28
29 expressed the conviction that nurses are capable to function as case-managers and to
30
31 coordinate holistic care for patients in primary as well as secondary health care. This was
32
33 attributed to the attention to holistic skills in the nurse training. Some remarked that it
34
35 should be considered whether district nurses can get a good overview of a patient's health
36
37 during their short visits and whether there might be time and resources to deploy them for
38
39 coordinating the holistic care.
40
41
42

43 44 General Practitioner

45
46
47 The role of the GP was also considered to be very important. The GP was seen as a generalist
48
49 who has a holistic view of patients. This includes that a GP would not unnecessarily refer
50
51 patients to a medical specialist. Stakeholders agreed that follow-up consults can often also
52
53 be done by a GP, which has a proximity advantage for the patient and a cost advantage for
54
55
56
57
58
59
60

1
2
3 the healthcare system. Overall, it was mentioned that a GP can be a good coordinator in a
4
5 patient's healthcare. However, stakeholders saw the limited amount of time for each patient
6
7 and the workload as obstacles that prevent GPs from fulfilling a leading or coordinating role.
8
9

10 The need for a currently not existing care management institution

11
12
13
14 *"If patients enter the hospital or an healthcare organization, they do not know where to go,*
15
16 *there is so much bureaucracy that they first have to tell their story five times."* (Midwife)
17

18
19
20 The majority of stakeholders mentioned that there is a lack of support for patients to
21
22 manage their care. Solutions were provided by the stakeholders and were summarized by
23
24 the researchers: a central institution is needed, where patients can receive services that are
25
26 similar to the core activities of a church, community center and information desk. This
27
28 central location or institution needs to function as an accessible place where people can
29
30 easily gain information and support to manage their healthcare and to be in the lead
31
32 themselves. Additionally, the need for a central institution is sometimes mentioned in
33
34 conjunction with 'case-managers'. Case-managers are able to help people find their way.
35
36
37

38
39 The dimension 'meaningfulness' in the concept of Huber et al. is thought to be an objective
40
41 that was traditionally paid attention to by the church or other religious organizations.
42
43 Nowadays, people have different perspectives about religion and there are fewer
44
45 possibilities to practice religion as there are less religious institutions.
46
47
48

49 **A new strategy for hospitals to support holistic healthcare delivery**

50
51
52 The main key for achieving a holistic approach to healthcare delivery seems to be
53
54 collaboration between all the providers in the care chain. All healthcare providers within the
55
56
57
58
59

1
2
3 hospital are complementary to each other, and physicians cannot be expected to consider
4
5 and balance all the dimensions of holistic healthcare on their own. Continuing the strategy
6
7 of PIL may be at the expense of the majority of the holistic dimensions of Huber et al. and
8
9 can be an obstacle in achieving holistic healthcare in VBHC. The majority of stakeholders
10
11 mentioned that the unit should be led by more stakeholders than PIL to ensure holistic
12
13 healthcare. A new strategy of 'team in the lead' was proposed by the researchers. Per
14
15 specialization, careful consideration should be given to the composition of the team and all
16
17 professions should be adequately represented in the team.
18
19
20
21

22 *"In my opinion, even the Client Board may take part in this." (Midwife)*
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

DISCUSSION

We performed a qualitative study and explored stakeholders' perspectives on the strategy 'PIL' in the transition to holistic healthcare. We identified several bottlenecks, solutions and roles in organizing this transition. Features of PIL in the transition were elucidated and did not seem to align with the aim of providing holistic healthcare. A new strategy of 'team in the lead' was proposed. Moreover, participants agreed that a new institution is needed that may provide social and spiritual support as well as the information that patients need in order to manage their own care.

Comparison with the existing literature

The findings concerning the importance of integration of healthcare delivery are in line with the integrated practice units and systems integration as described in VBHC.(12) Other concepts in the literature also support integrated care to improve healthcare delivery for patients.(13;14) Although PIL can contribute in controlling the increasing healthcare costs and improving organizational performance,(15-20) we noticed that PIL do not seem to contribute sufficiently to the interrelations needed between units and thus the integration of units. Nevertheless, collaboration and integration are necessary to provide holistic care and healthcare leaders are needed that go beyond integrated care and actively support people in healing and managing their own health. (21) According to our results, integrated holistic care may be achieved by establishing a team in the lead. To create a patient oriented team, it is needed to transform the relationships among individual providers.(22) The proposed 'team in the lead' in our research can be linked to models about 'shared leadership' in the literature.(23) Shared leadership is management or leadership at a team-level, which empowers staff within the decision-making processes.(23) Effective

1
2
3 collaborative relationships and teamwork within shared-leadership are thought to improve
4
5 integration, care practices and patient outcomes.(23;24)
6
7

8 Besides the need for a team in the lead to improve integration of care and realize a holistic
9
10 healthcare delivery approach, a central institution seems to be needed in the Netherlands
11
12 where patients can be supported to be in the lead of their health. This institution needed,
13
14 corresponds to features of integrated care institutions described in the literature,(22) of
15
16 which there are physician-led care institutions and non-physician (case-managers, home
17
18 care agencies, or area agencies) led care institutions. These institutions known from the
19
20 literature provide similar services to the ones we have described as needed, such as patient
21
22 information and coordination of care. However, these institutions, that are serving patients
23
24 who are often medically and socially vulnerable and require a wider range of needs, do not
25
26 seem to offer direct possibilities to meet the spiritual and social needs of patients. In reality,
27
28 a care manager in this institution may still refer people who have such needs. Irrespective of
29
30 the integration model used to integrate care, collaborative and interdependent formal and
31
32 informal relationships between all the links in the care chain remain necessary for providing
33
34 holistic care.(22)
35
36
37
38
39

40 *Advantages and limitations*

41
42

43 To our knowledge, this is the first study to explore the strategy of PIL in the transition to
44
45 holistic healthcare. Our findings are supported by comparable notions about organizational
46
47 reforms in healthcare.(25) This study's strength is that it provides the advantages,
48
49 disadvantages, opportunities for improvement and risks of the strategy PIL, as this resulted
50
51 in broader insights. As little is known about these aspects of PIL, it was convenient to
52
53 conduct an exploratory study. The present study is limited by the fact that it was conducted
54
55
56
57
58
59
60

1
2
3 in one country. As the organization of the healthcare system and the strategy of hospitals
4
5 differ among countries, the content may be less relevant to other settings. In addition,
6
7 hospital stakeholders are internally oriented, which may have influenced the way they
8
9 described the organization of holistic care. Although these are aspects that limit the
10
11 generalizability of our findings, we think that the organization of healthcare systems in the
12
13 different countries is similar enough to justify the assumption that the findings will have
14
15 some relevance to other settings. Because our results are based on interviews with
16
17 stakeholders, they are likely to present a limited picture of the effects of the strategy of PIL
18
19 on the transition to holistic healthcare.
20
21
22

23 24 *Suggestions for future research*

25
26
27 Although we gained insights into PIL in the transition to holistic healthcare in the
28
29 Netherlands, it would be interesting to explore the effect of introducing PIL in different
30
31 cultures. Moreover, observational studies may be useful to determine which issues of PIL in
32
33 the transition cause the most problems and for which aspects of PIL support is needed to
34
35 improve this strategy. Furthermore, research on the effectiveness of the proposed concept
36
37 of a team in the lead would be necessary to explore whether this concept does lead to the
38
39 desired holistic care in practice.
40
41
42

43 44 *Implications*

45
46
47 It is important for PIL to be aware of the stakeholders' perspectives and of the holistic
48
49 approach to healthcare delivery. Although physicians can be educated to focus more on the
50
51 holistic outcome than on cure and treatment, a 'team in the lead' approach should be taken
52
53 into consideration to achieve holistic healthcare. Organizing holistic care requires more
54
55 integration and teamwork across facilities in the care chain. Moreover, there is a demand for
56
57
58
59
60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

an institution that coordinates care and supports patients on the different dimensions of holistic care. Better support on these dimensions may lead to more healthy patients in the lead.

For peer review only

CONCLUSION

The transition to a value-based and holistic approach is desirable. Although VBHC is an important step in the right direction due to the integrative aspects which it offers, continuing the strategy of PIL may be at the expense of the holistic aims in the healthcare delivery approach. To realize a holistic healthcare approach, a strategy of a 'team in the lead' should be considered, as different professional groups complement each other in the full care cycle. Furthermore, the organization of holistic care lacks support for patients to manage their care. A central institution is required to support patients in realizing the care that is needed to improve their health outcomes. A second important aspect in the organization of holistic care is that every link in the care chain contributes to holistic care delivery, in which collaboration and integration across the care chain is necessary.

1
2
3 **ACKNOWLEDGEMENTS** We like to thank all the respondents for their sincerity and
4
5 generosity of sharing their perspectives with us. Also, we would like to thank Nesibe
6
7 Akdemir (NA), a PhD student in medical education, for her contribution in analyzing the
8
9 data.
10

11 12 13 **CONTRIBUTORS**

14
15 RM, CH and FS contributed to the conception and development of the study, project
16
17 management, reporting and publication. RF, CH and FS developed the topic list for the semi-
18
19 structured interviews. RM and FS participated in participant recruitment and RM in the data
20
21 collection. RM performed all interviews. RM, CH, and FS developed and refined the coding
22
23 framework, and RM and NA performed the data analysis. RM prepared the first draft of the
24
25 manuscript. RM, CH, and FS were involved in drafting and revising the manuscript and have
26
27 given final approval of the version to be published. RM takes responsibility for the
28
29 manuscript.
30
31
32

33
34 **CONFLICT OF INTEREST STATEMENT** All authors have completed the ICMJE uniform
35
36 disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from
37
38 any organisation for the submitted work; no financial relationships with any organisations
39
40 that might have an interest in the submitted work in the previous three years , no other
41
42 relationships or activities that could appear to have influenced the submitted work
43
44
45

46
47 **TRANSPARENCY DECLARATION** The lead author affirms that the manuscript is an honest,
48
49 accurate, and transparent account of the study being reported; that no important aspects of
50
51 the study have been omitted; and that any discrepancies from the study as planned have
52
53 been explained.
54
55
56
57
58
59
60

1
2
3 **FUNDING:** No funding was provided.
4
5

6 **DATA SHARING** De-identified transcribed interviews and the code set can be made available
7
8 on request by the corresponding author.
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For peer review only

REFERENCE LIST

- (1) Christensen K, Doblhammer G, Rau R, Vaupel JW. Ageing populations: the challenges ahead. *Lancet* 2009 Oct 3;374(9696):1196-208.
- (2) Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: translating evidence into action. *Health Aff (Millwood)* 2001 Nov;20(6):64-78.
- (3) Barr VJ, Robinson S, Marin-Link B, Underhill L, Dotts A, Ravensdale D, et al. The expanded Chronic Care Model: an integration of concepts and strategies from population health promotion and the Chronic Care Model. *Hosp Q* 2003;7(1):73-82.
- (4) Bodenheimer T, Fernandez A. High and rising health care costs. Part 4: can costs be controlled while preserving quality? *Ann Intern Med* 2005 Jul 5;143(1):26-31.
- (5) Huber M, Knottnerus JA, Green L, van der Horst H, Jadad AR, Kromhout D, et al. How should we define health? *BMJ* 2011 Jul 26;343:d4163.
- (6) Huber M, van VM, Giezenberg M, Winkens B, Heerkens Y, Dagnelie PC, et al. Towards a 'patient-centred' operationalisation of the new dynamic concept of health: a mixed methods study. *BMJ Open* 2016 Jan 12;6(1):e010091.
- (7) Porter ME. What is value in health care? *N Engl J Med* 2010 Dec 23;363(26):2477-81.

- 1
2
3 (8) Porter ME, Teisberg EO. How physicians can change the future of health care. JAMA
4
5 2007 Mar 14;297(10):1103-11.
6
7
8 (9) Lincoln YS, Guba EG. Paradigmatic controversies, contradictions, and emerging
9
10 confluences. In: Denzin NK, Lincoln YS, editors. The Sage handbook of qualitative
11
12 research. 3 ed. Thousand Oaks: Sage Publications; 2005. p. 191-215.
13
14
15 (10) Bunniss S, Kelly DR. Research paradigms in medical education research. Med Educ
16
17 2010 Apr;44(4):358-66.
18
19
20
21 (11) Mortelmans D. Manual qualitative research methods (in Dutch: Handboek
22
23 kwalitatieve onderzoeksmethoden). Leuven; Den Haag: Acco; 2013.
24
25
26
27 (12) Porter ME, Pabo EA, Lee TH. Redesigning primary care: a strategic vision to improve
28
29 value by organizing around patients' needs. Health Aff (Millwood) 2013
30
31 Mar;32(3):516-25.
32
33
34 (13) Ploch T, Klazinga NS. Community-based integrated care: myth or must? Int J Qual
35
36 Health Care 2002 Apr;14(2):91-101.
37
38
39
40 (14) Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and
41
42 implications--a discussion paper. Int J Integr Care 2002;2:e12.
43
44
45
46 (15) Clark J. Medical leadership and engagement: no longer an optional extra. J Health
47
48 Organ Manag 2012;26(4-5):437-43.
49
50
51 (16) Daly R. Putting physicians in the lead for cost containment. Healthc Financ Manage
52
53 2013 Dec;67(12):52-9.
54
55
56
57
58
59
60

- 1
2
3 (17) O'Sullivan H, McKimm J. Medical leadership: an international perspective. *Br J Hosp*
4
5 *Med (Lond)* 2011 Nov;72(11):638-41.
6
7
8 (18) Schwartz RW, Tumblin TF. The power of servant leadership to transform health care
9
10 organizations for the 21st-century economy. *Arch Surg* 2002 Dec;137(12):1419-27.
11
12
13 (19) Warren OJ, Carnall R. Medical leadership: why it's important, what is required, and
14
15 how we develop it. *Postgrad Med J* 2011 Jan;87(1023):27-32.
16
17
18 (20) Yolande W, Gerhard ACS, Pauline LM, Dick LW. Doctor in the lead: balancing between
19
20 two worlds. *Organization* 2011;18(4):477-95.
21
22
23 (21) Plochg T, Ilinca S, Noordegraaf M. Beyond integrated care. *J Health Serv Res Policy*
24
25 2017 Jan 1;1355819617697998.
26
27
28 (22) Griffin JD, Andrew F. Integrated care management in rural communities. Portland,
29
30 ME: University of Southern Maine, Muskie School of Public Service, Maine Rural
31
32 Health Research Center; 2014. Report No.: Working Paper #54.
33
34
35 (23) Al-Sawai A. Leadership of healthcare professionals: where do we stand? *Oman Med J*
36
37 2013 Jul;28(4):285-7.
38
39
40 (24) Bergman JZ, Rentsch JR, Small EE, Davenport SW, Bergman SM. The shared
41
42 leadership process in decision-making teams. *J Soc Psychol* 2012 Jan;152(1):17-42.
43
44
45 (25) Locock L. Healthcare redesign: meaning, origins and application. *Qual Saf Health Care*
46
47 2003 Feb;12(1):53-7.
48
49
50
51
52
53
54
55
56
57
58
59
60

APPENDIX

Exhibit 1: Topic list

Topics	Sub-topics
Change in healthcare delivery approach	<ul style="list-style-type: none"> - Are you familiar with the changes in healthcare delivery demanded by the Dutch Ministry of Health? - What do you know about the organization of this transition to value-based and holistic healthcare delivery? <p>After introducing these topics, participants received an introduction to the six dimensions of holistic health proposed by Huber et al. and the reorganization of healthcare delivery demanded by the Dutch Ministry of Health. After this introduction, the following questions were asked:</p>
Organization of care	<ul style="list-style-type: none"> - What are your perspectives on the transition to value-based and holistic healthcare delivery? - How would you like this desired care delivery to be organized? -
Coordination	<ul style="list-style-type: none"> - Who should take leadership in the organization of this care and in supporting the patient?
Physicians in the lead	<ul style="list-style-type: none"> - What do you think about physicians in the lead in holistic healthcare? - What are the advantages, disadvantages, opportunities for improvement, and risks in the transition to the desired healthcare approach? - Do you think the strategy of physicians in the lead will lead to holistic healthcare?

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For peer review only

BMJ Open

Do 'physicians in the lead' support a holistic healthcare delivery approach? A qualitative analysis of stakeholders' perspectives

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-020739.R1
Article Type:	Research
Date Submitted by the Author:	05-Feb-2018
Complete List of Authors:	Malik, Romana; OLVG Hospital, Department of Research and Education Hilders , Carina ; Erasmus School of Health Policy & Management Scheele, Fedde; OLVG Hospital , Department of Research and Education ; Athena Institute, Faculty of Earth and Life Sciences, VU University
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Health policy, Medical management, Patient-centred medicine, Qualitative research
Keywords:	Medical leadership, Physicians, Holistic care, Value-based healthcare, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Healthcare delivery

SCHOLARONE™
Manuscripts

1
2
3
4
5 **TITLE**

6 Do 'physicians in the lead' support a holistic healthcare delivery approach? *A qualitative*
7
8 *analysis of stakeholders' perspectives*
9

10 **AUTHORS**

11
12
13 Romana F. Malik (RM) M.D.¹

14
15 Carina G. J. M. Hilders M.D., Ph.D.²

16
17 Fedde Scheele M.D., Ph.D.^{3, 4, 5}
18

19
20 **AFFILIATIONS**

21
22 ¹ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164,
23
24 1006AE, Amsterdam, the Netherlands.

25
26 Telephone: +31-20 510 8960 @ romana_malik@hotmail.com
27

28
29 ² Erasmus School of Health Policy & Management, Rotterdam, Burgemeester Oudlaan
30
31 50, 3062 PA, the Netherlands. Telephone: +31-10 408 9177 @ C.Hilders@rdgg.nl
32

33
34 ³ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164,
35
36 1006AE, Amsterdam, the Netherlands.

37
38 Telephone: +31-20 480 7651 @ f.scheele@olvg.nl
39

40
41 ⁴ School of Medical Sciences, Institute of education and training, VU University Medical
42
43 Center, Amsterdam, the Netherlands.

44
45 ⁵ Athena Institute, Faculty of Earth and Life Sciences, VU University, Amsterdam, the
46
47 Netherlands.
48

49 **CORRESPONDING AUTHOR** Romana F. Malik (MD) OLVG Teaching Hospital, Department of
50
51 Medical Education, Jan Tooropstraat 164, 1006 AE Amsterdam, the Netherlands
52
53 Telephone: +31-205108292 @ romana_malik@hotmail.com
54
55
56
57
58
59
60

1
2
3 24 **WORD COUNT** 4995 words (Main text, excluding abstract, endnotes and exhibits)
4
5

6 25 **STRUCTURED ABSTRACT**
7

8 26 **Objectives** Value-based healthcare (VBHC) implies that healthcare issues are addressed most
9
10 27 effectively with the 'Physicians in the lead' (PIL) strategy. This study explores whether PIL
11
12 28 also supports a holistic care approach that is increasingly being demanded by patients.

13 29 **Design** A qualitative research design was used.

14
15 30 **Setting** This study was conducted in a general hospital in the Netherlands with an integrated
16
17 31 PIL strategy.

18 32 **Participants** Semi-structured interviews were conducted with 14 hospital stakeholders: 13
19
20 33 stakeholders of a gynaecology department (the hospital's Patient Council (n=1), nurses
21
22 34 (n=2), midwives (n=2), physicians (n=2), residents (n=2), the non-medical business managers
23
24 35 of the unit (n=2) the Board of Directors (n=2)) and a member of the Dutch National Health
25
26 36 Care Institute's Innovative Health Care Professions programme.

27 37 **Results** According to diverse stakeholders, PIL does not support a holistic healthcare delivery
28
29 38 approach, mainly because of the strong biomedical focus of physicians. Although physicians
30
31 39 can be educated to focus more on the holistic outcome, holistic care delivery requires
32
33 40 greater integration and teamwork in the care chain. As different healthcare professions are
34
35 41 complementary to each other, a new strategy of a 'team in the lead' was suggested to meet
36
37 42 the holistic healthcare demands. Besides this new strategy, there is a need for an extramural
38
39 43 care management coordination centre where patients are able to receive support in
40
41 44 managing their own care. This centre should also facilitate services similar to the core
42
43 45 function of a church or community centre. These services should help patients to deal with
44
45 46 different holistic dimensions that are important for their wellbeing.

44 47 **Conclusions** PIL seems to be insufficient for holistic healthcare delivery. A 'team in the lead'
45
46 48 approach should be considered to meet the holistic healthcare demands. Further research
47
48 49 should focus on observing PIL in different cultures and exploring the effectiveness of the
49
50 50 strategy 'team in the lead'.
51

51
52
53
54
55
56
57
58
59
60

52 STRENGTHS AND LIMITATIONS OF THIS STUDY

- 53 • To our knowledge, this is the first study to explore the PIL strategy in the transition to
54 holistic healthcare. This qualitative study gives insight in different stakeholders'
55 perspectives. These different perspectives provide a broad understanding to enhance
56 and provide holistic care in the context of the literature on physician leadership.
- 57 • The study is limited by the fact that it was conducted in one centre in one country. As the
58 strategy of hospitals differ among countries, the content may be less relevant to settings
59 without a PIL strategy.
- 60 • Hospital-based stakeholders are internally oriented, which may have influenced the way
61 they described the organization of holistic care.
- 62 • Because our results are based on interviews with stakeholders, they are likely to present
63 a limited picture of the effects of the PIL strategy on the transition to holistic healthcare.

72 INTRODUCTION

73 The healthcare system, which is traditionally organized around acute care delivery, seems to
74 be inadequate for managing the changing healthcare demands of the increasing number of
75 chronically ill and ageing patients. (1,2) To comply with these demands and manage the
76 growing impact they have on the national healthcare budgets, a different approach to
77 healthcare delivery is needed. (3-5) A relevant concept that is in line with the changing
78 demands of patients is 'Positive Health' of Huber et al. (6) This holistic concept entails that
79 the care approach to being 'healthy', which is currently mainly focused on biomedical facets
80 such as diseases and their treatments, should also consider other dimensions of patients'
81 lives, such as their psychological, social, and spiritual well-being (meaningfulness), their
82 quality of life and their daily functioning. (6) Integration of these dimensions in the strategic
83 approach of healthcare delivery may contribute to health system innovations.

84 In the process towards a feasible holistic healthcare delivery approach, several transition
85 designs have been developed, among which Porter's 'Value-Based Healthcare Delivery'
86 (VBHC). (7) VBHC uses a 'Physicians in the lead' (PIL) strategy. This strategy entails that
87 physicians are engaged in organizational processes and that they are responsible for the
88 quality and efficiency of their unit's care delivery. This strategy arises from the belief that
89 physicians have the power to lead the reform of healthcare and to provide care in an
90 effective and efficient way that takes the quality and costs into account. (8) The overarching
91 aim is to create value for patients, where value is defined as the patient health outcomes per
92 dollar spent. (7) This high-value care delivery system should be able to manage the
93 healthcare needs of patients and control the high costs in healthcare.

94 VBHC comprises six interdependent components: 1. organizing healthcare around patients'
95 medical conditions (a full care cycle) rather than around physicians' medical specialties; 2.

1
2
3 96 measuring costs and outcomes for each patient; 3. developing bundled prices for each care
4
5 97 cycle; 4. integrating care across separate facilities; 5. expanding geographic reach; and 6.
6
7 98 building an enabling Information Technology platform. VBHC provides many elements that
8
9 99 could support the desired health concept of holistic care. These elements, for instance,
10
11
12 100 include a multi-professions approach within a team of medical rehabilitation as part of a full
13
14 101 care cycle, which is a way to improve health outcomes. It is based on value for patients from
15
16 102 the perception of the patients. Moreover, it prescribes integrated care that exceeds the
17
18 103 traditional boundaries of care that is usually provided by a physician.

20
21
22 104 Although the transition to VBHC in the healthcare delivery approach is already being
23
24 105 implemented, it has not been sufficiently substantiated in the literature whether the PIL
25
26 106 strategy actually leads to holistic care. Although Porter does provide an approach to the full
27
28 107 cycle of care and to health outcomes, implementation studies (9-11) do not study such
29
30 108 holistic features of health proposed by Huber et al. (6) Moreover, Huber showed that there
31
32 109 is a large discrepancy between the perspectives of patients and healthcare professionals
33
34 110 concerning the relative importance of the various dimensions. (6) Whereas patients and
35
36 111 nurses find all six dimensions almost equally important, physicians indicate dimensions other
37
38 112 than bodily functions as less important. (6) As patients seem to have a broader view on their
39
40 113 health than physicians do and physicians do not seem to sufficiently recognize the holistic
41
42 114 nature of patient needs, the question arises whether PIL are capable of introducing holistic
43
44 115 care.

45
46
47
48
49
50 116 The aim of this research was to elicit various stakeholders' perspectives on the PIL strategy
51
52 117 in the transition to holistic healthcare and to establish views on the advantages, barriers,
53
54
55
56
57
58
59
60

1
2
3 118 opportunities for improvement, and development of barriers of the PIL strategy in this
4
5 119 transition. The research questions were:

- 6
7
8 120 • *What are the stakeholders' perspectives on the PIL strategy?*
9
10 121 • *What are the stakeholder's perspectives on holistic care?*
11
12 122 • *How do the stakeholders' perspectives on the PIL strategy relate to their perspectives*
13
14
15 123 *on holistic health care delivery?*
16
17

18 124

19
20 125

21
22 126

23
24 127

25
26 128

27
28 129

29
30 130

31
32 131

33
34 132

35
36 133

37
38 134

39
40 135

41
42 136

43
44 137

45
46 138
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 139 **METHODS**
4
5

6 140 *Setting*
7
8

9 141 This study was conducted in a general hospital in the Netherlands at a gynaecology
10 142 department that was halfway through the process of implementing VBHC and integrated a
11 143 PIL strategy. In this context all physicians in a unit share responsibility regarding the quality
12 144 and efficiency of healthcare delivery, with one physician in the lead in every unit. This
13 145 physician in the lead receives support from an operational manager and a business
14 146 administration manager, but remains ultimately accountable to the Board of Directors
15 147 concerning the organizational processes, the performance, and the quality of healthcare
16 148 delivery of the unit. The Board of Directors in their turn supports PIL by facilitating
17 149 leadership and management courses and monitors the results as well as the compliance of
18 150 the unit with the interests of the hospital. Besides leadership and managerial tasks, the
19 151 physician in the lead is required to remain a clinician.
20
21
22
23
24
25
26
27
28
29
30
31
32
33

34
35
36 152 *Study design*
37
38

39 153 An interpretative and descriptive, qualitative design was used. (12,13) Knowledge was
40 154 gained from an accurate and deep understanding of the stakeholders' perspectives from
41 155 their individually perceived experiences. The use of open questions during the interviews
42 156 allowed the respondents to talk in depth, choosing their own words. Also, it gave the
43 157 interviewer the opportunity to probe for a deeper understanding, ask for clarification &
44 158 allow the interviewee to steer the direction of the interview. In this way the interviewer
45 159 could develop a real sense of the stakeholders' understanding of the situation, their
46 160 experience and the associated perspectives.
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 161 *Participants and procedure*
4
5

6 162 We have used the method purposeful sampling to select stakeholders. (12,13) Stakeholders
7
8 163 were explicitly selected that were likely to generate appropriate and useful data. In this
9
10 164 study the participants were selected by a hospital administrator. The selection criteria were
11
12 165 the following: two stakeholders of each relevant stakeholder group that were identifiable as
13
14 166 representative for the group, were actively involved in policy discussions, and were actively
15
16 167 contributing to policy making concerning the hospital's future regarding healthcare delivery.
17
18 168 Between April and June 2016, a physician (RM) conducted semi-structured face-to-face, in-
19
20 169 depth interviews with members of all stakeholder groups of a gynaecology department; the
21
22 170 hospital's Patient Council (n=1), nurses (n=2), midwives (n=2), physicians (n=2), residents
23
24 171 (n=2), the non-medical business managers of the unit (n=2), and the Board of Directors
25
26 172 (n=2). In addition, a representative of the Dutch National Health Care Institute's Innovative
27
28 173 Health Care Professions programme was interviewed (the advisory board for the Dutch
29
30 174 Ministry of Health on innovations and improvements in health care professions and
31
32 175 education) (n=1). From the 14 participants, 12 were female and two were male. One of the
33
34 176 two male participants was a representative of the Board of Directors and the other a
35
36 177 representative of the non-medical business managers of the unit. The gender and ethnicity
37
38 178 distribution was representative for each stakeholder group. All 14 stakeholders were
39
40 179 approached for inclusion by e-mail invitations, and all agreed to participate (the secretary of
41
42 180 the hospital's Patient Council was approached for recruiting two representatives, however,
43
44 181 one delegate was sent to represent patients). The number of participants was
45
46 182 predetermined to obtain broad stakeholder perspective and data saturation was reached
47
48 183 with the initial cohort. This saturation was evaluated by the amount of new data that was
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 184 generated by each transcript. The Ethical Review Board of the hospital waived the
4
5 185 requirement for ethics approval for this study. All participants provided written informed
6
7 186 consent for audio-recording the interview and publishing the data.
8
9

10 187 *Data collection*

11
12
13
14 188 Keywords and phrases such as “Physicians in the lead”, “medical leadership”, “value-based
15
16 189 healthcare”, “holistic care”, “healthcare transition”, “healthcare delivery” were used in the
17
18 190 PubMed, CINAHL, PsycINFO and Google Scholar search engines to find relevant literature in
19
20 191 order to theoretically frame the transition to value-based and holistic healthcare delivery
21
22 192 and PIL. A tailored topic list was drafted from theoretical concepts to structure the
23
24 193 interviews and to organize the data collection (Appendix 1). In view of the exploratory goal
25
26 194 of the study, questions were mainly open. Each interview lasted a minimum of 30 minutes
27
28 195 and a maximum of 60 minutes with a median of 40 minutes.
29
30
31
32

33 196 *Data Analysis*

34
35
36
37 197 The interviews were transcribed verbatim. (12,13) The transcripts were anonymised for
38
39 198 anyone other than the interviewer (RM) and were analysed by two researchers using
40
41 199 content analysis. (12,13) A qualitative data analysis software program (MAX.QDA 2007) was
42
43 200 used for coding the narratives. Data were categorized with open and axial coding. During the
44
45 201 first step of open coding, sentences of the transcripts were coded with a label that
46
47 202 summarized the meaning of that sentence. This resulted in a large number of labels.
48
49 203 Subsequent axial coding reduced the number of labels by clustering the content of closely
50
51 204 related individual labels into categories. Thirty-nine categories remained after axial coding.
52
53 205 This process was guided by the concept of Huber et al.(6) and the research questions. In the
54
55
56
57
58
59
60

1
2
3 206 final step of selective coding, connections were made between the categories that were
4
5 207 identified in the axial coding process. This coding was an iterative process, in which the
6
7 208 research team repeatedly discussed until consensus was reached about the key themes.
8
9
10 209
11
12 210
13
14 211
15
16 212
17
18 213
19
20 214
21
22 215
23
24 216
25
26 217
27
28 218
29
30 219
31
32 220
33
34 221
35
36 222
37
38 223
39
40 224
41
42 225
43
44 226
45
46 227
47
48 228
49
50 229
51
52 230
53
54
55
56
57
58
59
60

231 RESULTS

232 Three key themes were derived from the analysis of the stakeholders' perspectives: the PIL
233 strategy in the transition to holistic healthcare delivery, the requirements to meet holistic
234 care, and a new strategy for hospitals to achieve holistic healthcare delivery. All data
235 presented in the results are based on the stakeholders' perspectives, unless it is specifically
236 mentioned that it is not.

237 PIL in the transition to holistic healthcare delivery

238 All stakeholders mentioned that a transition to holistic healthcare delivery seems to be
239 inevitable and a very desirable development. But the researchers questioned themselves the
240 following: *is introducing 'PIL' the same as introducing holistic care in the hospital?*

241 Facilitators to holistic care through PIL

242 All stakeholders agreed that the main advantages of PIL are related to the dimensions
243 'bodily functions' and 'daily functioning' of Huber et al.(6) The physicians themselves say
244 that they are able to look at a patient with a holistic view. The extent to which the physician
245 has a holistic view however, depends on the physician's specialty. Besides specialty, the
246 physician's experience can have a beneficial influence on the physician's capacity to provide
247 holistic care.

248 *"Geriatricians and oncologists will look not only at the bodily functions but will have a*
249 *broader view of components that add value for patients."* (Resident)

250 The physicians can lead the practice, as they have knowledge about the physical needs of
251 patients, the treatments available for diseases, resources that are needed for patient care,
252 and developments in medical care. Physicians have a certain influence within a team, which

1
2
3 253 can help in transferring a holistic vision to the rest of the team.
4

5
6 254 *“If I want something from the Board of Directors, I have to pass several levels, and in the end,*
7
8 255 *I will still not succeed to reach them. If a physician approaches the Board of Directors, they*
9
10 256 *get through immediately”.* (Manager)

11 12 13 257 **Barriers to holistic care through PIL**

14
15
16 258 The first barrier of PIL for providing holistic healthcare is time. The short time frame
17
18 259 physicians have for each patient does not make it possible to deliver holistic care.

19
20
21 260 *“A physician has ten minutes for each patient, they do not have time to check whether*
22
23 261 *patients are healthy on all these dimensions. Moreover, I do not see any physician doing*
24
25 262 *this.”* (Nurse)

26
27
28
29 263 A second barrier is that physicians have a narrowed view due to their strong biomedical
30
31 264 focus according to all stakeholders, except for the physicians themselves and the Board of
32
33 265 Directors. This focus is often at the expense of other dimensions; for instance, this view
34
35 266 rarely includes meaningfulness as part of the spiritual dimension. This narrowed view may
36
37 267 result in more focus on diagnostics and interventions than desirable.

38
39
40
41 268 *“Our profession is based on seeing clients from a healthy perspective. As soon as a*
42
43 269 *gynaecologist is consulted for advice concerning a pregnant woman, you may assume that*
44
45 270 *their care delivery approach is focused on disease. Then it is often just a matter of wait and*
46
47 271 *see until they start their interventions, which are in my opinion not always necessary.”*
48
49 272 (Midwife)

50
51
52
53 273 A third barrier concerns the physician’s engagement in management and leadership tasks.
54
55 274 Physician priority is to be a clinician rather than a manager and leader. The management
56
57
58
59
60

1
2
3 275 course that is provided in the hospital is considered insufficient, as managers usually study
4
5 276 management for years. The time PIL get to run a unit is also insufficient, as they still provide
6
7 277 care and managing a unit is a complex and full-time task. Although many PIL manage to take
8
9 278 care of their own unit, they seem to lose sight of the bigger picture and do not act in
10
11 279 collaboration with other units and the hospital's interests.

12
13
14
15 280 *“Physicians in the lead manage to take care of their own unit and their interests, but do not*
16
17 281 *always manage to collaborate with other units and act towards the hospital's interests.”*
18
19 282 *(Board of Directors)*

22 283 **Opportunities for improvement**

23
24
25 284 The main opportunity for improvement is educating physicians in the delivery of holistic
26
27 285 healthcare, but also in management and leadership. A second opportunity for improvement
28
29 286 is enhanced collaboration with other professions, such as nursing. Awareness and
30
31 287 contribution of other professionals is important, as is awareness of the way in which they
32
33 288 are complementary to each other.

34
35
36
37 289 *“We work with nurses every day, but we do not know anything about the content of their*
38
39 290 *education and what exactly they are competent and authorized to do.”(Resident)*

40
41
42
43 291 For the current PIL, a broader view based on collaboration, interrelations between units and
44
45 292 responsibility for hospital interest in addition to the unit's interests can be developed
46
47 293 through educational programs. Furthermore, not every physician is able to be a leader or
48
49 294 manager and perhaps should focus mainly on patient care, while others should focus more
50
51 295 on leadership and management tasks in addition to patient care.

296 **Development of the barriers**

297 Threats to the enhancement of holistic care are mostly related to the consequences of the
298 barriers or to failure to implement the opportunities for improvement. One of the risks is
299 that holistic healthcare is not achieved because of the strong biomedical focus. Another risk
300 is raised when self-interest of the unit is prominent, rather than the interrelations with units.
301 This has the potential consequence that the hospital may not provide a full cycle of care for
302 patients. Furthermore, a hierarchic structure, where only the physician is in the lead, can
303 cause insufficient representation of the perspectives of other professions. For other
304 professions, it may be very hard to make a change:

305 *“With this strategy there is one doctor at the top, if the doctor has a different view than the*
306 *rest of the team, it is a burden for the team.” (Midwife)*

307 **Requirements to meet holistic care**

308 From the stakeholders’ perspectives, it became clear that the PIL strategy is insufficient to
309 meet the holistic requirements proposed by Huber et al.(6) However, all the participants
310 confirmed that all six dimensions should be considered as important healthcare outcomes.
311 As patients’ health outcomes are not yet systematically measured, there is a lack of clarity
312 about who should be the one to take the lead in detecting the needs of patients and
313 arranging the process needed to improve their health status. All stakeholder groups
314 mentioned that the care is supposed to be value-based and holistic, but that this is often not
315 yet the case in practice.

316 *“The reality is always more persistent than the ideas that are being launched. Things always*
317 *turn out differently than the perspectives that are outlined. As a patient, you are subject to*
318 *this.” (Patient Council)*

1
2
3 319 The system still need to re-organize and adapt further to meet the requirements for holistic
4
5 320 care.

6
7
8 321 *The care chain*

9
10 322 In order to provide holistic care, it is essential that the healthcare providers have a shared
11
12 323 vision. From the perspectives of several stakeholders, patients should be supported outside
13
14 324 the hospital in order to achieve holistic healthcare. A holistic approach should be the core of
15
16 325 care delivery in every link of the care chain; therefore, hospital based professionals should
17
18 326 consider the six dimensions essential for patients to improve their health. Referrals and
19
20 327 collaboration between a variety of disciplines and professions in and outside the hospital is
21
22 328 needed for holistic care delivery.

23
24
25
26
27 329 *Roles in the organization of holistic healthcare*

28
29 330 From the stakeholders' perspectives, five important roles were defined besides PIL in
30
31 331 organizing holistic care:

32
33
34
35 332 *Patients*

36
37 333 All stakeholders agreed with the need for empowering patients. The structure of 'patients in
38
39 334 the lead' was mentioned several times. Patients in the lead were thought to be able to take
40
41 335 responsibility for their own health and to manage their care in a holistic way as far as
42
43 336 possible. Illness and age were mentioned as possible reasons why patients may not be able
44
45 337 to take responsibility for their own health.

46
47
48
49 338 *"In current society, people were not raised with the mentality to take responsibility for their*
50
51 339 *own health and manage their own care. It will take a generation to achieve this." (Doctor)*

1
2
3 340 Support is thus needed to guide and help patients in coordinating and managing their own
4
5 341 healthcare. Patients who are still not capable to manage their care, despite receiving
6
7 342 support, are dependent on safety nets. At this point, the question emerged regarding who
8
9 343 should help the patient by fulfilling a coordinating role if these limits are reached and who
10
11 344 should take the lead in coordinating the healthcare of these patients.
12
13

14 15 345 *Informal caregivers*

16
17 346 A marked difference emerged in the perspectives of the various stakeholders on the role of
18
19 347 informal caregivers. The representative of the Innovative Health Care Professions
20
21 348 programme and the representatives of the Board of Directors on one hand, were confident
22
23 349 that informal caregivers can provide a large part of the care that is needed. Several other
24
25 350 stakeholders mentioned that society is increasingly individualistic, which makes informal
26
27 351 care delivery not a very viable or desirable option. They expressed their concern that a
28
29 352 majority of patients might not even have an informal caregiver who would provide care that
30
31 353 meets their health needs. Moreover, when care is provided by informal care givers, the
32
33 354 privacy of patients can be at stake.
34
35
36
37

38
39 355 *If my father poops in his pants, my mother cannot ask the neighbours to help him. What*
40
41 356 *about his privacy? (Nurse)*
42
43

44 357 *Nurses*

45
46 358 All stakeholders said that nurses are an important link in the healthcare chain. They
47
48 359 expressed the conviction that nurses are capable to function as case-managers and to
49
50 360 coordinate holistic care for patients in primary as well as secondary health care. This belief
51
52 361 was attributed to the attention to holistic skills in the nurse training. Some remarked that it
53
54 362 should be considered whether district nurses can get a good overview of a patient's health
55
56
57
58
59
60

1
2
3 363 during their short visits and whether there might be time and resources to deploy them for
4
5 364 coordinating the holistic care.
6
7

8 365 **General Practitioner**

9

10
11 366 The role of the GP was also considered to be very important. The GP was seen as a generalist
12
13 367 who has a holistic view of patients and would not unnecessarily refer patients to a medical
14
15 368 specialist. Stakeholders agreed that follow-up can often be done by a GP, which has a
16
17 369 proximity advantage for the patient and a cost advantage for the healthcare system. Overall,
18
19 370 while the GP can be a good coordinator in a patient's healthcare, the limited amount of time
20
21 371 for each patient and workload are obstacles to GPs fulfilling a leading or coordinating role.
22
23
24
25

26 372 **The need for a new care management coordination centre**

27

28
29 373 *"If patients enter the hospital or a healthcare organization, they do not know where to go,*
30
31 374 *there is so much bureaucracy that they first have to tell their story five times."* (Midwife)
32
33

34 375

35
36 376 The majority of stakeholders mentioned that there is a lack of support for patients to
37
38 377 manage their care and solutions suggested include a new care management coordination
39
40 378 centre, where patients can receive services that are similar to the core activities of a church,
41
42 379 community centre and information desk. This centre needs to function as an accessible place
43
44 380 where people can easily gain information and support to manage their healthcare and
45
46 381 function as patients in the lead. Additionally, the need for such a centre is sometimes
47
48 382 mentioned in conjunction with 'case-managers'. Case-managers are able to help people
49
50 383 navigate their way. Hubers et al's dimension 'meaningfulness',⁽⁶⁾ is assumed to be an
51
52 384 objective that was traditionally paid attention to by the church or other religious
53
54
55
56
57
58
59
60

1
2
3 385 organizations. As people have different perspectives about religion, this new centre could
4
5 386 pay attention to the dimension 'meaningfulness'.
6

7 387

8
9
10 388 *"Formerly, a lot of people went to the church, now this is much less the case. People are*
11
12 389 *searching for alternatives for meaningfulness and mindfulness."* (Physician)
13

14 15 390 **A new strategy for hospitals to support holistic healthcare delivery** 16

17
18 391 The main key for achieving a holistic approach to healthcare delivery seems to be
19
20 392 collaboration between all the providers in the care chain. All healthcare providers within the
21
22 393 hospital are complementary to each other, and physicians cannot be expected to consider
23
24 394 and balance all the dimensions of holistic healthcare on their own. Continuing the PIL
25
26 395 strategy may be at the expense of the majority of the holistic dimensions of Huber et al.(6)
27
28 396 and can be an obstacle in achieving holistic healthcare in VBHC. The majority of stakeholders
29
30 397 mentioned that the unit should be led by more stakeholders in addition to PIL to ensure
31
32 398 holistic healthcare. A new strategy of 'team in the lead' was proposed by the researchers.
33
34 399 Per medical specialty, careful consideration should be given to the composition of the team
35
36 400 and all professions should be adequately represented in the team.
37
38
39
40

41
42 401 *"In my opinion, even the Patient Council may take part in this."* (Midwife)
43
44

45 402

46
47
48 403

49
50
51 404
52
53
54
55
56
57
58
59
60

1
2
3 405 **DISCUSSION**

4
5 406 We performed a qualitative study and explored stakeholders' perspectives on the PIL
6
7 407 strategy in the transition to holistic healthcare. We identified several bottlenecks, solutions
8
9 408 and roles in organizing this transition. Features of PIL in the transition were elucidated and
10
11 409 did not seem to align with the aim of providing holistic healthcare. A new strategy of 'team
12
13 410 in the lead' was proposed. Moreover, participants agreed that a new care management
14
15 411 coordination centre is needed that may provide social and spiritual support as well as the
16
17 412 information that patients need in order to manage their own care.
18
19
20
21

22 413 *Comparison with the existing literature*

23
24
25 414 The findings concerning the importance of integration of healthcare delivery are in line with
26
27 415 the integrated practice units and systems integration as described in VBHC. (11) Other
28
29 416 concepts in the literature also support integrated care to improve healthcare delivery for
30
31 417 patients. (14,15) Although PIL can contribute in controlling the increasing healthcare costs
32
33 418 and improving organizational performance, (16-21) we noticed that PIL in our study do not
34
35 419 seem to contribute sufficiently to the interrelations needed between units and thus the
36
37 420 integration of units. Collaboration and integration are necessary to provide holistic care and
38
39 421 healthcare leaders are needed that go beyond integrated care and actively support people in
40
41 422 all dimensions for optimized healing and managing their own health. (22) Based on our
42
43 423 results, we postulate that holistic care may be achieved by establishing a team in the lead.
44
45 424 To create a patient oriented team, it is needed to transform the relationships among
46
47 425 individual providers. (23) The proposed 'team in the lead' in our research can be linked to
48
49 426 models about 'shared leadership' in the literature. (24) Shared leadership is management or
50
51 427 leadership at a team-level, which empowers staff within the decision-making processes. (24)
52
53
54
55
56
57
58
59
60

1
2
3 428 Effective collaborative relationships and teamwork within shared-leadership are thought to
4
5 429 improve integration, care practices and patient outcomes. (24,25) Moreover, an effective
6
7 430 and efficient team in the lead requires collective competences. Lingard describes the
8
9 431 necessity of team competence in medicine. (26) She mentions that individual competence
10
11 432 alone, which is the focus in medicine, is insufficient for the quality of healthcare delivery and
12
13 433 holds us back from meaningful change in how we educate for, and practice as, health care
14
15 434 teams. Competent individuals can form incompetent teams. The competence of leadership
16
17 435 is increasingly important in competency frameworks for professionals, but it is in complex
18
19 436 relation to team collaboration. (26) Lingard claims that we risk perpetuating the myth that
20
21 437 “strong leadership” is the panacea for what ails teamwork but that what “strong leadership”
22
23 438 entails will vary according to clinical context. The nature of leadership in acute care delivery
24
25 439 such as in surgical, resuscitation, and trauma teams may be different from the leadership
26
27 440 that is needed in teams that provide chronic and complex care.

28
29
30
31
32
33 441 Besides the concept of a team in the lead to improve integration of care and realize a holistic
34
35 442 healthcare delivery approach, the concept of a care management coordination centre seems
36
37 443 to be required to support patients to be in the ultimate ‘lead’ of their health. This centre
38
39 444 corresponds to features of integrated care centres described in the literature, (23) of which
40
41 445 there are physician-led care centres and non-physician (case-managers, home care agencies,
42
43 446 or area agencies) led care centres. Such centres provide some of the similar services to the
44
45 447 ones we have described as needed, such as patient information and coordination of care.
46
47 448 However, these centres, that are serving patients who are often medically and socially
48
49 449 vulnerable and require a wider range of needs, do not seem to offer direct possibilities to
50
51 450 meet the spiritual and social needs of patients. In reality, a care manager in such centres
52
53 451 may still refer people who have such needs. Irrespective of the model used to integrate care,
54
55
56
57
58
59
60

1
2
3 452 collaborative and interdependent formal and informal relationships between all the links in
4
5 453 the care chain remain necessary for providing holistic care. (23)

6
7 454 *Advantages and limitations*

8
9
10 455 To our knowledge, this is the first study to explore the PIL strategy in the transition to
11
12 456 holistic healthcare. Our findings are supported by comparable notions about organizational
13
14
15 457 reforms in healthcare. (27) This study's strength is that it provides the advantages, barriers,
16
17 458 opportunities for improvement and development of barriers of the strategy PIL, therefore
18
19 459 giving broader insights and exploration. To achieve reliability, we made use of accurately
20
21 460 transcribed recordings, instead of making use of handwritten notes. (12,13) The data was
22
23 461 transcribed by the researcher that conducted the interviews for accuracy and to get familiar
24
25 462 with the data. To ensure reliable data analysis, two researchers were involved in labelling
26
27 463 the codes. The themes were discussed within the research team until consensus was
28
29 464 reached. To create an opportunity for other researchers to repeat this study, all the steps
30
31 465 are described in the methods as detailed as possible. To ensure credibility, the respondents
32
33 466 were chosen from a range that they were identifiable as representative for the group.
34
35 467 (12,13) Moreover, quotes from the transcripts were tied to the text so the reader can see
36
37 468 how the interpretation is based on the data. To ensure alignment between the shared
38
39 469 information and the interpretation of the interviewer, the interviewer (RM) explored the
40
41 470 hospital's strategy documents, in order to be aware of and understand the hospital's
42
43 471 processes. In this way the information shared could be better understood and interpret.
44
45 472 Questions were mainly open-ended to encourage information sharing. Answers were now
46
47 473 and then paraphrased and summarized to give the respondent the opportunity to add
48
49 474 important perspectives, to confirm the interpretations and to clear misunderstandings of the
50
51
52
53
54
55
56
57
58
59
60

1
2
3 475 interviewer. Information about anonymity was given prior to the interview. This was
4
5 476 expected to not withhold the participants from speaking freely.
6

7 477 The present study is limited by the fact that it was conducted in one country. As the
8
9 478 organization of the healthcare system and the strategy of hospitals differ among countries,
10
11 479 the content may be less relevant to other settings. Also, our results are based on interviews
12
13 480 with stakeholders, they are likely to present a limited picture of the effects of the PIL
14
15 481 strategy on the transition to holistic healthcare. In addition, hospital stakeholders are
16
17 482 internally oriented, which may have influenced the way they described the organization of
18
19 483 holistic care. Although these are aspects that limit the transferability of our findings, we
20
21 484 think that the concepts used in this study are internationally recognized and the organization
22
23 485 of healthcare systems in different countries is similar enough to justify the assumption that
24
25 486 our findings will have some relevance and are transferable to other contexts and settings.
26
27
28
29
30

31 487 *Suggestions for future research*

32
33

34 488 Although we gained insights into PIL in the transition to holistic healthcare in the
35
36 489 Netherlands, it would be interesting to explore the effect of introducing PIL in different
37
38 490 cultures. Moreover, observational studies may be useful to determine which issues of PIL in
39
40 491 the transition cause the most problems in order to improve this strategy. Furthermore,
41
42 492 research on the effectiveness of the proposed concept of a team in the lead would be
43
44 493 necessary to explore whether this model is effective and would lead to the desired holistic
45
46 494 care in practice.
47
48
49
50

51 495 *Implications*

52
53

54 496 It is important for PIL to be aware of the stakeholders' perspectives and of the holistic
55
56 497 approach to healthcare delivery. Although physicians can be educated to focus more on the
57
58
59
60

1
2
3 498 holistic outcome than on cure and treatment, a 'team in the lead' approach should be taken
4
5 499 into consideration to achieve holistic healthcare. Organizing holistic care requires more
6
7 500 integration and teamwork across facilities in the care chain. Moreover, there is a demand for
8
9 501 a care management coordination centre that coordinates care and supports patients on the
10
11 502 different dimensions of holistic care. Better support on these dimensions may lead to more
12
13
14 503 healthy patients in the lead.
15
16
17 504
18
19
20 505
21
22
23 506
24
25
26 507
27
28
29 508
30
31
32 509
33
34
35 510
36
37
38 511
39
40
41 512
42
43
44 513
45
46
47 514
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 515 **CONCLUSION**
4

5 516 The transition to a value-based and holistic approach in healthcare is desirable. Although
6
7 517 VBHC is an important step in the right direction due to the integrative aspects it offers, the
8
9 518 PIL strategy may be at the expense of the holistic aims in the healthcare delivery approach.
10
11 519 To realize a holistic healthcare approach, a strategy of a 'team in the lead' should be
12
13 520 considered, as different professional groups complement each other in the full care cycle.
14
15 521 Furthermore, the current organization of holistic care lacks support for patients to manage
16
17 522 their care. A care management coordination centre is required to support patients in
18
19 523 realizing the care that is needed to improve their health outcomes. A second important
20
21 524 aspect in the organization of holistic care is that every link in the care chain contributes to
22
23 525 holistic care delivery, therefore collaboration and integration across the care chain is
24
25 526 necessary.
26
27
28
29

30 527

31
32 528

33
34 529

35
36 530

37
38 531

39
40 532

41
42 533

43
44 534

45
46 535

47
48 536

49
50 537
51
52
53
54
55
56
57
58
59
60

1
2
3 538 **ACKNOWLEDGEMENTS** We like to thank all the respondents for their sincerity and
4
5 539 generosity of sharing their perspectives with us. Also, we would like to thank Nesibe
6
7 540 Akdemir (NA), a PhD student in medical education, for her contribution in analysing the
8
9 541 data.

10
11
12
13 542 **CONTRIBUTORS**

14
15 543 RM, CH and FS contributed to the conception and development of the study, project
16
17 544 management, reporting and publication. RF, CH and FS developed the topic list for the semi-
18
19 545 structured interviews. RM and FS participated in participant recruitment and RM in the data
20
21 546 collection. RM performed all interviews. RM, CH, and FS developed and refined the coding
22
23 547 framework, and RM and NA performed the data analysis. RM prepared the first draft of the
24
25 548 manuscript. RM, CH, and FS were involved in drafting and revising the manuscript and have
26
27 549 given final approval of the version to be published. RM takes responsibility for the
28
29 550 manuscript.

30
31
32
33 551 **CONFLICT OF INTEREST STATEMENT** All authors have completed the ICMJE uniform
34
35 552 disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from
36
37 553 any organisation for the submitted work; no financial relationships with any organisations
38
39 554 that might have an interest in the submitted work in the previous three years, no other
40
41 555 relationships or activities that could appear to have influenced the submitted work
42
43
44
45

46 556 **TRANSPARENCY DECLARATION** The lead author affirms that the manuscript is an honest,
47
48 557 accurate, and transparent account of the study being reported; that no important aspects of
49
50 558 the study have been omitted; and that any discrepancies from the study as planned have
51
52 559 been explained.
53
54
55
56
57
58
59
60

1
2
3 560 **FUNDING:** No funding was provided.
4
5

6 561 **DATA SHARING** De-identified transcribed interviews and the code set can be made available
7

8 562 by request to the corresponding author.
9
10

11 563
12

13 564
14

15 565
16

17 566
18

19 567
20

21 568
22

23 569
24

25 570
26

27 571
28

29 572
30

31 573
32

33 574
34

35 575
36

37 576
38

39 577
40

41 578
42

43 579
44

45 580
46

47 581
48

49 582
50
51
52
53
54
55
56
57
58
59
60

583 **REFERENCE LIST**

584

585 (1) Christensen K, Doblhammer G, Rau R, Vaupel JW. Ageing populations: the challenges
586 ahead. *Lancet* 2009 Oct 3;374(9696):1196-208.

587 (2) Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving
588 chronic illness care: translating evidence into action. *Health Aff (Millwood)* 2001
589 Nov;20(6):64-78.

590 (3) Barr VJ, Robinson S, Marin-Link B, Underhill L, Dotts A, Ravensdale D, et al. The
591 expanded Chronic Care Model: an integration of concepts and strategies from
592 population health promotion and the Chronic Care Model. *Hosp Q* 2003;7(1):73-82.

593 (4) Bodenheimer T, Fernandez A. High and rising health care costs. Part 4: can costs be
594 controlled while preserving quality? *Ann Intern Med* 2005 Jul 5;143(1):26-31.

595 (5) Huber M, Knottnerus JA, Green L, van der Horst H, Jadad AR, Kromhout D, et al. How
596 should we define health? *BMJ* 2011 Jul 26;343:d4163.

597 (6) Huber M, van VM, Giezenberg M, Winkens B, Heerkens Y, Dagnelie PC, et al. Towards
598 a 'patient-centred' operationalisation of the new dynamic concept of health: a mixed
599 methods study. *BMJ Open* 2016 Jan 12;6(1):e010091.

600 (7) Porter ME. What is value in health care? *N Engl J Med* 2010 Dec 23;363(26):2477-81.

601 (8) Porter ME, Teisberg EO. How physicians can change the future of health care. *JAMA*
602 2007 Mar 14;297(10):1103-11.

603 (9) Lee VS, Kawamoto K, Hess R, Park C, Young J, Hunter C, et al. Implementation of a
604 Value-Driven Outcomes Program to Identify High Variability in Clinical Costs and
605 Outcomes and Association With Reduced Cost and Improved Quality. *JAMA*
606 2016;316(10):1061-72.

607 (10) Nilsson K, Bssthe F, Andersson AE, Wikström E, Sandoff M. Experiences from
608 implementing value-based healthcare at a Swedish University Hospital a longitudinal
609 interview study. *BMC Health Serv Res BMC Health Services Research* 2017;17(1).

610 (11) Porter ME, Pabo EA, Lee TH. Redesigning primary care: a strategic vision to improve
611 value by organizing around patients' needs. *Health Aff (Millwood)* 2013
612 Mar;32(3):516-25.

613 (12) Green J, Thorogood N. Qualitative methods for health research. Los Angeles: SAGE;
614 2009.

615 (13) Mortelmans D. Manual qualitative research methods (in Dutch: Handboek
616 kwalitatieve onderzoeksmethoden). Leuven; Den Haag: Acco; 2013.

- 1
2
3 617 (14) Plochg T, Klazinga NS. Community-based integrated care: myth or must? *Int J Qual*
4 618 *Health Care* 2002 Apr;14(2):91-101.
- 5
6 619 (15) Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and
7 620 implications--a discussion paper. *Int J Integr Care* 2002;2:e12.
- 8
9 621 (16) Clark J. Medical leadership and engagement: no longer an optional extra. *J Health*
10 622 *Organ Manag* 2012;26(4-5):437-43.
- 11
12 623 (17) Daly R. Putting physicians in the lead for cost containment. *Healthc Financ Manage*
13 624 *2013 Dec;67(12):52-9.*
- 14
15 625 (18) O'Sullivan H, McKimm J. Medical leadership: an international perspective. *Br J Hosp*
16 626 *Med (Lond)* 2011 Nov;72(11):638-41.
- 17
18 627 (19) Schwartz RW, Tumblin TF. The power of servant leadership to transform health care
19 628 organizations for the 21st-century economy. *Arch Surg* 2002 Dec;137(12):1419-27.
- 20
21 629 (20) Warren OJ, Carnall R. Medical leadership: why it's important, what is required, and
22 630 how we develop it. *Postgrad Med J* 2011 Jan;87(1023):27-32.
- 23
24 631 (21) Yolande W, Gerhard ACS, Pauline LM, Dick LW. Doctor in the lead: balancing between
25 632 two worlds. *Organization* 2011;18(4):477-95.
- 26
27 633 (22) Plochg T, Ilinca S, Noordegraaf M. Beyond integrated care. *J Health Serv Res Policy*
28 634 *2017 Jan 1;1355819617697998.*
- 29
30 635 (23) Griffin JD, Andrew F. Integrated care management in rural communities. Portland,
31 636 ME: University of Southern Maine, Muskie School of Public Service, Maine Rural
32 637 Health Research Center; 2014. Report No.: Working Paper #54.
- 33
34 638 (24) Al-Sawai A. Leadership of healthcare professionals: where do we stand? *Oman Med J*
35 639 *2013 Jul;28(4):285-7.*
- 36
37 640 (25) Bergman JZ, Rentsch JR, Small EE, Davenport SW, Bergman SM. The shared
38 641 leadership process in decision-making teams. *J Soc Psychol* 2012 Jan;152(1):17-42.
- 39
40 642 (26) Lingard L. Paradoxical Truths and Persistent Myths: Reframing the Team Competence
41 643 Conversation. *Journal of Continuing Education in the Health Professions* 2016;36
42 644 *Suppl 1:S19-S21.*
- 43
44 645 (27) Locock L. Healthcare redesign: meaning, origins and application. *Qual Saf Health Care*
45 646 *2003 Feb;12(1):53-7.*
46 647
47 648
48 649
49 650
50 651

APPENDIX

Appendix 1: Topic list

Topics	Sub-topics
Change in healthcare delivery approach	<ul style="list-style-type: none"> - Are you familiar with the changes in healthcare delivery demanded by the Dutch Ministry of Health? - What do you know about the organization of this transition to value-based and holistic healthcare delivery? <p>After introducing these topics, participants received an introduction to the six dimensions of holistic health proposed by Huber et al.(6) and the reorganization of healthcare delivery demanded by the Dutch Ministry of Health. After this introduction, the following questions were asked:</p>
Organization of care	<ul style="list-style-type: none"> - What are your perspectives on the transition to value-based and holistic healthcare delivery? - How would you like this desired care delivery to be organized?
Coordination	<ul style="list-style-type: none"> - Who should take leadership in the organization of this care and in supporting the patient?
Physicians in the lead	<ul style="list-style-type: none"> - What do you think about physicians in the lead in holistic healthcare? - What are the advantages, barriers, opportunities for improvement, and risks in the transition to the desired healthcare approach? - Do you think the strategy of physicians in the lead will lead to holistic healthcare?

1
2
3 **Index of items reported in our research in accordance with the Standards for Reporting**
4 **Qualitative Research (SRQR)***
5

6	1. Title	p. 1
7	2. Structured abstract	p. 2
8	3. Problem formulation	p. 4
9	4. Purpose or research question	p. 6
10	5. Qualitative approach and research paradigm	p. 7
11	6. Researcher characteristics, reflexivity	p. 8
12	7. Context	p. 7
13	8. Sampling strategy	p. 8
14	9. Ethical issues pertaining to human subjects	p. 9
15	10. Data collection methods	p. 9
16	11. Data collection instruments/ technologies	p. 9
17	12. Units of study	p. 8
18	13. Data processing	p. 9
19	14. Data analysis	p. 9
20	15. Techniques to enhance trustworthiness	p. 21
21	16. Synthesis and interpretation	p. 11-18
22	17. Links to empirical data	p. 11-18
23	18. Integration with prior work, implications, transferability, 24 and contribution(s)	p. 22, 23 and 25
25	19. Limitations	p. 3 and 22
26	20. Conflicts of interest	p. 25
27	21. Funding	p. 26

28
29
30
31
32
33
34
35
36
37
38 * Standards by Bridget C. O'Brien, PhD, Ilene B. Harris, PhD, Thomas J. Beckman, MD, Darcy A. Reed,
39 MD, MPH, and David A. Cook, MD, MHPE
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

BMJ Open

Do 'physicians in the lead' support a holistic healthcare delivery approach? A qualitative analysis of stakeholders' perspectives

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-020739.R2
Article Type:	Research
Date Submitted by the Author:	04-Apr-2018
Complete List of Authors:	Malik, Romana; OLVG Hospital, Department of Research and Education Hilders , Carina ; Erasmus School of Health Policy & Management Scheele, Fedde; OLVG Hospital , Department of Research and Education ; Athena Institute, Faculty of Earth and Life Sciences, VU University
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Health policy, Medical management, Patient-centred medicine, Qualitative research
Keywords:	Medical leadership, Physicians, Holistic care, Value-based healthcare, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Healthcare delivery

SCHOLARONE™
Manuscripts

TITLE

Do 'physicians in the lead' support a holistic healthcare delivery approach? *A qualitative analysis of stakeholders' perspectives*

AUTHORS

Romana F. Malik (RM) M.D.¹

Carina G. J. M. Hilders M.D., Ph.D.²

Fedde Scheele M.D., Ph.D.^{3, 4, 5}

AFFILIATIONS

¹ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164, 1006AE, Amsterdam, the Netherlands.

Telephone: +31-20 510 8960 @ romana_malik@hotmail.com

² Erasmus School of Health Policy & Management, Rotterdam, Burgemeester Oudlaan 50, 3062 PA, the Netherlands. Telephone: +31-10 408 9177 @ C.Hilders@rdgg.nl

³ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164, 1006AE, Amsterdam, the Netherlands.

Telephone: +31-20 480 7651 @ f.scheele@olvg.nl

⁴ School of Medical Sciences, Institute of education and training, VU University Medical Center, Amsterdam, the Netherlands.

⁵ Athena Institute, Faculty of Earth and Life Sciences, VU University, Amsterdam, the Netherlands.

CORRESPONDING AUTHOR Romana F. Malik (MD) OLVG Teaching Hospital, Department of Medical Education, Jan Tooropstraat 164, 1006 AE Amsterdam, the Netherlands
Telephone: +31-205108292 @ romana_malik@hotmail.com

1
2
3 24 **WORD COUNT** 4801 words (Main text, excluding abstract, endnotes and exhibits)
4
5

6 25 **STRUCTURED ABSTRACT**
7

8 26 **Objectives** Value-based healthcare (VBHC) implies that healthcare issues are addressed most
9
10 27 effectively with the 'physicians in the lead' (PIL) strategy. This study explores whether PIL
11
12 28 also supports a holistic care approach that patients are increasingly demanding.

13 29 **Design** A qualitative research design was used.

14
15 30 **Setting** This study was conducted in a general hospital in the Netherlands with an integrated
16
17 31 PIL strategy.

18 32 **Participants** Semi-structured interviews were conducted with 14 hospital stakeholders: 13
19
20 33 stakeholders of a Obstetrics and Gynaecology department (the hospital's Patient Council
21
22 34 (n=1), nurses (n=2), midwives (n=2), physicians (n=2), residents (n=2), the non-medical
23
24 35 business managers of the Obstetrics and Gynaecology department (n=2) the Board of
25
26 36 Directors (n=2)) and a member of the Dutch National Healthcare Institute's Innovative
27
28 37 Healthcare Professions programme.

29 38 **Results** According to diverse stakeholders, PIL does not support a holistic healthcare delivery
30
31 39 approach, primarily because of the strong biomedical focus of physicians. Although
32
33 40 physicians can be educated to place more emphasis on the holistic outcome, holistic care
34
35 41 delivery requires greater integration and teamwork in the care chain. As different healthcare
36
37 42 professions are complementary to each other, a new strategy of a 'team in the lead' was
38
39 43 suggested to meet the holistic healthcare demands. Besides this new strategy, there is a
40
41 44 need for an extramural care management coordination centre where patients are able to
42
43 45 receive support in managing their own care. This centre should also facilitate services similar
44
45 46 to the core function of a church or community centre. These services should help patients to
46
47 47 deal with different holistic dimensions that are important for their wellbeing.

48 48 **Conclusions** The PIL strategy appears to be insufficient for holistic healthcare delivery. A
49
50 49 'team in the lead' approach should be considered to meet the holistic healthcare demands.
51
52 50 Further research should focus on observing PIL in different cultures and exploring the
53
54 51 effectiveness of the strategy 'team in the lead'.
55
56 52

53 **STRENGTHS AND LIMITATIONS OF THIS STUDY**

- 54 • To our knowledge, this is the first study to explore the PIL strategy in the transition to
55 holistic healthcare. This qualitative study offers insights in different stakeholders'
56 perspectives. These provide broad understanding on how to enhance and provide
57 holistic care in the context of physician leadership.
- 58 • The study is limited by the fact that it was conducted in one centre in one country. As the
59 strategy of hospitals differ among countries, the content may be less relevant to settings
60 without a PIL strategy.
- 61 • Hospital-based stakeholders are internally oriented, which may have influenced the way
62 they described the organization of holistic care.
- 63 • Because our results are based on interviews with stakeholders, they are likely to present
64 a limited picture of the effects of the PIL strategy on the transition to holistic healthcare.

73 INTRODUCTION

74 The healthcare system, which is traditionally organized around acute care delivery, seems to
75 be inadequate for managing the changing healthcare demands of the increasing number of
76 chronically ill and ageing patients. (1;2) To comply with these demands and manage the
77 growing impact they have on the national healthcare budgets, a different approach to
78 healthcare delivery is needed. (3-5) A relevant concept that is in line with changing patient
79 demands is 'Positive Health' of Huber et al. (6) This holistic concept shifts the traditional and
80 principally biomedical focused care towards a model with greater emphasis upon other
81 dimensions of patients' lives, including psychological, social, and spiritual well-being
82 (meaningfulness), their quality of life and their daily functioning. (6)

83 In this time of change towards a holistic healthcare delivery approach, several transition
84 models have been developed. One of these includes Porter's 'Value-Based Healthcare
85 Delivery' (VBHC). (7) VBHC uses a 'physicians in the lead' (PIL) strategy. This strategy engages
86 physicians in organizational processes and, making them responsible for the quality and
87 efficiency of their department's care delivery. This strategy arises from the belief that
88 physicians have the power to lead the reform of healthcare and to provide care in an
89 effective, efficient and cost-effective way. (8) Within VBHC, value is defined as the patient
90 health outcomes per dollar spent, (7) and ideally, this high-value care delivery system would
91 manage the healthcare needs of patients while keeping care expenditures in check.

92 VBHC comprises six interdependent components: 1. organizing healthcare around patients'
93 medical conditions (a full care cycle) rather than around physicians' medical specialties; 2.
94 measuring costs and outcomes for each patient; 3. developing bundled prices for each care
95 cycle; 4. integrating care across separate facilities; 5. expanding geographic reach; and 6.
96 building an enabling Information Technology platform. VBHC provides many elements that

1
2
3 97 could support a holistic care model, for example, an inter-professional team approach to
4
5 98 rehabilitation as a way to improve patient outcomes. (7) VBHC prescribes integrated care
6
7 99 that exceeds the traditional boundaries of care that is usually provided by a physician.
8
9

10
11 100 Although the transition to VBHC in healthcare has already begun, VBHC, as a PIL strategy to
12
13 101 improve holistic care, has not been sufficiently substantiated in the literature. Although
14
15 102 Porter does provide an approach to the full cycle of care and to health outcomes,
16
17 103 implementation studies (9-11) do not address the holistic features of health proposed by
18
19 104 Huber et al. (6) Moreover, Huber shows that there is a large discrepancy between the
20
21 105 perspectives of patients and healthcare professionals concerning the relative importance of
22
23 106 the various dimensions. (6) Whereas patients and nurses find all six dimensions almost
24
25 107 equally important, physicians indicate dimensions other than bodily functions as less
26
27 108 important. (6) As patients seem to have a broader view on their health than physicians do
28
29 109 and physicians do not seem to sufficiently recognize the holistic nature of patient needs, the
30
31 110 question arises whether a PIL model is capable of introducing and providing holistic care.
32
33
34
35

36
37 111 The aim of this research was to elicit various stakeholders' perspectives on the PIL strategy
38
39 112 in the transition to holistic healthcare and to understand the perceived advantages, barriers,
40
41 113 opportunities for improvement, and risks to PIL in this transition. The research questions
42
43 114 were:

- 44
45
46 115 • *What are the stakeholders' perspectives on the PIL strategy?*
47
48 116 • *What are the stakeholder's perspectives on holistic care?*
49
50
51 117 • *How do the stakeholders' perspectives on the PIL strategy relate to their perspectives*
52
53 118 *on holistic healthcare delivery?*
54
55
56
57
58
59
60

1
2
3 119 **METHODS**
4
5

6 120 *Setting*
7
8

9 121 This study was conducted in a general hospital in the Netherlands at a Obstetrics and
10
11 122 Gynaecology department that was halfway through the process of implementing VBHC and
12
13 123 had integrated a PIL strategy. In this context all physicians in a department share
14
15 124 responsibility regarding the quality and efficiency of healthcare delivery, with one physician
16
17 125 in the lead in every department. This physician in the lead receives support from an
18
19 126 operational manager and a business administration manager, but remains ultimately
20
21 127 accountable to the Board of Directors concerning the organizational processes,
22
23 128 performance, and quality of healthcare delivery of the department. The Board of Directors in
24
25 129 turn supports PIL by facilitating leadership and management courses and monitors the
26
27 130 results as well as the compliance of the department with the interests of the hospital.
28
29 131 Besides leadership and managerial tasks, the physician in the lead is required to remain
30
31 132 clinically active.
32
33
34
35
36
37

38 133 *Study design*
39
40

41 134 An interpretative and descriptive, qualitative design was used. (12;13) Knowledge was
42
43 135 gained from a deep understanding of the stakeholders' perspectives from their individual
44
45 136 experiences. The use of open-ended questions during the interviews allowed the
46
47 137 respondents to talk in depth, choosing their own words. The format provided the
48
49 138 interviewer an opportunity to probe for a deeper understanding, ask for clarification and
50
51 139 allow the interviewee to steer the direction of the interview. In this way the interviewer
52
53
54
55
56
57
58
59
60

1
2
3 140 could develop a real sense of the stakeholders' understanding of the situation, their
4
5 141 experience and associated perspectives.
6
7

8 142 *Participants and procedure*
9

10
11
12 143 We used purposeful sampling to select stakeholders. (12;13) Stakeholders were explicitly
13
14 144 selected by a hospital administrator in hopes of generating appropriate and useful data.
15
16 145 Selection criteria included: two stakeholders of each relevant stakeholder group that were a
17
18 146 representative sample, were actively involved in policy discussions, and actively contributing
19
20
21 147 to policymaking regarding the hospital's future healthcare delivery plans. Between April and
22
23 148 June 2016, a physician (RM) conducted semi-structured one-on-one, in-depth interviews
24
25 149 with members of all stakeholder groups of one Obstetrics and Gynaecology department; the
26
27
28 150 hospital's Patient Council (n=1), nurses (n=2), midwives (n=2), physicians (n=2), residents
29
30 151 (n=2), the non-medical business managers of the department (n=2), and the Board of
31
32 152 Directors (n=2). In addition, a representative of the Dutch National Healthcare Institute's
33
34
35 153 Innovative Healthcare Professions programme was interviewed (the advisory board for the
36
37 154 Dutch Ministry of Health on innovations and improvements in healthcare professions and
38
39 155 education) (n=1). Of the 14 participants, 12 were female and two were male. One of the two
40
41 156 male participants was a representative of the Board of Directors and the other a
42
43
44 157 representative of the non-medical business managers of the department. The gender and
45
46 158 ethnicity distribution was representative for each stakeholder group. All 14 stakeholders
47
48 159 were approached for inclusion by e-mail invitations, and all agreed to participate (the
49
50
51 160 secretary of the hospital's Patient Council was approached to recruit two representatives,
52
53 161 however, only one delegate was suggested). The number of participants was predetermined
54
55 162 to obtain broad stakeholder perspective; data saturation was reached with the initial cohort.
56
57
58
59
60

1
2
3 163 Saturation was evaluated by determining the amount of new data generated by each
4
5 164 transcript. The Hospital Ethical Review Board waived the requirement for ethics approval. All
6
7 165 participants provided written informed consent for audio-recording the interview and
8
9 166 publishing of the group data.
10
11
12 167

13 14 168 *Patient and Public Involvement* 15

16
17 169
18
19 170 Patients' perspectives receive a growing attention in the healthcare delivery approach.
20
21 171 Patients' preferences, priorities and experiences are important markers that help patients
22
23 172 and physicians in the shared decision making process. The strategies that are implemented
24
25 173 in healthcare should support such developments and should be constantly optimized to
26
27 174 meet the healthcare demands of patients. In order to meet the holistic healthcare demands
28
29 175 of patients, it is needed to explore whether the PIL strategy supports a holistic approach.
30
31 176 The client board of the hospital was identified to represent groups of patients. Patients were
32
33 177 not involved in the conduct of the study.
34
35
36
37 178

38 39 40 179 *Data collection* 41

42
43
44 180 Keywords and phrases such as "physicians in the lead", "medical leadership", "value-based
45
46 181 healthcare", "holistic care", "healthcare transition", "healthcare delivery" were used in the
47
48 182 PubMed, CINAHL, PsycINFO and Google Scholar search engines to find relevant literature in
49
50 183 order to theoretically frame the transition to value-based and holistic healthcare delivery
51
52 184 and PIL. A tailored topic list was drafted from theoretical concepts to structure the
53
54 185 interviews and to organize the data collection (Appendix 1). In view of the exploratory goal
55
56
57
58
59
60

1
2
3 186 of the study, questions were mainly open. Each interview lasted 30-60 minutes with a
4
5 187 median of 40 minutes.
6
7

8 188 *Data Analysis*
9

10
11
12 189 The interviews were transcribed verbatim. (12;13) The transcripts were anonymised other
13
14 190 than for the interviewer (RM) and were analysed by RM and another researcher using
15
16 191 content analysis. (12;13) A qualitative data analysis software program (MAX.QDA 2007) was
17
18 192 used for coding the narratives. Data were categorized with open and axial coding. During the
19
20
21 193 first step of open coding, sentences of the transcripts were coded with a label that
22
23 194 summarized the meaning of that sentence; this resulted in a large number of labels.
24
25 195 Subsequent axial coding reduced the number of labels by clustering the content of closely
26
27 196 related labels into categories. Thirty-nine categories remained after axial coding.
28
29 197 This process was guided by the concept of Huber et al.(6) and the research questions. In the
30
31
32 198 final step of selective coding, connections were made between the categories identified in
33
34 199 the axial coding process. This step was an iterative process, in which the research team
35
36 200 repeatedly discussed until consensus was reached about the key themes.
37
38

39 201
40

41 202
42

43 203
44

45 204
46

47 205
48

49 206
50

51 207
52
53
54
55
56
57
58
59
60

208 RESULTS

209 Three key themes were derived from the analysis of the stakeholders' perspectives: PIL's
210 role in the transition to holistic healthcare delivery, the requirements to achieve holistic
211 care, and a new strategy for hospitals to achieve holistic healthcare delivery. All data
212 presented in the results are based on the stakeholders' perspectives, unless it is specifically
213 mentioned that it is not.

214 PIL in the transition to holistic healthcare delivery

215 All stakeholders mentioned that a transition to holistic healthcare delivery seems to be
216 inevitable and a desired development. But the researchers wanted to understand if
217 *introducing 'PIL' is the same as introducing holistic care in the hospital.*

218 Facilitators to holistic care through PIL

219 All stakeholders stated that the main advantages of PIL are related to the dimensions 'bodily
220 functions' and 'daily functioning' of Huber et al. (6) The physician participants reported that
221 they are able to see a patient with a holistic view. The extent to which the physician has a
222 holistic view however, depends on the physician's specialty. Besides specialty, the
223 physician's experience can have a beneficial influence on the physician's capacity to provide
224 holistic care.

225 *"Geriatricians and oncologists will look not only at the bodily functions but will have a
226 broader view of components that add value for patients." (Resident)*

227 The physicians can lead the practice, as they have knowledge about the physical needs of
228 patients, treatments available, resources needed for patient care, and developments in
229 medical care. Physicians have a certain influence within a team, which can help in

1
2
3 230 transferring a holistic view to the rest of the team.
4

5
6 231 *“If physicians would have a holistic view it would be very favourable as they have a lot of*

7
8 232 *influence on all levels of the organization to change things. If I want something from the*

9
10 233 *Board of Directors, I have to pass several levels, and in the end, I will still not succeed to*

11
12 234 *reach them. If a physician approaches the Board of Directors, they get through immediately”.*

13
14
15 235 *(Manager)*

16
17
18 236 **Barriers to holistic care through PIL**

19
20 237 The first barrier to PIL providing holistic healthcare is time. The short time frame physicians

21
22 238 have for each patient does not make it suitable to facilitate holistic care.

23
24
25 239 *“A physician has ten minutes for each patient, they do not have time to check whether*

26
27 240 *patients are healthy on all these dimensions. Moreover, I do not see any physician doing*

28
29
30 241 *this.” (Nurse)*

31
32
33 242 Most stakeholders, except for the physicians themselves and the Board of Directors, felt that

34
35 243 another barrier is that physicians have a narrowed view due to their strong biomedical

36
37 244 focus. This focus is often at the expense of other dimensions; for instance, this view rarely

38
39 245 includes meaningfulness as part of the spiritual dimension. This narrowed view may result in

40
41
42 246 an over-focus on diagnostics and interventions.

43
44
45 247 *“Our profession is based on seeing clients from a healthy perspective. As soon as a*

46
47 248 *gynaecologist is consulted for advice concerning a pregnant woman, you may assume that*

48
49 249 *their care delivery approach is focused on disease. Then it is often just a matter of wait and*

50
51 250 *see until they start their interventions, which are in my opinion not always necessary.”*

52
53
54 251 *(Midwife)*

1
2
3 252 A third barrier concerns the physician's engagement in management and leadership tasks.
4
5 253 Physician's priority is to be a clinician rather than a manager and leader. The management
6
7 254 course that is provided in the hospital is considered insufficient, as managers usually study
8
9 255 management for years. Also, the time allocated for PIL performing management tasks is
10
11 256 insufficient; PIL still provide care and managing a department is a complex and full-time task.
12
13
14 257 Although many PIL manage to take care of their own department, they seem to lose sight of
15
16 258 the bigger picture and do not act in collaboration with other departments and the hospital's
17
18 259 interests.

20
21
22 260 *"Physicians in the lead manage to take care of their own department and their interests, but*
23
24 261 *do not always manage to collaborate with other departments and act in the hospital's*
25
26 262 *interests."* (Board of Directors)

27 28 29 263 **Opportunities for improvement**

30
31
32 264 The main opportunity for improvement is educating physicians in the delivery of holistic
33
34 265 healthcare and simultaneously in management and leadership. A second opportunity for
35
36 266 improvement is enhanced collaboration with other professions, such as nursing. Awareness
37
38 267 about contributions of other professionals is important, as is awareness of the way in which
39
40 268 they are complementary to each other.

41
42
43
44 269 *"We work with nurses every day, but we do not know anything about the content of their*
45
46 270 *education and what exactly they are competent and authorized for."*(Resident)

47
48
49 271 For the current PIL, a broader view based on collaboration, interrelations between
50
51 272 departments and responsibility for hospital interest in addition to the department's interests
52
53 273 can be developed through educational programs. Furthermore, not every physician is able to
54
55 274 be a department leader or manager and perhaps some should focus mainly on patient care,
56
57
58

1
2
3 275 while others should focus more on leadership and management tasks in addition to patient
4
5 276 care.

8 277 **Risks**

10 278 Threats to the enhancement of holistic care are mostly related to either the consequences of
11
12 279 the barriers or the failure to implement the opportunities for improvement. One of the risks
13
14
15 280 is that holistic healthcare is not achieved because of the strong biomedical focus. Another
16
17 281 risk is raised when self-interest of the department is prominent, rather than the
18
19 282 interrelations with other departments leading to a potential consequence of the hospital not
20
21
22 283 providing a full cycle of care for patients. Furthermore, a hierarchic structure, where only the
23
24 284 physician is in the lead, can cause insufficient representation of the perspectives of other
25
26 285 professions. For other professions, it may be more difficult to make a change.

28 286 *“With this strategy there is one doctor at the top, if the doctor has a different view than the*
30
31
32 287 *rest of the team, it is a burden for the team.” (Midwife)*

35 288 **Requirements to achieve holistic care**

36
37
38 289 From the stakeholders' perspectives, it became clear that the PIL strategy is insufficient to
39
40
41 290 meet the holistic requirements proposed by Huber et al. (6) However, all participants
42
43 291 confirmed that all six dimensions should be considered as important healthcare outcomes.
44
45 292 As patients' health outcomes are not yet systematically measured, there is a lack of clarity
46
47
48 293 about who should take the lead in detecting the needs of patients and arranging the
49
50 294 processes needed to improve their health status. All stakeholder groups mentioned that the
51
52 295 care is supposed to be value-based and holistic, but that this is often not yet the case in
53
54
55 296 practice.

1
2
3 297 *"The reality is always more persistent than the ideas that are being launched. Things always*
4
5 298 *turn out differently than the perspectives that are outlined. As a patient, you are subject to*
6
7 299 *this." (Patient Council)*
8

9
10 300 The system still needs to re-organize and adapt to further meet the requirements for holistic
11
12 301 care.

13 14 15 302 *The care chain*

16
17 303 In order to provide holistic care, it is essential that the healthcare providers have a shared
18
19 304 vision. From the perspectives of several stakeholders, patients should be supported in a non-
20
21 305 hospital setting to achieve holistic healthcare. A holistic approach should be the core of care
22
23 306 delivery in every link of the care chain; therefore, hospital-based professionals should
24
25 307 consider the six dimensions essential for patients to improve their health. Referrals and
26
27 308 collaboration between a variety of disciplines and professions in and outside the hospital is
28
29 309 needed for holistic care delivery.
30
31
32

33 34 310 *Roles in the organization of holistic healthcare*

35
36 311 From the stakeholders' perspectives, five important roles were defined besides PIL in
37
38 312 organizing holistic care:
39
40

41 42 313 *Patients*

43
44 314 All stakeholders confirmed the need for empowering patients. The structure of 'patients in
45
46 315 the lead' was mentioned several times. Patients in the lead were thought to be able to take
47
48 316 responsibility for their own health and to manage their care in a holistic way as far as
49
50 317 possible. Illness and age were mentioned as possible reasons why patients may not be able
51
52 318 to take responsibility for their own health.
53
54
55
56
57
58
59
60

1
2
3 319 *"In current society, people were not raised with the mentality to take responsibility for their*
4
5 320 *own health and manage their own care. It will take a generation to achieve this."* (Doctor)
6
7

8 321 Support is thus needed to guide and help patients in coordinating and managing their own
9
10 322 healthcare. Patients who are still not capable to manage their care, despite receiving
11
12 323 support, are dependent on safety nets. At this point, the question emerged regarding who
13
14 324 should help the patient by fulfilling a coordinating role if these limits are reached and who
15
16 325 should take the lead in coordinating the healthcare of these patients.
17
18

19
20 326 **Informal caregivers**
21

22 327 A marked difference emerged in the perspectives of the various stakeholders on the role of
23
24 328 informal caregivers. The representative of the Innovative Healthcare Professions programme
25
26 329 and the representatives of the Board of Directors were confident that informal caregivers
27
28 330 can provide a large part of the care that is needed. Several other stakeholders mentioned
29
30 331 that society is increasingly individualistic, which makes informal care delivery not a very
31
32 332 viable or desired option. They expressed their concern that a majority of patients might not
33
34 333 even have an informal caregiver who could provide care that fits their health needs.
35
36 334 Moreover, when care is provided by informal care givers, the privacy of patients can be at
37
38 335 stake.
39
40
41
42
43

44 336 *If my father poops in his pants, my mother cannot ask the neighbours to help him. What*
45
46 337 *about his privacy?* (Nurse)
47
48

49 338 **Nurses**
50

51 339 All stakeholders mentioned that nurses are an important link in the healthcare chain. They
52
53 340 expressed the conviction that nurses are capable to function as case-managers and to
54
55 341 coordinate holistic care for patients in primary as well as secondary healthcare. This belief
56
57
58
59
60

1
2
3 342 was attributed to the attention to holistic skills in the nurse training. Some remarked that it
4
5 343 should be considered whether district nurses can get a good overview of a patient's health
6
7 344 during their short visits and whether there might be time and resources to deploy them for a
8
9 345 coordinating role in holistic care.
10

11 12 346 **General Practitioner**

13
14
15
16 347 The role of the general practitioner (GP) was also considered to be very important. The GP
17
18 348 was seen as a generalist who has a holistic view of patients and would not unnecessarily
19
20 349 refer patients to a specialist. Stakeholders agreed that follow-up can often be done by a GP,
21
22 350 which has a proximity advantage for the patient and a cost advantage for the healthcare
23
24 351 system. Overall, while the GP can be a good coordinator in a patient's healthcare, the limited
25
26 352 amount of time for each patient and workload are obstacles to GPs fulfilling a leading or
27
28 353 coordinating role.
29
30

31 32 33 354 **The need for a new care management coordination centre**

34
35
36 355 *"If patients enter the hospital or a healthcare organization, they do not know where to go,*
37
38 356 *there is so much bureaucracy that they first have to tell their story five times."* (Midwife)
39

40
41 357

42
43 358 The majority of stakeholders mentioned that there is a lack of support for patients to
44
45 359 manage their care. A suggested solution to this lack of support include a new care
46
47 360 management coordination centre, where patients can receive services that are similar to the
48
49 361 core activities of a church, community centre and information desk. This centre needs to
50
51 362 function as an accessible place where people can easily gain information and support to
52
53 363 manage their healthcare and function as 'patients in the lead'. Additionally, the need for
54
55
56
57
58
59
60

1
2
3 364 such a centre is sometimes mentioned in conjunction with 'case-managers'. Case-managers
4
5 365 are able to help people navigate their way. Huber et al's dimension 'meaningfulness', (6) is
6
7 366 assumed to be an objective that was traditionally paid attention to by the church or other
8
9 367 religious organizations. As people have different perspectives about religion, this new centre
10
11 368 could pay attention to the dimension 'meaningfulness'.
12
13

14 369

16 370 *"Formerly, a lot of people went to the church, now this is much less the case. People are*
17
18 371 *searching for alternatives for meaningfulness and mindfulness."* (Physician)
19
20
21

22 372 **A new strategy for hospitals to support holistic healthcare delivery**

23
24
25 373 The main key for achieving a holistic approach to healthcare delivery seems to be
26
27 374 collaboration between all the providers in the care chain. All healthcare providers within the
28
29 375 hospital are complementary to each other, and physicians cannot be expected to consider
30
31 376 and balance all the dimensions of holistic healthcare in solitude. Continuing the PIL strategy
32
33 377 may be at the expense of the holistic dimensions of Huber et al. (6) and can be an obstacle in
34
35 378 achieving holistic healthcare in VBHC. The majority of stakeholders mentioned that the
36
37 379 department should be led by complimentary stakeholders in addition to PIL to ensure
38
39 380 holistic healthcare. A new strategy of 'team in the lead' was proposed by the researchers.
40
41 381 Careful consideration should be given to the composition of the team; all professions should
42
43 382 be adequately represented in the team per specialty.
44
45
46
47
48

49 383 *"In my opinion, even the Patient Council may take part in this."* (Midwife)
50
51

52 384

53
54
55 385
56
57
58
59
60

386 DISCUSSION

387 We performed a qualitative study and explored stakeholders' perspectives on the PIL
388 strategy in the transition to holistic healthcare. We identified several bottlenecks, solutions
389 and roles in organizing this transition. Features of PIL in the transition were elucidated and
390 did not seem to align with the aim of providing holistic healthcare. A new strategy of 'team
391 in the lead' was proposed. Moreover, participants agreed that a new care management
392 coordination centre is needed that may provide social and spiritual support as well as the
393 information that patients need in order to manage their own care.

394 *Comparison with the existing literature*

395 The findings concerning the importance of integration of healthcare delivery are in line with
396 the integrated practice units and systems integration as described in VBHC. (11) Other
397 concepts in the literature also support integrated care to improve healthcare delivery for
398 patients. (14;15) Although PIL can contribute in controlling the increasing healthcare costs
399 and improving organizational performance, (16-21) we noticed that PIL in our study do not
400 seem to contribute sufficiently to the interrelations needed between departments and thus
401 the integration of units. Collaboration and integration within and between departments is
402 necessary to provide holistic care. In addition, healthcare leaders are needed that go beyond
403 integrated care and actively support people in all dimensions for optimized healing and
404 managing their own health. (22) Based on our results, we postulate that holistic care may be
405 achieved by establishing a 'team in the lead'. To create a patient oriented team, it is needed
406 to transform the relationships among individual providers. (23) The proposed 'team in the
407 lead' in our research can be linked to models about 'shared leadership' in the literature. (24)
408 Shared leadership is management or leadership at a team-level, which empowers staff

1
2
3 409 within the decision-making processes. (24) Effective collaborative relationships and
4
5 410 teamwork within shared-leadership are thought to improve integration, care practices and
6
7 411 patient outcomes. (24;25) Moreover, an effective and efficient ‘team in the lead’ requires
8
9 412 collective competence. Lingard describes the necessity of team competence in medicine.
10
11
12 413 (26) She mentions that individual competence alone, which is the focus in medicine, is
13
14 414 insufficient for the quality of healthcare delivery and holds us back from meaningful change
15
16 415 in how we educate for, and practice as, healthcare teams. Competent individuals can form
17
18 416 incompetent teams. The competence of leadership is increasingly important in competency
19
20 417 frameworks for professionals, but it is in complex relation to team collaboration. (26) Lingard
21
22 418 claims that we risk perpetuating the myth that “strong leadership” is the panacea for what
23
24 419 ails teamwork but that what “strong leadership” entails will vary according to clinical
25
26 420 context; the nature of leadership in acute care delivery such as in surgical, resuscitation, and
27
28 421 trauma teams may be different from the leadership that is needed in teams that provide
29
30 422 chronic and complex care.

31
32
33
34
35 423 Besides the concept of a ‘team in the lead’ to improve integration of care and realize a
36
37 424 holistic healthcare delivery approach, the concept of a care management coordination
38
39 425 centre seems to be required to support patients to be in the ultimate ‘lead’ of their health.
40
41 426 This centre corresponds to features of integrated care centres described in the literature,
42
43 427 (23) of which there are physician-led care and non-physician (case-managers, home care
44
45 428 agencies, or area agencies) led care centres. Such centres provide similar services to the
46
47 429 ones we have described above, such as patient information and coordination of care.
48
49 430 However, these centres, that are serving patients who are often medically and socially
50
51 431 vulnerable and require a wider range of needs, do not seem to offer direct possibilities to
52
53 432 meet the spiritual and social needs of patients. In reality, a care manager in such centres
54
55
56
57
58
59
60

1
2
3 433 may still refer people who have such needs. Irrespective of the model used to integrate care,
4
5 434 collaborative and interdependent formal and informal relationships between all the links in
6
7 435 the care chain remain necessary for providing holistic care. (23)
8

9
10 436 *Advantages and limitations*

11
12 437 To our knowledge, this is the first study to explore the PIL strategy in the transition to
13
14 438 holistic healthcare. Our findings are supported by comparable notions about organizational
15
16 439 reforms in healthcare. (27) This study provides the advantages, barriers, opportunities for
17
18 440 improvement and risks of the strategy PIL, therefore giving broader insights and exploration.
19
20 441 To achieve reliability, we made use of transcribed recordings, instead of making use of
21
22 442 handwritten notes. (12;13) Data were transcribed by the interviewer for accuracy and
23
24 443 enhanced familiarity with the data. To ensure reliable data analysis, two researchers were
25
26 444 involved in labelling the codes. The themes were discussed within the research team until
27
28 445 consensus was reached. To ensure credibility, the respondents were chosen from individuals
29
30 446 identified as representative of the group. (12;13) Moreover, quotes from the transcripts
31
32 447 were tied to the text so the reader can see how the interpretation is based on the data. To
33
34 448 ensure alignment between the shared information and the interpretation of the interviewer,
35
36 449 the interviewer (RM) explored the hospital's strategy documents, in order to be aware of
37
38 450 and understand the hospital's processes. In this way the information shared could be better
39
40 451 understood and interpreted. Questions were mainly open-ended to encourage information
41
42 452 sharing. Answers were intermittently paraphrased and summarized to give the respondent
43
44 453 the opportunity to add important perspectives, confirm the interpretations and to clear
45
46 454 misunderstandings of the interviewer. Information about anonymity was given prior to the
47
48 455 interview. This was expected to not withhold the participants from speaking freely.
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 456 The present study is limited by the fact that it was conducted in one country in one
4
5 457 institution. As the organization of the healthcare system and the strategy of hospitals differ
6
7 458 among countries, the content may be less relevant to other settings. In addition, hospital
8
9 459 stakeholders are internally oriented, which may have influenced the way they described the
10
11 460 organization of holistic care. Although these are aspects that limit the transferability of our
12
13 461 findings, we think that the concepts used in this study are internationally recognized and the
14
15 462 organization of healthcare systems in different countries is similar enough to justify the
16
17 463 assumption that our findings will have some relevance and potential transferability to other
18
19 464 contexts and settings.
20
21
22
23

24 465 *Suggestions for future research*

25
26
27 466 Although we gained insights into PIL in the transition to holistic healthcare in the
28
29 467 Netherlands, it would be interesting to explore the effect of introducing PIL in different
30
31 468 cultures. Moreover, in order to improve the PIL strategy, observational studies may be
32
33 469 useful to determine significant barriers of PIL in practice. Furthermore, research on the
34
35 470 effectiveness of the proposed concept of a 'team in the lead' would be necessary to explore
36
37 471 whether this model is effective and would lead to the desired holistic care in practice.
38
39
40

41 472 *Implications*

42
43
44
45 473 It is important for the PIL to be aware of the stakeholders' perspectives and of the holistic
46
47 474 approach to healthcare delivery. Although physicians can be educated to focus more on the
48
49 475 holistic outcome than on cure and treatment, a 'team in the lead' approach should be taken
50
51 476 into consideration to achieve holistic healthcare. Organizing holistic care requires more
52
53 477 integration and teamwork across facilities in the care chain. Moreover, there is a demand for
54
55 478 a care management coordination centre that coordinates care and supports patients on the
56
57
58
59

1
2
3 479 different dimensions of holistic care. Better support on these dimensions may lead to more
4
5 480 healthy 'patients in the lead'.
6
7

8 481
9

10
11 482
12

13
14 483
15

16
17 484
18

19
20 485
21

22
23 486
24

25
26 487
27

28
29 488
30

31
32 489
33

34
35 490
36

37
38 491
39

40
41 492
42

43
44 493
45

46
47 494
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 495 **CONCLUSION**

4
5 496 The transition to a value-based and holistic approach in healthcare is desirable. Although
6
7 497 VBHC is an important step in the right direction due to the integrative aspects it offers, the
8
9 498 PIL strategy may be at the expense of the holistic aims in the healthcare delivery approach.
10
11
12 499 To realize a holistic healthcare approach, a strategy of a 'team in the lead' should be
13
14 500 considered, as different professional groups complement each other in the full care cycle.
15
16 501 Furthermore, the current organization of holistic care lacks support for patients to manage
17
18 502 their care. A care management coordination centre is required to support patients in
19
20
21 503 realizing the care that is needed to improve their health outcomes. A second important
22
23 504 aspect in the organization of holistic care is that every link in the care chain contributes to
24
25
26 505 holistic care delivery, therefore collaboration and integration across the care chain is
27
28 506 necessary.

29
30 507

31
32 508

33
34 509

35
36 510

37
38 511

39
40 512

41
42 513

43
44 514

45
46 515

47
48 516

49
50 517

1
2
3 518 **ACKNOWLEDGEMENTS** We like to thank all the respondents for their sincerity and
4
5 519 generosity of sharing their perspectives with us. Also, we would like to thank Nesibe
6
7 520 Akdemir (NA), a PhD student in medical education, for her contribution in analysing the
8
9 521 data.

12 522 **CONTRIBUTORS**

13
14
15 523 RM, CH and FS contributed to the conception and development of the study, project
16
17 524 management, reporting and publication. RF, CH and FS developed the topic list for the semi-
18
19 525 structured interviews. RM and FS participated in participant recruitment and RM in the data
20
21 526 collection. RM performed all interviews. RM, CH, and FS developed and refined the coding
22
23 527 framework, and RM and NA performed the data analysis. RM prepared the first draft of the
24
25 528 manuscript. RM, CH, and FS were involved in drafting and revising the manuscript and have
26
27 529 given final approval of the version to be published. RM takes responsibility for the
28
29 530 manuscript.

30
31
32
33 531 **CONFLICT OF INTEREST STATEMENT** All authors have completed the ICMJE uniform
34
35 532 disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from
36
37 533 any organisation for the submitted work; no financial relationships with any organisations
38
39 534 that might have an interest in the submitted work in the previous three years, no other
40
41 535 relationships or activities that could appear to have influenced the submitted work
42
43
44
45

46 536 **TRANSPARENCY DECLARATION** The lead author affirms that the manuscript is an honest,
47
48 537 accurate, and transparent account of the study being reported; that no important aspects of
49
50 538 the study have been omitted; and that any discrepancies from the study as planned have
51
52 539 been explained.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

540 **FUNDING:** No funding was provided.

541 **DATA SHARING** De-identified transcribed interviews and the code set can be made available
542 by request to the corresponding author.

543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558

For peer review only

559 REFERENCES

560

561 (1) Christensen K, Doblhammer G, Rau R, Vaupel JW. Ageing populations: the challenges ahead.
562 Lancet 2009 Oct 3;374(9696):1196-208.

563 (2) Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness
564 care: translating evidence into action. Health Aff (Millwood) 2001 Nov;20(6):64-78.

565 (3) Barr VJ, Robinson S, Marin-Link B, Underhill L, Dotts A, Ravensdale D, et al. The expanded
566 Chronic Care Model: an integration of concepts and strategies from population health
567 promotion and the Chronic Care Model. Hosp Q 2003;7(1):73-82.

568 (4) Bodenheimer T, Fernandez A. High and rising health care costs. Part 4: can costs be
569 controlled while preserving quality? Ann Intern Med 2005 Jul 5;143(1):26-31.

570 (5) Huber M, Knottnerus JA, Green L, van der Horst H, Jadad AR, Kromhout D, et al. How should
571 we define health? BMJ 2011 Jul 26;343:d4163.

572 (6) Huber M, van VM, Giezenberg M, Winkens B, Heerkens Y, Dagnelie PC, et al. Towards a
573 'patient-centred' operationalisation of the new dynamic concept of health: a mixed methods
574 study. BMJ Open 2016 Jan 12;6(1):e010091.

575 (7) Porter ME. What is value in health care? N Engl J Med 2010 Dec 23;363(26):2477-81.

576 (8) Porter ME, Teisberg EO. How physicians can change the future of health care. JAMA 2007
577 Mar 14;297(10):1103-11.

578 (9) Lee VS, Kawamoto K, Hess R, Park C, Young J, Hunter C, et al. Implementation of a Value-
579 Driven Outcomes Program to Identify High Variability in Clinical Costs and Outcomes and
580 Association With Reduced Cost and Improved Quality. JAMA 2016;316(10):1061-72.

581 (10) Nilsson K, Børstø F, Andersson AE, Wikstrøm E, Sandoff M. Experiences from implementing
582 value-based healthcare at a Swedish University Hospital a longitudinal interview study. BMC
583 Health Serv Res BMC Health Services Research 2017;17(1).

584 (11) Porter ME, Pabo EA, Lee TH. Redesigning primary care: a strategic vision to improve value by
585 organizing around patients' needs. Health Aff (Millwood) 2013 Mar;32(3):516-25.

586 (12) Green J, Thorogood N. Qualitative methods for health research. Los Angeles: SAGE; 2009.

587 (13) Mortelmans D. Manual qualitative research methods (in Dutch: Handboek kwalitatieve
588 onderzoeksmethoden). Leuven; Den Haag: Acco; 2013.

589 (14) Plochg T, Klazinga NS. Community-based integrated care: myth or must? Int J Qual Health
590 Care 2002 Apr;14(2):91-101.

591 (15) Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and implications-
592 -a discussion paper. Int J Integr Care 2002;2:e12.

593 (16) Clark J. Medical leadership and engagement: no longer an optional extra. J Health Organ
594 Manag 2012;26(4-5):437-43.

- 1
2
3 595 (17) Daly R. Putting physicians in the lead for cost containment. *Healthc Financ Manage* 2013
4 596 Dec;67(12):52-9.
- 5
6 597 (18) O'Sullivan H, McKimm J. Medical leadership: an international perspective. *Br J Hosp Med*
7 598 (Lond) 2011 Nov;72(11):638-41.
- 8
9 599 (19) Schwartz RW, Tumblin TF. The power of servant leadership to transform health care
10 600 organizations for the 21st-century economy. *Arch Surg* 2002 Dec;137(12):1419-27.
- 11
12 601 (20) Warren OJ, Carnall R. Medical leadership: why it's important, what is required, and how we
13 602 develop it. *Postgrad Med J* 2011 Jan;87(1023):27-32.
- 14
15 603 (21) Yolande W, Gerhard ACS, Pauline LM, Dick LW. Doctor in the lead: balancing between two
16 604 worlds. *Organization* 2011;18(4):477-95.
- 17
18 605 (22) Plochg T, Ilinca S, Noordegraaf M. Beyond integrated care. *J Health Serv Res Policy* 2017 Jan
19 606 1;1355819617697998.
- 20
21 607 (23) Griffin JD, Andrew F. Integrated care management in rural communities. Portland, ME:
22 608 University of Southern Maine, Muskie School of Public Service, Maine Rural Health
23 609 Research Center; 2014. Report No.: Working Paper #54.
- 24
25 610 (24) Al-Sawai A. Leadership of healthcare professionals: where do we stand? *Oman Med J* 2013
26 611 Jul;28(4):285-7.
- 27
28 612 (25) Bergman JZ, Rentsch JR, Small EE, Davenport SW, Bergman SM. The shared leadership
29 613 process in decision-making teams. *J Soc Psychol* 2012 Jan;152(1):17-42.
- 30
31 614 (26) Lingard L. Paradoxical Truths and Persistent Myths: Reframing the Team Competence
32 615 Conversation. *Journal of Continuing Education in the Health Professions* 2016;36 Suppl
33 616 1:S19-S21.
- 34
35 617 (27) Locock L. Healthcare redesign: meaning, origins and application. *Qual Saf Health Care* 2003
36 618 Feb;12(1):53-7.
- 37 619
38 620

APPENDIX

Appendix 1: Topic list

Topics	Sub-topics
Change in healthcare delivery approach	<ul style="list-style-type: none"> - Are you familiar with the changes in healthcare delivery demanded by the Dutch Ministry of Health? - What do you know about the organization of this transition to value-based and holistic healthcare delivery? <p>After introducing these topics, participants received an introduction to the six dimensions of holistic health proposed by Huber et al.(6) and the reorganization of healthcare delivery demanded by the Dutch Ministry of Health. After this introduction, the following questions were asked:</p>
Organization of care	<ul style="list-style-type: none"> - What are your perspectives on the transition to value-based and holistic healthcare delivery? - How would you like this desired care delivery to be organized?
Coordination	<ul style="list-style-type: none"> - Who should take leadership in the organization of this care and in supporting the patient?
Physicians in the lead	<ul style="list-style-type: none"> - What do you think about 'physicians in the lead' in holistic healthcare? - What are the advantages, barriers, opportunities for improvement, and risks in the transition to the desired healthcare approach? - Do you think the strategy of 'physicians in the lead' will lead to holistic healthcare?

1
2
3 **Index of items reported in our research in accordance with the Standards for Reporting**
4 **Qualitative Research (SRQR)***
5

6	1.	Title	p. 1
7	2.	Structured abstract	p. 2
8	3.	Problem formulation	p. 4
9	4.	Purpose or research question	p. 6
10	5.	Qualitative approach and research paradigm	p. 7
11	6.	Researcher characteristics, reflexivity	p. 8
12	7.	Context	p. 7
13	8.	Sampling strategy	p. 8
14	9.	Ethical issues pertaining to human subjects	p. 9
15	10.	Data collection methods	p. 9
16	11.	Data collection instruments/ technologies	p. 9
17	12.	Units of study	p. 8
18	13.	Data processing	p. 9
19	14.	Data analysis	p. 9
20	15.	Techniques to enhance trustworthiness	p. 21
21	16.	Synthesis and interpretation	p. 11-18
22	17.	Links to empirical data	p. 11-18
23	18.	Integration with prior work, implications, transferability, 24 and contribution(s)	p. 22, 23 and 25
25	19.	Limitations	p. 3 and 22
26	20.	Conflicts of interest	p. 25
27	21.	Funding	p. 26
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			

* Standards by Bridget C. O'Brien, PhD, Ilene B. Harris, PhD, Thomas J. Beckman, MD, Darcy A. Reed, MD, MPH, and David A. Cook, MD, MHPE

BMJ Open

Do 'physicians in the lead' support a holistic healthcare delivery approach? A qualitative analysis of stakeholders' perspectives

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-020739.R3
Article Type:	Research
Date Submitted by the Author:	07-May-2018
Complete List of Authors:	Malik, Romana; OLVG Hospital, Department of Research and Education Hilders , Carina ; Erasmus School of Health Policy & Management Scheele, Fedde; OLVG Hospital , Department of Research and Education ; Athena Institute, Faculty of Earth and Life Sciences, VU University
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Health policy, Medical management, Patient-centred medicine, Qualitative research
Keywords:	Medical leadership, Physicians, Holistic care, Value-based healthcare, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Healthcare delivery

SCHOLARONE™
Manuscripts

1
2
3
4
5 **1 TITLE**

6 2 Do 'physicians in the lead' support a holistic healthcare delivery approach? *A qualitative*
7
8 3 *analysis of stakeholders' perspectives*

9
10 4 **AUTHORS**

11
12 5 Romana F. Malik (RM) M.D.¹

13 6 Carina G. J. M. Hilders M.D., Ph.D.²

14 7 Fedde Scheele M.D., Ph.D.^{3, 4, 5}

15
16
17
18
19 8 **AFFILIATIONS**

20
21 9 ¹ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164,
22
23 1006AE, Amsterdam, the Netherlands.

24
25
26 11 Telephone: +31-20 510 8960 @ romana_malik@hotmail.com

27
28 12 ² Erasmus School of Health Policy & Management, Rotterdam, Burgemeester Oudlaan
29
30 50, 3062 PA, the Netherlands. Telephone: +31-10 408 9177 @ C.Hilders@rdgg.nl

31
32 13 ³ Department of Research and Education, OLVG Hospital, Jan Tooropstraat 164,
33
34 1006AE, Amsterdam, the Netherlands.

35
36 14 Telephone: +31-20 480 7651 @ f.scheele@olvg.nl

37
38 15 ⁴ School of Medical Sciences, Institute of education and training, VU University Medical
39
40 Center, Amsterdam, the Netherlands.

41
42 16 ⁵ Athena Institute, Faculty of Earth and Life Sciences, VU University, Amsterdam, the
43
44 Netherlands.

45
46
47 17 **CORRESPONDING AUTHOR** Romana F. Malik (MD) OLVG Teaching Hospital, Department of
48
49 Medical Education, Jan Tooropstraat 164, 1006 AE Amsterdam, the Netherlands
50
51 Telephone: +31-205108292 @ romana_malik@hotmail.com
52
53
54
55
56
57
58
59
60

1
2
3 24 **WORD COUNT** 4801 words (Main text, excluding abstract, endnotes and exhibits)
4
5

6 25 **STRUCTURED ABSTRACT**
7

8 26 **Objectives** Value-based healthcare (VBHC) implies that healthcare issues are addressed most
9
10 27 effectively with the 'physicians in the lead' (PIL) strategy. This study explores whether PIL
11
12 28 also supports a holistic care approach that patients are increasingly demanding.

13 29 **Design** A qualitative research design was used.

14
15 30 **Setting** This study was conducted in a general hospital in the Netherlands with an integrated
16
17 31 PIL strategy.

18 32 **Participants** Semi-structured interviews were conducted with 14 hospital stakeholders: 13
19
20 33 stakeholders of a Obstetrics and Gynaecology department (the hospital's Patient Council
21
22 34 (n=1), nurses (n=2), midwives (n=2), physicians (n=2), residents (n=2), the non-medical
23
24 35 business managers of the Obstetrics and Gynaecology department (n=2) the Board of
25
26 36 Directors (n=2)) and a member of the Dutch National Healthcare Institute's Innovative
27
28 37 Healthcare Professions programme.

29 38 **Results** According to diverse stakeholders, PIL does not support a holistic healthcare delivery
30
31 39 approach, primarily because of the strong biomedical focus of physicians. Although
32
33 40 physicians can be educated to place more emphasis on the holistic outcome, holistic care
34
35 41 delivery requires greater integration and teamwork in the care chain. As different healthcare
36
37 42 professions are complementary to each other, a new strategy of a 'team in the lead' was
38
39 43 suggested to meet the holistic healthcare demands. Besides this new strategy, there is a
40
41 44 need for an extramural care management coordination centre where patients are able to
42
43 45 receive support in managing their own care. This centre should also facilitate services similar
44
45 46 to the core function of a church or community centre. These services should help patients to
46
47 47 deal with different holistic dimensions that are important for their wellbeing.

48 48 **Conclusions** The PIL strategy appears to be insufficient for holistic healthcare delivery. A
49
50 49 'team in the lead' approach should be considered to meet the holistic healthcare demands.
51
52 50 Further research should focus on observing PIL in different cultures and exploring the
53
54 51 effectiveness of the strategy 'team in the lead'.
55
56 52

53 **STRENGTHS AND LIMITATIONS OF THIS STUDY**

- 54 • To our knowledge, this is the first study to explore the PIL strategy in the transition to
55 holistic healthcare. This qualitative study offers insights in different stakeholders'
56 perspectives. These perspectives provide broad understanding on how to enhance and
57 provide holistic care in the context of physician leadership.
- 58 • The study is limited by the fact that it was conducted in one centre in one country. As the
59 strategy of hospitals differ across settings and/or countries, the content may be less
60 relevant to settings without a PIL strategy.
- 61 • All stakeholders were hospital-based and internally oriented, which may have influenced
62 the way they described the organization of holistic care.
- 63 • Because our results are based on interviews with mainly hospital-based stakeholders,
64 they are likely to present a limited picture of the effects of the PIL strategy on the
65 transition to holistic healthcare.

74 INTRODUCTION

75 The healthcare system, which is traditionally organized around acute care delivery, seems to
76 be inadequate for managing the changing healthcare demands of the increasing number of
77 chronically ill and ageing patients. (1;2) To comply with these demands and manage the
78 growing impact these demands have on healthcare budgets, a different approach to
79 healthcare delivery is needed. (3-5) A relevant concept that is in line with changing patient
80 demands is 'Positive Health' of Huber et al. (6) This holistic concept shifts the traditional and
81 principally biomedical focused care towards a model with greater emphasis upon five other
82 dimensions of patients' lives, including psychological, social, and spiritual well-being
83 (meaningfulness); their quality of life; and their daily functioning. (6)

84 In this time of change towards a holistic healthcare delivery approach, several transition
85 models have been developed. One of these includes Porter's 'Value-Based Healthcare
86 Delivery' (VBHC). (7) VBHC uses a 'physicians in the lead' (PIL) strategy. This strategy engages
87 physicians in organizational processes, making them responsible for the quality and
88 efficiency of their department's care delivery. This strategy arises from the belief that
89 physicians have the power to lead the reform of healthcare and to provide care in an
90 effective, efficient and cost-effective way. (8) Within VBHC, value is defined as the patient
91 health outcomes per dollar spent, (7) and ideally, this high-value care delivery system would
92 manage the healthcare needs of patients while keeping care expenditures in check.

93 VBHC comprises six interdependent components: 1) organizing healthcare around patients'
94 medical conditions (a full care cycle) rather than around physicians' medical specialties;
95 2) measuring costs and outcomes for each patient; 3) developing bundled prices for each
96 care cycle; 4) integrating care across separate facilities; 5) expanding excellent health care
97 delivery services across an area, state or country; and 6) building an enabling Information

1
2
3 98 Technology platform to establish an efficient way of data reporting and information sharing
4
5 99 between professionals as well as patients. VBHC provides many elements that could support
6
7 100 a holistic care model, for example, an inter-professional team approach to rehabilitation as a
8
9 101 way to improve patient outcomes. (7) VBHC prescribes integrated care that exceeds the
10
11 102 traditional boundaries of care that is usually provided by a physician.
12
13
14

15 103 Although the transition to VBHC in healthcare has already begun, VBHC, as a PIL strategy to
16
17 104 improve holistic care, has not been sufficiently substantiated in the literature. Although
18
19 105 Porter does provide an approach to the full cycle of care and the link to health outcomes,
20
21 106 implementation studies (9-11) do not address the holistic features of health proposed by
22
23 107 Huber et al. (6) Moreover, Huber shows that there is a large discrepancy between the
24
25 108 perspectives of patients and healthcare professionals concerning the relative importance of
26
27 109 the various dimensions. (6) Whereas patients and nurses find all six dimensions almost
28
29 110 equally important, physicians indicate dimensions other than bodily functions as less
30
31 111 important. (6) As patients seem to have a broader view on their health than physicians do
32
33 112 and since physicians may not sufficiently recognize the holistic needs of patients, the
34
35 113 question arises whether a PIL model is capable of introducing and providing such holistic
36
37 114 care.
38
39
40
41
42

43 115 The aim of this research was to elicit various stakeholders' perspectives on the PIL strategy
44
45 116 during a transition to holistic healthcare and to understand the perceived advantages,
46
47 117 barriers, opportunities for improvement, and risks to PIL in this transition. The research
48
49 118 questions were:
50
51
52

- 53 119 • *What are the stakeholders' perspectives on the PIL strategy?*
54
55 120 • *What are the stakeholder's perspectives on holistic care?*
56
57
58
59
60

- 1
2
3 121 • *How do the stakeholders' perspectives on the PIL strategy relate to their perspectives*
4
5 122 *on holistic healthcare delivery?*
6
7
8 123
9
10
11 124
12
13
14 125
15
16
17 126
18
19
20 127
21
22
23 128
24
25
26 129
27
28
29 130
30
31
32 131
33
34
35 132
36
37
38 133
39
40
41 134
42
43
44 135
45
46
47 136
48
49
50 137
51
52
53
54
55
56
57
58
59
60

1
2
3 138 **METHODS**
4
5

6 139 *Setting*
7
8

9 140 This study was conducted in a general hospital in the Netherlands at a Obstetrics and
10
11 141 Gynaecology department that was halfway through the process of implementing VBHC and
12
13
14 142 had integrated a PIL strategy. In this context, all physicians in a department share
15
16 143 responsibility regarding the quality and efficiency of healthcare delivery, with one physician
17
18 144 in the lead in each department. This physician in the lead receives support from an
19
20 145 operational manager and a business administration manager but remains ultimately
21
22 146 accountable to the Board of Directors concerning the organizational processes,
23
24 147 performance, and quality of healthcare delivery of the department. The Board of Directors in
25
26 148 turn supports PIL by facilitating leadership and management courses and monitors patient
27
28 149 care results as well as the alignment of departmental interests with hospital interests. Besides
29
30 150 leadership and managerial tasks, the physician in the lead is required to remain clinically active.
31
32
33
34

35
36 151 *Study design*
37
38

39 152 An interpretative and descriptive, qualitative design was used. (12;13) Knowledge was
40
41 153 gained from a deep understanding of the stakeholders' perspectives from their individual
42
43 154 experiences. The use of open-ended questions during the interviews allowed the
44
45 155 respondents to talk in depth, choosing their own words. The format provided the
46
47 156 interviewer an opportunity to probe for a deeper understanding, ask for clarification and
48
49 157 allow the interviewee to steer the direction of the interview. In this way the interviewer
50
51 158 could develop a real sense of the stakeholders' understanding of the situation, their
52
53 159 experience and associated perspectives.
54
55
56
57
58
59
60

1
2
3 160 *Participants and procedure*
4
5

6 161 We used purposeful sampling to select stakeholders. (12;13) Stakeholders were explicitly
7
8 162 selected by a hospital administrator in hopes of generating appropriate and useful data. Two
9
10 163 stakeholders of each relevant stakeholder group were selected to form a representative
11
12 164 sample using the following criteria: active involvement in policy discussions, and
13
14 165 contributions to policymaking regarding the hospital's future healthcare delivery plans.
15
16 166 Between April and June 2016, a physician (RM) conducted semi-structured one-on-one, in-
17
18 167 depth interviews with members of all stakeholder groups of one Obstetrics and Gynaecology
19
20 168 department: the hospital's Patient Council (n=1), nurses (n=2), midwives (n=2), physicians
21
22 169 (n=2), residents (n=2), the non-medical business managers of the department (n=2), and the
23
24 170 Board of Directors (n=2). In addition, a representative of the Dutch National Healthcare
25
26 171 Institute's Innovative Healthcare Professions programme was interviewed (the advisory
27
28 172 board for the Dutch Ministry of Health on innovations and improvements in healthcare
29
30 173 professions and education) (n=1). Of the 14 participants, 12 were female and two were
31
32 174 male. One of the two male participants was a member of the Board of Directors and the
33
34 175 other was one of the department's non-medical business managers. The gender and
35
36 176 ethnicity distribution were representative for each stakeholder group. All 14 stakeholders
37
38 177 were approached for inclusion by e-mail invitations, and all agreed to participate (the
39
40 178 secretary of the hospital's Patient Council was approached to recruit two representatives,
41
42 179 however, only one delegate was suggested). The number of participants was predetermined
43
44 180 to obtain broad stakeholder perspective; data saturation was reached with the initial cohort.
45
46 181 Saturation was evaluated by determining the amount of new data generated by each
47
48 182 transcript. The Hospital Ethics Review Board waived the requirement for ethics approval. All
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 183 participants provided written informed consent for audio-recording the interview and
4
5 184 publishing of group data.
6

7 185

8
9
10 186 *Patient and Public Involvement*

11
12 187

13
14 188 Patients' perspectives receive a growing attention in the healthcare delivery approach.

15
16 189 Patients' preferences, priorities and experiences are important markers that help patients

17
18 190 and physicians in the shared decision-making process. The client board of the hospital was

19
20 191 identified to represent groups of patients. Patients were not involved in the conduct of the

21
22 192 study.
23

24
25 193
26

27
28
29 194 *Data collection*

30
31
32 195 Keywords and phrases such as "physicians in the lead", "medical leadership", "value-based

33
34 196 healthcare", "holistic care", "healthcare transition", "healthcare delivery" were used in the

35
36 197 PubMed, CINAHL, PsycINFO and Google Scholar search engines to find relevant literature in

37
38 198 order to theoretically frame the transition to value-based and holistic healthcare delivery

39
40 199 and PIL. A tailored topic list was drafted from theoretical concepts to structure the

41
42 200 interviews and to organize the data collection (Appendix 1). In view of the exploratory goal

43
44 201 of the study, questions were mainly open-ended. Each interview lasted 30-60 minutes with a

45
46 202 median of 40 minutes.
47

48
49
50
51
52 203 *Data Analysis*

53
54
55 204 The interviews were transcribed verbatim. (12;13) The transcripts were anonymised other
56
57
58
59
60

1
2
3 205 than for the interviewer (RM) and were analysed by RM and another researcher using
4
5 206 content analysis. (12;13) A qualitative data analysis software program (MAX.QDA 2007) was
6
7 207 used for coding the narratives. Data were categorized with open and axial coding. During the
8
9 208 first step of open coding, sentences of the transcripts were coded with a label that
10
11 209 summarized the meaning of that sentence; this resulted in a large number of labels.
12
13
14 210 Subsequent axial coding reduced the number of labels by clustering the content of closely
15
16 211 related labels into categories. Thirty-nine categories remained after axial coding.
17
18 212 This process was guided by the concept of Huber et al.(6) and the research questions. In the
19
20 213 final step of selective coding, connections were made between the categories identified in
21
22 214 the axial coding process. This step was an iterative process, in which the research team
23
24 215 repeatedly discussed until consensus was reached about the key themes.
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

228 RESULTS

229 Three key themes were derived from the analysis of the stakeholders' perspectives: PIL's
230 role in the transition to holistic healthcare delivery, the requirements to achieve holistic
231 care, and a new strategy for hospitals to achieve holistic healthcare delivery. All data
232 presented in the results are based on the stakeholders' perspectives, unless otherwise
233 specified.

234 PIL in the transition to holistic healthcare delivery

235 All stakeholders mentioned that a transition to holistic healthcare delivery seems to be
236 inevitable and a desired development. But the researchers wanted to understand if
237 *introducing 'PIL' is the same as introducing holistic care in the hospital.*

238 Facilitators to holistic care through PIL

239 All stakeholders stated that the main advantages of PIL are related to the dimensions 'bodily
240 functions' and 'daily functioning' of Huber et al. (6) The physician participants reported that
241 they are able to see a patient holistically. The extent to which the physician has a holistic
242 view, however, may depend on the physician's specialty. Besides specialty, the physician's
243 experience can have a beneficial influence on the physician's capacity to provide holistic
244 care.

245 *"Geriatricians and oncologists will look not only at the bodily functions but will have a
246 broader view of components that add value for patients." (Resident)*

247 The physicians can lead the practice, as they have knowledge about the medical needs of
248 patients, treatments available, resources needed for patient care, and developments in
249 medical care. Physicians have a certain influence within a team, which can help in

1
2
3 250 transferring a holistic view to the rest of the team.
4
5

6 251 *“If physicians would have a holistic view it would be very favourable as they have a lot of*
7
8 252 *influence on all levels of the organization to change things. If I want something from the*
9
10 253 *Board of Directors, I have to pass several levels, and in the end, I will still not succeed to*
11
12 254 *reach them. If a physician approaches the Board of Directors, they get through immediately”.*
13
14
15 255 *(Manager)*

18 256 **Barriers to holistic care through PIL**

19
20 257 The first barrier to PIL providing holistic healthcare is time. The short time frame physicians
21
22 258 have for each patient negatively impacts the ability to facilitate holistic care.

23
24
25
26 259 *“A physician has ten minutes for each patient, they do not have time to check whether*
27
28 260 *patients are healthy on all these dimensions. Moreover, I do not see any physician doing*
29
30 261 *this.” (Nurse)*

31
32
33 262 Most stakeholders, except for the physicians themselves and the Board of Directors, felt that
34
35 263 another barrier is that physicians have a narrowed view due to their strong biomedical
36
37 264 focus. This focus is often at the expense of other dimensions; for instance, this view rarely
38
39 265 includes meaningfulness as part of the spiritual dimension. This narrowed view may result in
40
41 266 an over-focus on diagnostics and interventions.

42
43
44
45 267 *“Our profession is based on seeing clients from a healthy perspective. As soon as a*
46
47 268 *gynaecologist is consulted for advice concerning a pregnant woman, you may assume that*
48
49 269 *their care delivery approach is focused on disease. Then it is often just a matter of wait and*
50
51 270 *see until they start their interventions, which are in my opinion not always necessary.”*
52
53
54
55 271 *(Midwife)*

1
2
3 272 A third barrier concerns the physician's engagement in management and leadership tasks.
4
5 273 Physician's priority is to be a clinician rather than a manager and leader. The management
6
7 274 course that is provided in the hospital is considered insufficient, as managers usually study
8
9 275 management for years. The time PIL get to run a department is also insufficient; managing a
10
11 276 department is already a complex and full-time task on top on patient care priorities.
12
13
14 277 Although many PIL manage to take care of their own department, they seem to lose sight of
15
16 278 the bigger picture and do not act in collaboration with other departments and the hospital's
17
18 279 interests.

20
21
22 280 *"Physicians in the lead manage to take care of their own department and their interests, but*
23
24 281 *do not always manage to collaborate with other departments and act in the hospital's*
25
26 282 *interests." (Board of Directors)*

283 **Opportunities for improvement**

28 284 The main opportunity for improvement is educating physicians in the delivery of holistic
29
30 285 healthcare and simultaneously in management and leadership. A second opportunity for
31
32 286 improvement is enhanced collaboration with other professions, such as nursing. Awareness
33
34 287 about contributions of other professionals is important, as is awareness of the way in which
35
36 288 different professions are complementary to each other.

37
38
39 289 *"We work with nurses every day, but we do not know anything about the content of their*
40
41 290 *education and what exactly they are competent and authorized for." (Resident)*

42
43
44 291 For the current PIL, a broader view based on collaboration, interrelations between
45
46 292 departments and alignment of departmental interests with hospital interests can be
47
48 293 developed through educational programs. Furthermore, not every physician is able to be a

294 department leader or manager and perhaps some should focus mainly on patient care, while
295 others should focus more on leadership and management tasks in addition to patient care.

296 **Risks**

297 Threats to the enhancement of holistic care are mostly related to either the consequences of
298 the barriers or the failure to implement the opportunities for improvement. One of the risks
299 is that holistic healthcare is not achieved because of the strong biomedical focus. Another
300 risk is raised when self-interest of the department is prominent, rather than the
301 interrelations with other departments leading to a potential consequence of the hospital not
302 providing optimal care for patients. Furthermore, a hierarchic structure, where only the
303 physician is in the lead, can result in insufficient representation of the perspectives of other
304 professions. For other professions, it may be more difficult to realise changes.

305 *“With this strategy there is one doctor at the top, if the doctor has a different view than the
306 rest of the team, it is a burden for the team.” (Midwife)*

307 **Requirements to achieve holistic care**

308 From the stakeholders' perspectives, it became clear that the PIL strategy is insufficient to
309 meet the holistic requirements proposed by Huber et al. (6) However, all participants
310 confirmed that all six dimensions should be considered as important healthcare outcomes.
311 As patients' health outcomes are not yet systematically measured, there is a lack of clarity
312 about who should take the lead in detecting the needs of patients and arranging the
313 processes needed to improve their health status. All stakeholder groups mentioned that the
314 care is supposed to be value-based and holistic, but that this is often not yet the case in
315 practice.

1
2
3 316 *"The reality is always more persistent than the ideas that are being launched. Things always*
4
5 317 *turn out differently than the perspectives that are outlined. As a patient, you are subject to*
6
7 318 *this." (Patient Council)*
8

9
10 319 The system still needs to re-organize and adapt to further meet the requirements for holistic
11
12 320 care.
13

14 15 321 *The care chain*

16
17 322 In order to provide holistic care, it is essential that the healthcare providers have a shared
18
19 323 vision. From the perspectives of several stakeholders, patients should be supported in a non-
20
21 324 hospital setting to achieve holistic healthcare. A holistic approach should be the core of care
22
23 325 delivery in every link of the care chain; therefore, hospital-based professionals should
24
25 326 consider the six dimensions essential for patients to improve their health. Referrals and
26
27 327 collaboration between a variety of complementary disciplines and professions in and outside
28
29 328 the hospital is needed for holistic care delivery.
30
31
32

33 34 329 *Roles in the organization of holistic healthcare*

35
36 330 From the stakeholders' perspectives, five important roles were defined besides PIL in
37
38 331 organizing holistic care; the role of patients, informal caregivers, nurses, general
39
40 332 practitioners, and care coordination centres.
41
42
43

44 333 *Patients*

45
46 334 All stakeholders confirmed the need for empowering patients. The structure of 'patients in
47
48 335 the lead' was mentioned several times. 'Patients in the lead' were thought to be able to take
49
50 336 responsibility for their own health and to manage their care in a holistic way as much as
51
52 337 possible. Illness and age were mentioned as possible reasons why patients may not be able
53
54 338 to take responsibility for their own health.
55
56
57
58
59
60

1
2
3 339 *"In current society, people were not raised with the mentality to take responsibility for their*
4
5 340 *own health and manage their own care. It will take a generation to achieve this."* (Doctor)
6
7

8 341 Support is thus needed to guide and help patients in coordinating and managing their own
9
10 342 healthcare. Patients who are still not capable to manage their care, despite receiving
11
12 343 support, are dependent on safety nets. At this point, the question emerged regarding who
13
14 344 should help the patient by fulfilling a coordinating role if these limits are reached and who
15
16 345 should take the lead in coordinating the healthcare of these patients.
17
18

19
20 346 **Informal caregivers**
21

22 347 A marked difference emerged in the perspectives of the various stakeholders on the role of
23
24 348 informal caregivers. The representative of the Innovative Healthcare Professions programme
25
26 349 and the representatives of the Board of Directors were confident that informal caregivers
27
28 350 can provide a large part of the care that is needed. Several other stakeholders mentioned
29
30 351 that society is increasingly individualistic, which makes informal care delivery not a very
31
32 352 viable or desired option. They expressed their concern that a majority of patients might not
33
34 353 even have an informal caregiver who could provide care that fits their health needs.
35
36 354 Moreover, when care is provided by informal care givers, the privacy of patients can be at
37
38 355 stake.
39
40
41
42
43

44 356 *"If my father poops in his pants, my mother cannot ask the neighbours to help him. What*
45
46 357 *about his privacy?"* (Nurse)
47
48

49 358 **Nurses**
50

51 359 All stakeholders mentioned that nurses are an important link in the healthcare chain. They
52
53 360 expressed the conviction that nurses are capable to function as case-managers and to
54
55 361 coordinate holistic care for patients in primary as well as secondary healthcare. This belief
56
57
58
59
60

1
2
3 362 was attributed to the attention to holistic skills in the nurse training. Some remarked that it
4
5 363 should be considered whether district nurses can get a good overview of a patient's health
6
7 364 during their short visits and whether there might be time and resources to deploy them to
8
9 365 take on a coordinating role in holistic care delivery.
10

11 12 13 366 **General Practitioner** 14

15
16 367 The role of the general practitioner (GP) was also considered to be very important. The GP
17
18 368 was seen as a generalist who has a holistic view of patients and would not unnecessarily
19
20 369 refer patients to a specialist. Stakeholders agreed that follow-up can often be done by a GP,
21
22 370 which has a proximity advantage for the patient and a cost advantage for the healthcare
23
24 371 system. Overall, while the GP can be a good coordinator in a patient's healthcare, the limited
25
26 372 amount of time for each patient and workload are obstacles to GPs fulfilling a leading or
27
28 373 coordinating role.
29

30 31 32 33 374 **The need for a new care management coordination centre** 34

35
36 375 *"If patients enter the hospital or a healthcare organization, they do not know where to go,*
37
38 376 *there is so much bureaucracy that they first have to tell their story five times."* (Midwife)
39

40
41 377

42
43 378 The majority of stakeholders mentioned that there is a lack of support for patients to
44
45 379 manage their care. A suggested solution to this lack of support include a new care
46
47 380 management coordination centre, where patients can receive services that are similar to the
48
49 381 core activities of a church, community centre and information desk. This coordination centre
50
51 382 needs to function as an accessible place where people can easily gain information and
52
53 383 support to manage their healthcare and function as 'patients in the lead'. Additionally, the
54
55
56
57
58
59

1
2
3 384 need for such a centre is sometimes mentioned in conjunction with 'case-managers'. Case-
4
5 385 managers are able to help people navigate their way. Huber et al's dimension
6
7 386 'meaningfulness', (6) is assumed to be an objective that was traditionally paid attention to
8
9 387 by the church or other religious organizations. This new centre could pay attention to the
10
11 388 dimension 'meaningfulness' outside of the context of religion.
12
13

14 389

15
16 390 *"Formerly, a lot of people went to the church, now this is much less the case. People are*
17
18 391 *searching for alternatives for meaningfulness and mindfulness."* (Physician)
19
20

21 22 392 **A new strategy for hospitals to support holistic healthcare delivery**

23
24

25
26 393 The main key to achieving a holistic approach to healthcare delivery seems to be
27
28 394 collaboration between all providers in the care chain. All healthcare providers within the
29
30 395 hospital are complementary to each other, and physicians cannot be expected to consider
31
32 396 and balance all the dimensions of holistic healthcare in solos. Continuing the PIL strategy
33
34 397 alone may be at the expense of the holistic dimensions of Huber et al. (6) and can be an
35
36 398 obstacle in achieving holistic healthcare in VBHC. The majority of stakeholders mentioned
37
38 399 that the department should be led by complementary stakeholders in addition to PIL to
39
40 400 ensure holistic healthcare. A new strategy of 'team in the lead' was proposed by the
41
42 401 researchers. Careful consideration should be given to the composition of the team; all
43
44 402 professions should be adequately represented in the team.
45
46
47

48
49 403 *"In my opinion, even the Patient Council may take part in this."* (Midwife)
50
51

52 404

53
54
55 405
56
57
58
59
60

1
2
3 406 **DISCUSSION**

4
5 407 We performed a qualitative study and explored stakeholders' perspectives on the PIL
6
7 408 strategy in the transition to holistic healthcare. We identified several bottlenecks, solutions
8
9 409 and roles in organizing this transition. Features of PIL in the transition were elucidated and
10
11 410 did not seem to fully align with the aim of providing holistic healthcare. A new strategy of
12
13 411 'team in the lead' was proposed. Moreover, participants agreed that a new care
14
15 412 management coordination centre is needed that may provide social and spiritual support as
16
17 413 well as the information that patients need in order to manage their own care.
18
19
20
21

22 414 *Comparison with the existing literature*

23
24
25 415 The findings concerning the importance of integration of healthcare delivery are in line with
26
27 416 the integrated practice units and systems integration as described in VBHC. (11) Other
28
29 417 concepts in the literature also support integrated care to improve healthcare delivery for
30
31 418 patients. (14;15) Although PIL can contribute to controlling the increasing healthcare costs
32
33 419 and improving organizational performance, (16-21) we noticed that PIL in our study do not
34
35 420 seem to contribute sufficiently to the interrelations and integration needed between
36
37 421 departments. Collaboration and integration within and between departments is necessary to
38
39 422 provide holistic care. In addition, healthcare leaders are needed that go beyond integrated
40
41 423 care and actively support people in all dimensions for optimized healing and managing their
42
43 424 own health. (22) Based on our results, we postulate that holistic care may be achieved by
44
45 425 establishing a 'team in the lead'. To create a patient oriented team, it is needed to transform
46
47 426 the relationships among individual providers. (23) The proposed 'team in the lead' in our
48
49 427 research can be linked to models about 'shared leadership' in the literature. (24) Shared
50
51 428 leadership is management or leadership at a team-level, which empowers staff within the
52
53
54
55
56
57
58
59
60

1
2
3 429 decision-making process. (24) Effective collaborative relationships and teamwork within
4
5 430 shared-leadership are thought to improve integration, care practices and patient outcomes.
6
7 431 (24;25) Moreover, an effective and efficient 'team in the lead' requires collective
8
9 432 competence. Lingard describes the necessity of team competence in medicine. (26) She
10
11 433 mentions that individual competence alone, which is the focus in medicine, is insufficient for
12
13 434 the quality of healthcare delivery and holds us back from meaningful change in how we
14
15 435 educate for, and practice as, healthcare teams. Competent individuals can form incompetent
16
17 436 teams. The competence of leadership is increasingly important in competency frameworks
18
19 437 for healthcare professionals, but it is in complex relation to team collaboration. (26) Lingard
20
21 438 claims that we risk perpetuating the myth that "strong leadership" is the panacea for what
22
23 439 ails teamwork but that what "strong leadership" entails will vary according to clinical
24
25 440 context; the nature of leadership in acute care delivery such as in surgical, resuscitation, and
26
27 441 trauma teams may be different from the leadership that is needed in teams that provide
28
29 442 chronic and complex care.

30
31
32
33
34
35 443 Besides the concept of a 'team in the lead' to improve integration of care and realize a
36
37 444 holistic healthcare delivery approach, the concept of a care management coordination
38
39 445 centre seems to be required to support patients to be in the ultimate 'lead' of their health.
40
41 446 This centre corresponds to features of integrated care centres described in the literature,
42
43 447 (23) of which there are physician-led and non-physician (case-managers, home care
44
45 448 agencies, or area agencies) led care centres. Such centres provide similar services to the
46
47 449 ones we have described above, such as patient information and coordination of care.
48
49 450 However, these integrated care centres, that are serving patients who are often medically
50
51 451 and socially vulnerable and require a wider range of needs, do not seem to offer services to
52
53 452 meet the spiritual and social needs of patients. In reality, a care manager in such centres

1
2
3 453 may still refer people who have such needs. Irrespective of the model used to integrate care,
4
5 454 collaborative and interdependent formal and informal relationships between all the links in
6
7 455 the care chain remain necessary for providing holistic care. (23)
8

9
10 456 *Advantages and limitations*

11
12 457 To our knowledge, this is the first study to explore the PIL strategy in the transition to
13
14 458 holistic healthcare. Our findings are supported by comparable notions about organizational
15
16 459 reforms in healthcare. (27) This study provides the advantages, barriers, opportunities for
17
18 460 improvement and risks of the PIL strategy, therefore giving broader insights and exploration.
19
20 461 To achieve reliability, we made use of transcribed recordings, instead of making use of
21
22 462 handwritten notes. (12;13) Data were transcribed by the interviewer for accuracy and
23
24 463 enhanced familiarity with the data. To ensure reliable data analysis, two researchers were
25
26 464 involved in labelling the codes. The themes were discussed within the research team until
27
28 465 consensus was reached. To ensure credibility, the respondents were chosen from individuals
29
30 466 identified as representative of the group. (12;13) Moreover, quotes from the transcripts
31
32 467 were tied to the text so the reader can see how the interpretation is based on the data. To
33
34 468 ensure alignment between the shared information and the interpretation of the interviewer,
35
36 469 the interviewer (RM) explored the hospital's strategy documents, in order to be aware of
37
38 470 and understand the hospital's processes. In this way the information shared could be better
39
40 471 understood and interpreted. Questions were mainly open-ended to encourage information
41
42 472 sharing. Answers were intermittently paraphrased and summarized to give the respondent
43
44 473 the opportunity to add important perspectives, confirm the interpretations and to clarify
45
46 474 misunderstandings of the interviewer. Information about anonymity was given prior to the
47
48 475 interview. This was expected to encourage participants to speak freely.
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 476 The present study is limited by the fact that it was conducted in one country in one
4
5 477 institution. As the organization of the healthcare system and the strategy of hospitals differ
6
7 478 across settings and/or countries, the content may be less relevant to other settings. In
8
9 479 addition, hospital stakeholders are internally oriented, which may have influenced the way
10
11 480 they described the organization of holistic care. Although these are aspects that limit the
12
13 481 transferability of our findings, we think that the concepts used in this study are
14
15 482 internationally recognized and the organization of healthcare systems in different countries
16
17 483 is similar enough to justify the assumption that our findings will have some relevance and
18
19 484 potential transferability to other contexts and settings.
20
21
22
23

24 485 *Suggestions for future research*

25
26
27 486 Although we gained insights into PIL in the transition to holistic healthcare in the
28
29 487 Netherlands, it would be interesting to explore the effect of introducing PIL in different
30
31 488 cultures. Moreover, in order to improve the PIL strategy, observational studies may be
32
33 489 useful to determine significant barriers of PIL in practice. Furthermore, research on the
34
35 490 effectiveness of the proposed concept of a 'team in the lead' would be necessary to explore
36
37 491 whether this model is effective and would lead to the desired holistic care in practice.
38
39
40

41 492 *Implications*

42
43
44
45 493 It is important for the PIL to be aware of the stakeholders' perspectives and of the holistic
46
47 494 approach to healthcare delivery. Although physicians can be educated to focus more on the
48
49 495 holistic outcome than on cure and treatment, a 'team in the lead' approach should be taken
50
51 496 into consideration to achieve holistic healthcare. Organizing holistic care requires more
52
53 497 integration and teamwork across facilities in the care chain. Moreover, there is a demand for
54
55 498 a care management coordination centre that coordinates care and supports patients on the
56
57
58
59

1
2
3 499 different dimensions of holistic care. Better support on these dimensions may lead to
4
5 500 healthier 'patients in the lead'.
6
7
8

9 501 **CONCLUSION**

10
11 502 The transition to a value-based and holistic approach in healthcare is desirable. Although
12
13 503 VBHC is an important step in the right direction due to the integrative aspects it offers, the
14
15 504 PIL strategy may be at the expense of the holistic aims in the healthcare delivery approach.
16
17
18 505 To realize a holistic healthcare approach, a strategy of a 'team in the lead' should be
19
20 506 considered, as different professional groups complement each other in the full care cycle.
21
22
23 507 Furthermore, the current organization of holistic care lacks support for patients to manage
24
25 508 their care. A care management coordination centre is required to support patients in
26
27 509 realizing the care that is needed to improve their health outcomes. A second important
28
29 510 aspect in the organization of holistic care is that every link in the care chain contributes to
30
31 511 holistic care delivery, therefore collaboration and integration across the care chain is
32
33 512 necessary.
34
35
36
37

38 513 **ACKNOWLEDGEMENTS** We would like to thank all the respondents for their sincerity and
39
40 514 generosity of sharing their perspectives with us. Also, we would like to thank Nesibe
41
42 515 Akdemir (NA), a PhD student in medical education, for her contribution in analysing the
43
44 516 data.
45
46
47

48 517 **CONTRIBUTORS**

49
50 518 RM, CH and FS contributed to the conception and development of the study, project
51
52 519 management, reporting and publication. RF, CH and FS developed the topic list for the semi-
53
54 520 structured interviews. RM and FS participated in participant recruitment and RM in the data
55
56
57
58
59
60

1
2
3 521 collection. RM performed all interviews. RM, CH, and FS developed and refined the coding
4
5 522 framework, and RM and NA performed the data analysis. RM prepared the first draft of the
6
7 523 manuscript. RM, CH, and FS were involved in drafting and revising the manuscript and have
8
9 524 given final approval of the version to be published. RM takes responsibility for the
10
11
12 525 manuscript.

13
14 526 **CONFLICT OF INTEREST STATEMENT** All authors have completed the ICMJE uniform
15
16 527 disclosure form at http://www.icmje.org/coi_disclosure.pdf and declare: no support from
17
18 528 any organisation for the submitted work; no financial relationships with any organisations
19
20 529 that might have an interest in the submitted work in the previous three years, no other
21
22 530 relationships or activities that could appear to have influenced the submitted work
23
24
25

26
27 531 **TRANSPARENCY DECLARATION** The lead author affirms that the manuscript is an honest,
28
29 532 accurate, and transparent account of the study being reported; that no important aspects of
30
31 533 the study have been omitted; and that any discrepancies from the study as planned have
32
33 534 been explained.
34
35

36
37 535 **FUNDING:** No funding was provided.
38
39

40 536 **DATA SHARING** De-identified transcribed interviews and the code set can be made available
41
42 537 by request to the corresponding author.
43
44
45

46 538

47
48 539

49
50 540

51
52 541

53
54 542

543 REFERENCES

544

545 (1) Christensen K, Doblhammer G, Rau R, Vaupel JW. Ageing populations: the challenges ahead.
546 Lancet 2009 Oct 3;374(9696):1196-208.

547 (2) Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness
548 care: translating evidence into action. Health Aff (Millwood) 2001 Nov;20(6):64-78.

549 (3) Barr VJ, Robinson S, Marin-Link B, Underhill L, Dotts A, Ravensdale D, et al. The expanded
550 Chronic Care Model: an integration of concepts and strategies from population health
551 promotion and the Chronic Care Model. Hosp Q 2003;7(1):73-82.

552 (4) Bodenheimer T, Fernandez A. High and rising health care costs. Part 4: can costs be
553 controlled while preserving quality? Ann Intern Med 2005 Jul 5;143(1):26-31.

554 (5) Huber M, Knottnerus JA, Green L, van der Horst H, Jadad AR, Kromhout D, et al. How should
555 we define health? BMJ 2011 Jul 26;343:d4163.

556 (6) Huber M, van VM, Giezenberg M, Winkens B, Heerkens Y, Dagnelie PC, et al. Towards a
557 'patient-centred' operationalisation of the new dynamic concept of health: a mixed methods
558 study. BMJ Open 2016 Jan 12;6(1):e010091.

559 (7) Porter ME. What is value in health care? N Engl J Med 2010 Dec 23;363(26):2477-81.

560 (8) Porter ME, Teisberg EO. How physicians can change the future of health care. JAMA 2007
561 Mar 14;297(10):1103-11.

562 (9) Lee VS, Kawamoto K, Hess R, Park C, Young J, Hunter C, et al. Implementation of a Value-
563 Driven Outcomes Program to Identify High Variability in Clinical Costs and Outcomes and
564 Association With Reduced Cost and Improved Quality. JAMA 2016;316(10):1061-72.

565 (10) Nilsson K, Børstø F, Andersson AE, Wikstrøm E, Sandoff M. Experiences from implementing
566 value-based healthcare at a Swedish University Hospital a longitudinal interview study. BMC
567 Health Serv Res BMC Health Services Research 2017;17(1).

568 (11) Porter ME, Pabo EA, Lee TH. Redesigning primary care: a strategic vision to improve value by
569 organizing around patients' needs. Health Aff (Millwood) 2013 Mar;32(3):516-25.

570 (12) Green J, Thorogood N. Qualitative methods for health research. Los Angeles: SAGE; 2009.

571 (13) Mortelmans D. Manual qualitative research methods (in Dutch: Handboek kwalitatieve
572 onderzoeksmethoden). Leuven; Den Haag: Acco; 2013.

573 (14) Plochg T, Klazinga NS. Community-based integrated care: myth or must? Int J Qual Health
574 Care 2002 Apr;14(2):91-101.

575 (15) Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and implications-
576 -a discussion paper. Int J Integr Care 2002;2:e12.

577 (16) Clark J. Medical leadership and engagement: no longer an optional extra. J Health Organ
578 Manag 2012;26(4-5):437-43.

- 1
2
3 579 (17) Daly R. Putting physicians in the lead for cost containment. *Healthc Financ Manage* 2013
4 580 Dec;67(12):52-9.
- 5
6 581 (18) O'Sullivan H, McKimm J. Medical leadership: an international perspective. *Br J Hosp Med*
7 582 (Lond) 2011 Nov;72(11):638-41.
- 8
9 583 (19) Schwartz RW, Tumblin TF. The power of servant leadership to transform health care
10 584 organizations for the 21st-century economy. *Arch Surg* 2002 Dec;137(12):1419-27.
- 11
12 585 (20) Warren OJ, Carnall R. Medical leadership: why it's important, what is required, and how we
13 586 develop it. *Postgrad Med J* 2011 Jan;87(1023):27-32.
- 14
15 587 (21) Yolande W, Gerhard ACS, Pauline LM, Dick LW. Doctor in the lead: balancing between two
16 588 worlds. *Organization* 2011;18(4):477-95.
- 17
18 589 (22) Plochg T, Ilinca S, Noordegraaf M. Beyond integrated care. *J Health Serv Res Policy* 2017 Jan
19 590 1;1355819617697998.
- 20
21 591 (23) Griffin JD, Andrew F. Integrated care management in rural communities. Portland, ME:
22 592 University of Southern Maine, Muskie School of Public Service, Maine Rural Health
23 593 Research Center; 2014. Report No.: Working Paper #54.
- 24
25 594 (24) Al-Sawai A. Leadership of healthcare professionals: where do we stand? *Oman Med J* 2013
26 595 Jul;28(4):285-7.
- 27
28 596 (25) Bergman JZ, Rentsch JR, Small EE, Davenport SW, Bergman SM. The shared leadership
29 597 process in decision-making teams. *J Soc Psychol* 2012 Jan;152(1):17-42.
- 30
31 598 (26) Lingard L. Paradoxical Truths and Persistent Myths: Reframing the Team Competence
32 599 Conversation. *Journal of Continuing Education in the Health Professions* 2016;36 Suppl
33 600 1:S19-S21.
- 34
35 601 (27) Locock L. Healthcare redesign: meaning, origins and application. *Qual Saf Health Care* 2003
36 602 Feb;12(1):53-7.
37 603
38 604
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

APPENDIX

Appendix 1: Topic list

Topics	Sub-topics
Change in healthcare delivery approach	<ul style="list-style-type: none"> - Are you familiar with the changes in healthcare delivery demanded by the Dutch Ministry of Health? - What do you know about the organization of this transition to value-based and holistic healthcare delivery? <p>After introducing these topics, participants received an introduction to the six dimensions of holistic health proposed by Huber et al.(6) and the reorganization of healthcare delivery demanded by the Dutch Ministry of Health. After this introduction, the following questions were asked:</p>
Organization of care	<ul style="list-style-type: none"> - What are your perspectives on the transition to value-based and holistic healthcare delivery? - How would you like this desired care delivery to be organized?
Coordination	<ul style="list-style-type: none"> - Who should take leadership in the organization of this care and in supporting the patient?
Physicians in the lead	<ul style="list-style-type: none"> - What do you think about 'physicians in the lead' in holistic healthcare? - What are the advantages, barriers, opportunities for improvement, and risks in the transition to the desired healthcare approach? - Do you think the strategy of 'physicians in the lead' will lead to holistic healthcare?

Index of items reported in our research in accordance with the Standards for Reporting Qualitative Research (SRQR)*

1.	Title	p. 1
2.	Structured abstract	p. 2
3.	Problem formulation	p. 4
4.	Purpose or research question	p. 6
5.	Qualitative approach and research paradigm	p. 7
6.	Researcher characteristics, reflexivity	p. 8
7.	Context	p. 7
8.	Sampling strategy	p. 8
9.	Ethical issues pertaining to human subjects	p. 9
10.	Data collection methods	p. 9
11.	Data collection instruments/ technologies	p. 9
12.	Units of study	p. 8
13.	Data processing	p. 9
14.	Data analysis	p. 9
15.	Techniques to enhance trustworthiness	p. 21
16.	Synthesis and interpretation	p. 11-18
17.	Links to empirical data	p. 11-18
18.	Integration with prior work, implications, transferability, and contribution(s)	p. 22, 23 and 25
19.	Limitations	p. 3 and 22
20.	Conflicts of interest	p. 25
21.	Funding	p. 26

* Standards by Bridget C. O'Brien, PhD, Ilene B. Harris, PhD, Thomas J. Beckman, MD, Darcy A. Reed, MD, MPH, and David A. Cook, MD, MHPE