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# BMJ Open

## The competencies necessary for becoming a leader in the field of community medicine :A qualitative study

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5 **The competencies necessary for becoming a leader in the field of community**  
6 **medicine :A qualitative study**  
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## Abstract

Objectives: Community medicine is essential for achieving good health for all, and education for community medicine has become popular throughout the world.

Leadership plays an important role in the development of community medicine; however, there have been few reports about the competencies necessary for success as a leader in community medicine. This exploratory study was designed to identify competencies for inclusion in our curriculum that focuses on developing such leaders.

Design: Qualitative study.

Setting: Interviews with community medicine doctors, who play an important leadership role in Japan.

Participants: Nineteen doctors (male 18, female 1) participated in semi-structured interviews (mean age 48.3 years, range 34-59; mean years of clinical experience 23.1 years, range 9-31).

Method: Semi-structured interviews were held and transcripts were independently analyzed and coded by the first two authors. The third and fourth authors discussed and agreed or disagreed with the results to give a consensus agreement. Doctors were recruited by maximum variation sampling until thematic saturation was achieved.

Results: Six themes emerged: 1) "Long term perspective". The ability to develop a long-term, comprehensive vision and to continuously work to achieve the vision.

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6 Cultivation of future generations of doctors is included. 2) “Team building”. The ability  
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8 to drive forward programs that include residents and local government workers, to  
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10 elucidate a vision, to communicate, and to accept other medical professionals.  
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13  
14 3)“Ability to negotiate”. 4)“Medical Ability”. Includes psychological issues and  
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16 difficult cases in addition to basic medical problems. High Medical ability gives  
17  
18 confidence to other medical professionals. 5) “Management ability”. 6) “Enjoying  
19  
20 oneself”; doctors need to feel an attraction to community medicine, that it be fun and  
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26 challenging for them.

27  
28 Conclusions: We demonstrated six competencies that are needed by leaders in the field  
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31 of community medicine. The results of this study will contribute to designing a  
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34 curriculum that develops such leaders.

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36  
37 Key words: community medicine, leader, competency, qualitative study, medical  
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40 education

### **Strengths and Limitations of this study**

· This is the first report to demonstrate the competencies that are necessary to leaders in the field of community medicine.

· We identified competencies that are necessary to leadership in the Japanese medical setting.

· Our study will contribute to designing a curriculum that develops leaders in community medicine.

· A limitation of this study is that we could interview only in a Japanese setting, so we cannot say if the competencies that emerged can be applied in other areas of the world.

## Introduction

The Alma-Ata Declaration on Primary Health Care in 1978 suggested that the concept of primary health care was the key strategy to achieving good health for all<sup>1</sup>, thus the development of primary health care plays an important role in health promotion around the world. In addition, the 34<sup>th</sup> World Health Organization Assembly in 1981 suggested the adaptation of a global strategy for reorientation of national health systems based on primary health care.<sup>2</sup> Community health centers are facing a shortage of primary care physicians at a time when government plans have called for an expansion of community health center programs. To succeed with this expansion, community health centers require additional well-trained physician leadership.<sup>3</sup> Furthermore, it acknowledged the need for appropriate training of health care professional so that they are prepared for the tasks they will have to perform. Influenced by this trend, education in community medicine has become popular throughout the world<sup>4</sup>, and is now incorporated in the model core curriculum in Japan.<sup>4</sup> In addition, because the collapse of community medicine has been a serious problem in Japan, training in community medicine is currently emphasized in medical undergraduate education.<sup>6</sup>

The purpose of training in community medicine is to communicate the current status of community medicine and to develop the abilities necessary to a successful career in

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6 this field, which we hope will help motivate medical students to make a substantial  
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8 contribution to community medicine. It is accepted that leadership is a critical factor in  
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10 organizations as it has a great affect on goals, visions, strategy, social environment, and  
11  
12 work motivation among employees.<sup>7</sup> High-quality health care increasingly relies on  
13  
14 teams, collaboration, and interdisciplinary work, making physician leadership essential  
15  
16 for optimizing health system performance.<sup>8-10</sup> Further, it is reported that the key  
17  
18 elements of clinical leadership at an academic medical center fall into four important  
19  
20 themes: 1) management of the team, 2) establishing a vision, 3) communication, and 4)  
21  
22 personal attributes.<sup>11</sup> However, there have as yet been no competencies established in  
23  
24 Japan for educational curriculums to develop such leaders. Competency based medical  
25  
26 education has become a core strategy in the United States and internationally as a means  
27  
28 to educate and assess the next generation of physicians. Models of CBME are driven by  
29  
30 the expansion of scientific knowledge and changes in medical practice.<sup>12-14</sup>  
31  
32 Competency-based frameworks offer structural, contentment, and process based  
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34 benefits.  
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38 At present, training in community medicine is being done in all medical universities,  
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40 medical students do clinical clerkships, and they study the importance of  
41  
42 inter-professional relations, which creates a mindset for community medicine.  
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6 In the future, to contribute to the development of community medicine, it will be  
7 necessary for medical students to start to gain a comprehensive ability to solve a wide  
8 variety of problems, including in family and community settings, and the ability to be a  
9 leader in groups of people of various professional orientations, including hospital and  
10 clinic cooperation. To gain such ability, students must have not only clinical skill, but  
11 also the motivation to become a leader in the community setting. Curriculums to teach  
12 leadership in the clinical setting are being provided all over the world.<sup>15-18</sup> However, it  
13 has been reported that the abilities needed by leaders in a focused community setting are  
14 different from those in the general clinical setting.<sup>19</sup> There have as yet been no  
15 competencies established for educational curriculums to develop such leaders. This  
16 exploratory study was done to clarify the competencies important to such an educational  
17 curriculum.  
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## Materials and Methods

### Setting

This study was designed with reference to the constant comparative method of the grounded theory approach.<sup>20</sup>

### Participants

The administrative director and vice-president of the Japan Primary Care Association (JPCA) were asked in 2014 to recommend candidates who are active as leaders of community medicine. Three academic organizations, The Japanese Medical Society of Primary Care, the Japanese Academy of Family Medicine, and the Japanese Society of General Medicine merged into JPCA on April 1st of 2010. The organization's aims include the promotion of accessible, continuing, comprehensive healthcare and related scientific activities that help citizens lead a healthy life. The administrative director and vice-president of the JPCA recommended twenty-five candidates. The research coordinator and the coauthors of this paper discussed the appropriateness of the recommended doctors, selecting 20 for interview, with a balance of doctors from rural and urban areas. E-mails in which the objectives of the study were described were sent to the candidates. Fortunately, all of the candidates agreed to be interviewed. The study protocol was approved by the Kyushu University Hospital Ethics Committee. Written informed consent was obtained from all participants prior to the interview. The study was conducted in accordance with the principles of the Helsinki Declaration of 1975, as revised in 2000.

### Interview and analysis

The first author conducted all of the interviews using the interview guide shown in Table 1. He belonged to the Department of General Medicine of Kyushu University

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Hospital for five years, and now manages the clinical training center for community medicine in the undergraduate school. He is a specialist of herbal medicine (Kampo) and community medicine. He had not met the participants previous to the interview. He was trained by the second author, who is an expert in qualitative research. All doctors gave consent to publish the results of their interview. The face to face interviews took place at the physician's place of practice between November 2014 and July 2015. Each interview lasted for one to two hours.

The questions included in the interview guide did not change over time and served as a checklist of points for discussion. However, interviewers were instructed to be flexible and to allow participants to take the discussion in any direction they wished.

The semi-structured interviews of the selected participants were digitally recorded and transcribed verbatim. The transcriptions were saved as a Microsoft Word document, de-identified, and then read. Transcripts were independently analyzed and coded by the four authors to extract the competencies proposed by the interviewees. In the first stage, data were analyzed using a framework of four key elements.<sup>11</sup> However, each interviewer used the constant comparative method, which involves constant and repeated checking of the interpretation of the data.<sup>21</sup> After data collection and individual analysis, the authors discussed the data to build a consensus.

Maximum variation sampling was done until thematic saturation was achieved. The first and second authors checked the interpretation of the themes derived from the data in order to confirm that the data was interpreted deductively. The third and fourth authors discussed and agreed or disagreed with the results to give a consensus agreement.

Twenty doctors (male 19, female 1) participated in the semi-structured interviews. The analysis reached saturation after the interviews of all participants and no new theme had

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5 emerged. The data of one doctor was eliminated from the analysis because his answers  
6 were vague and could not be summarized. Mean age of the interviewees was 48.3 years  
7 (range 34-59), and the mean years of clinical experience was 23.1 years (range 9-31).  
8  
9 The areas in which the doctors interviewed practice are as follows: Hokkaido-Tohoku  
10 four, Kanto four, Hokuriku three, Kansai two, Chugoku-shikoku four, and  
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## Results

Six themes emerged from analysis of the responses.

### **1. Long term perspective.**

Developing a comprehensive, long-term vision, then practicing continuously to achieve the vision. The leader needs the capacity to develop a strategic vision to improve the health of the community over the long term and to be able to see the “big picture” to keep sight of the direction in which community medicine is moving. It is also important to work in the same community for long enough to gain the respect of the residents. Cultivation of future generations of doctors and other medical staff members is an important aspect of this vision. Cultivating medical staff members includes delegation of responsibility to other medical staff members to reduce the workload of the leader. Further, cultivating future generations of doctors and other medical staff members requires patience and persistence needs. A sense of balance and flexibility in meeting situations encountered were also included in the theme. To solve the problems of the community and to cultivate productive members requires a long-term perspective, patience, and a capacity for endurance.

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6 Typical quotes  
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8 *1. "I think they should have a sense of the needs of the community and think*  
9  
10  
11 *strategically about many things."*  
12

13  
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17 *2. "I think that it will be difficult to become a leader in the field of community medicine*  
18  
19  
20 *if you can not observe things comprehensively."*  
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25  
26 *3. "I think it is necessary to have a view of at least five to six years."*  
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28  
29  
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31 *4. "I think that the task that is most important and most difficult for leaders is to*  
32  
33  
34 *cultivate and keep a successor."*  
35

## 36 37 38 39 **2. Team building** 40

41  
42 The ability to drive forward community programs that include residents and members of  
43  
44 the local government to communicate and bring about a vision and to gain the  
45  
46 acceptance of other medical professionals. Moreover, the leader needs to show a  
47  
48 willingness to compromise with the residents of his community, have good relations  
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50 with other members of the staff by maintaining a barrier-free, compromising, respectful  
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6 atmosphere that takes into account the viewpoints of each other. For this process to be  
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9 successful, the leader must have a vision, the ability to communicate the vision to others,  
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12 must not whimsically change the vision, and must take on the role of conduit so that  
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15 community members will be able to communicate the vision of the leader to their staff.  
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17 Further, the capacity to communicate, which includes active listening, effective use  
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20 language, and the capacity to make decisions fitting to the times are also important. It is  
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22  
23 important to remember that private opinions should not be communicated to other  
24  
25  
26 members.

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29  
30  
31 Typical quotes

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33  
34 1. *“The ability to understand and organize resources and the occupational ability of*  
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37 *other medical professionals is important.”*

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41  
42 2. *“To become a person who is easy to consult. This means to be easy to talk to.”*

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48 3. *“There are things that I must go ahead with even if they are opposed by other*  
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50  
51 *members. I think that the strength to show your vision is necessary.”*

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6 4. *“If a doctor does not go out into the community in a positive manner, many things will*  
7  
8 *not go well.”*  
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### 10 11 12 13 14 **3. Ability to negotiate** 15

16  
17 The ability to negotiate with others to insure that programs and visions progress  
18  
19 smoothly. In the objectives, local government was also included. A leader must create  
20  
21 and maintain good relations with local government and community leaders, and it is  
22  
23 important to have key persons to deal with. A leader makes the first step to go to the  
24  
25 community to collect information such as the social climate, culture, and history of the  
26  
27 community so that he can understand the needs of the community. When collecting the  
28  
29 information, the leader should also listen to the needs of minority groups. To succeed  
30  
31 the negotiation, participants thought that binding the roots of the community was also  
32  
33 important.  
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45 Typical quotes  
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48 1. *“Most of the work of a leader involves dealing with other persons, so it is necessary*  
49  
50 *to negotiate with them well”*  
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6 2. *“The ability to negotiate in a way I can get important information. This means I can*  
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8 *not be disliked, etc.”*  
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#### 10 11 12 13 14 **4. Medical Ability** 15

16  
17 In addition to routine general medicine, the doctors interviewed identified psychological  
18  
19 issues and difficult cases as being important to community medicine. They also felt it  
20  
21 important that confidence be developed through interaction with other medical  
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23 professionals. Of note, the doctors thought that all Japanese doctors can do standard  
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25 treatment and management, and thus a strong focus on medical ability is not necessary.  
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34 Typical quotes  
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37 1. *“If I do not have clinical ability and the ability to solve problems, no one will trust*  
38  
39 *me.”*  
40  
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42  
43  
44  
45 2. *“In dealing with difficult problems that I cannot solve by myself, involving other*  
46  
47 *members of the community through continuing contact will lead to solving the*  
48  
49 *problem.”*  
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52

## 5. *Management capability*

The ability to run a clinic, medical unit, or medical association is thought to be important. Simply having good medical skills will not make a doctor a leader in the community.

The leader must have management knowledge and the capacity to think from a management viewpoint. They must also be able to raise money for community projects and activities.

Typical quotes

1. *“The ability to think about finances”*

2. *“In the future, if a leader is not good at management nothing will be possible.”*

## 6. *Enjoy oneself*

The doctors interviewed felt an attraction to community medicine; that it is fun and challenging for them. A leader does not always feel happy, but it is important to have the mindset that they will enjoy everything and value the events that they feel are enjoyable when shared with other members of the community. Members of medical the staff will

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think that the leader always feels happy.

Typical quotes

1. *“I am rooted in the community and enjoy its activities.”*

2. *“My mindset is that I will enjoy everything”*

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## Discussion

To best of our knowledge, this is the first report to demonstrate the competencies that are necessary to leaders in the field of community medicine. We identified six competencies that are necessary to leadership in the Japanese medical setting. “Developing a long term perspective”, “team building that includes residents and local government officials”, and “Enjoying oneself” are examples of specific competencies that would be useful for educational curriculums designed to develop leaders in the field of community medicine.

The “five-star doctor” concept was proposed by the WHO as an ideal profile of a doctor possessing a mix of aptitudes necessary to carrying out the range of services that a health setting must deliver to meet the requirement of relevance, quality, cost-effectiveness, and equity in health.<sup>22</sup> A “five-star doctor” can be summarized as a care provider, decision-maker, communicator, community leader, and manager. In this paper, a community leader is defined as a doctor who meets that the needs and problems of the whole community in a suburban or rural setting. According to the WHO, understanding the determinants of health inherent in the physical and social environment and by appreciating the breadth of each problem or health risk, “five-star doctors” do not simply treat individuals who seek help but will also take a positive interest in community health activities, which will benefit a large number of people.

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6 However, the competencies that are required of community leaders are vague in this  
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8 WHO definition.  
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11 In general, Schwartz et al reported that 1) strategic and tactical planning, 2)  
12  
13 persuasive communication, 3) negotiation, 4) financial decision-making, 5) team  
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15 building, 6) conflict resolution, and 7) interviewing are essential skills in physician  
16  
17 leadership.<sup>23</sup> Another paper on leadership by Kouzes and Posner reported the following  
18  
19 attributes: 1) challenge the process 2) inspire a shared vision, 3) enable others to act 4)  
20  
21 model the way, and 5) encourage the heart.<sup>24</sup> A paper by the Dine group reported that  
22  
23 the key elements of clinical leadership at an academic medical center fall into four  
24  
25 important themes.<sup>11</sup>  
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29 From these previous reports, team building and management of the team, establishing a  
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31 vision, inspiring a shared vision, and communication are common attributes of general  
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33 medical leadership.  
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42 From another perspective, according to Dr. Sarah Elaine Eaton in Literacy,  
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44 Languages and Leadership, “A community leader’s job is not to take on all the problems  
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46 of the world themselves and fix everything, but rather to work together with everyone in  
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48 the community, to mobilize and guide others, to facilitate solutions and things about the  
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50 long-term health of the community and its people”<sup>25</sup> This is related to our competency  
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6 finding indicating the need for medical ability to manage difficult cases. She also  
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8 reported ten characteristics that are particular to excellent community leaders  
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11 1)Maximize individuals'strengths,2) Balance the needs of your leadership group, 3)  
12  
13 Work as a team,4)Mobilize others 5) Pitch in,6) Practice stewardship 7)Be accountable  
14  
15 to the community, 8)Think forward, 9) Recruit and mentor new leaders,10) walk beside,  
16  
17 don't lead from above. Furthermore, nine factors for community leadership  
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19 competencies in the Northeast US were reported by Gerald A. Strand. 1)Problem  
20  
21 solving ability, 2)Demeanor, 3)Budgeting and supervisory competencies,4)Needs  
22  
23 assessment competencies 5)Promoting feelings of importance in community  
24  
25 members,6) Group organization and communication competencies, 7) Organization  
26  
27 leadership competencies, 8) Leadership attitude/principles, and 9) Management of  
28  
29 change competencies.<sup>26</sup> From these reports and the outcomes of our study, the  
30  
31 competencies required of physician leaders were almost same as those of community  
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33 leaders. Although in previous reports team building was one of the competencies of  
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35 leaders, residents and members of the local government were not included in the team.  
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37 We think that residents are the center of a community and that the local government  
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39 should play an important role, thus including residents and local government officials in  
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41 the team is of utmost importance.  
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6 Notably, personal attitude was included in the competencies; for example, model the  
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8 way, encourage the heart. We additionally found that our participants identified  
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10 enjoyment as a key factor. They felt that community leaders enjoyed their work and  
11  
12 found it challenging.  
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16  
17 Faridahwait Mohd-Shamsudin reported that the success of any organized health  
18  
19 program depends upon effective management,<sup>27</sup> but that health systems worldwide face  
20  
21 a lack of competent management at all levels. He identified six clinical managerial  
22  
23 competencies within the context of the rural primary care sector: visionary leadership;  
24  
25 assessment, planning, and evaluation; promotion of health and prevention of disease;  
26  
27 information management; partnership and collaboration; and communication. Our data  
28  
29 also demonstrated that management ability is an important competency. Of his proposed  
30  
31 competencies, promotion of health and prevention of disease was lacking in our study.  
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33  
34 However, we think that in addition to treatment, prevention of disease is important work  
35  
36 for a community leader.  
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45 Jan Hana and Carl Edvard Rudebeck explored the personal experiences of and  
46  
47 conceptions regarding leadership in rural primary care in Northern Norway.<sup>28</sup> They  
48  
49 identified three main categories: Demands and challenge, personal quantification, and  
50  
51 exercising leadership. In exercising leadership, they described a vision of a style of  
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6 coaching and coordination leadership and the display of communication skills,  
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8 decision-making ability, result focusing, and ad hoc solutions. These are all included in  
9  
10 our competencies. In the Hana and Rudebeck paper, the participants felt that they were  
11  
12 not prepared for leadership and not taking enough leadership training. One of our  
13  
14 competencies is having a long-term perspective, which includes cultivation of future  
15  
16 generations of doctors and other medical staff members. Furthermore, in demands and  
17  
18 challenges, they found that a lack of doctors resulted in less time for leadership. Hence,  
19  
20 we believe that cultivation of future generations of doctors is an important competency  
21  
22 for community leaders.  
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31 A limitation of this study is that we could interview only in a Japanese setting, so we  
32  
33 cannot say if the six competencies that emerged can be applied in other areas of the  
34  
35 world. In the near future, we plan to interview leaders in the other areas of the world  
36  
37 and to create design a curriculum that includes these six competencies to train leaders in  
38  
39 the field of community medicine. Further, sample size is relatively small and there is the  
40  
41 possibility of biased recommendations for the physicians. However, we reached  
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43 saturation of the interviews and the administrative director and vice-president of the  
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45 JPCA know community medicine very well, which minimizes the negative aspects of  
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47 these issues.  
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## Conclusions

We demonstrated six competencies that are needed by leaders in the field of community medicine. The results of this study will contribute to designing a curriculum that will help develop such leaders.

## Contributorship Statement

Dr. Kainuma planned the study, interviewed the doctors, and wrote the paper. Dr Kikukawa did the transcripts semi-structured interviews and analyzed and coded them with Dr Kainuma. Drs Nagata and Yoshida discussed and agreed or disagreed with the results to give a consensus agreement.

## Competing interests

There are no competing interests

The authors declare that they have no conflict of interest in this study.

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## Data sharing Statement

No additional data are available

For peer review only

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## References

- 1 .UNICEF : Primary health care report of the International Conference on primary health care, WHO Alma Ata. 1978
- 2 .WHO. Global strategy for health for all by the year 2000 (No.3), p.15 Health For All Series: World Health Organization;1981.
3. Markuns JF, Fraser B, Orlander JD.  
The path to physician leadership in community health centers: implications for training.  
Fam Med 2010;42:403-7.
4. Watmough S.An evaluation of the impact of an increase in community-based medical undergraduate education in a UK medical school. Educ Prim Care 2012;23:385-90.
5. Ministry of Education, Culture, Sports,Science and Techonology: Model CoreCurriculum.2011.
6. Iwasaki T, Takeyama Y, Iki M, et al: The changes in students' consciousness about

1  
2  
3  
4  
5  
6 community medicine during our program. *Med Educ.* 2011;42:101-112(in Japanese),  
7  
8  
9

10  
11 7. Yuki G. Leadership in organization. Upper Saddle River, NJ: Pearson Education; 2010.  
12  
13

14  
15  
16  
17 8. Reinertsen JL Physicians as leaders in the improvement of health care systems. *Ann*  
18  
19 *Intern Med* 1998;128:833-8  
20  
21  
22

23  
24  
25 9. McAlearney AS. Using leadership development programs to improve quality and  
26  
27 efficiency in healthcare. *J Healthc Manag* 2008;53:319-31  
28  
29  
30

31  
32  
33  
34 10. Lee TH. Turingi doctors into leaders. *Harv Bus Rev* 2010;88:50-8.  
35  
36  
37

38  
39  
40 11. Dine CJ, Kahn JM, Abella BS, Asch DA, Shea JA. Key elements of clinical  
41  
42 physician leadership at an academic medical center. *J Grad Med Educ* 2011;3:31-6.  
43  
44  
45

46  
47  
48 12. Carraccio C, Wolfsthal SD, Englander R, Ferentz K, Martin C. Shifting paradigms:  
49  
50 from Flexner to competencies. *Acad Med* 2002;77:361-7.  
51  
52  
53

- 1  
2  
3  
4  
5  
6 13. Malone K1, Supri S. A critical time for medical education: the perils of  
7  
8 competence-based reform of the curriculum. *Adv Health Sci Educ Theory*  
9  
10  
11 *Pract*2012;17:241-6.  
12  
13  
14  
15  
16  
17  
18 14. Huddle TS1, Heudebert GR Taking apart the art: the risk of anatomizing clinical  
19  
20 competence. *Acad Med* 2007;82:536-41.  
21  
22  
23  
24  
25  
26 15. Varkey P1, Peloquin J, Reed D, Lindor K, Harris I. Leadership curriculum in  
27  
28 undergraduate medical education: a study of student and faculty perspectives. *Med*  
29  
30 *Teach* 2009;31:244-50.  
31  
32  
33  
34  
35  
36  
37 16. O'Sullivan H1, McKimm J. Medical leadership and the medical student.  
38  
39  
40 *Br J Hosp Med (Lond)* 2011;72:346-9.  
41  
42  
43  
44  
45  
46 17. Quince T, Abbas M, Murugesu S, Crawley F, Hyde S, Wood D, Benson J.  
47  
48  
49 Leadership and management in the undergraduate medical curriculum: a qualitative  
50  
51 study of students' attitudes and opinions at one UK medical school. *BMJ Open*2014  
52  
53  
54  
55 25;4:e005353.  
56  
57  
58  
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- 1  
2  
3  
4  
5  
6 18. Cadieux DC, Lingard L, Kwiatkowski D, Van Deven T, Bryant M, Tithecott G.  
7  
8 Challenges in Translation: Lessons from Using Business Pedagogy to Teach  
9  
10 Leadership in Undergraduate Medicine. *Teach Learn Med* 2017;29:207-215.  
11  
12  
13  
14  
15  
16  
17 19. Size T. Leadership development for rural health. *N C Med J* 2006;67:71-6.  
18  
19  
20  
21  
22  
23 20. F Lingard L, Albert M, Levinson W: Grounded theory, mixed methods, and action  
24  
25 research. *BMJ* 2008;337:a567.  
26  
27  
28  
29  
30  
31 21. Glaser B. The constant comparative method of quantitative analysis. *Soc Probl*  
32  
33  
34 1965.  
35  
36  
37  
38  
39  
40 22. Boelen C. The five-star doctor: an asset to health care reform?  
41  
42 [www.who.int/hrh/en/HRDJ\\_1\\_1\\_02.pdf](http://www.who.int/hrh/en/HRDJ_1_1_02.pdf) (accessed 7 July 2017)  
43  
44  
45  
46  
47  
48 23. Schwartz RW, Pogge C. Physician leadership: essential skills in a changing  
49  
50 environment. *Am J Surg*. 2000;180:187-92  
51  
52  
53  
54  
55  
56  
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60

- 1  
2  
3  
4  
5  
6 24. Kouzeu JM, Posner BZ. The leadership challenge: How to keep getting  
7  
8 extraordinary things done in organizations. San Francisco:Jossey-Bass;1995.  
9  
10  
11  
12  
13  
14 25. Sarah Elaine Eaton 10 Characteristics of Community Leaders.  
15  
16 <http://wp.me/pNAh3-1tI> (accessed 7 July 2017)  
17  
18  
19  
20  
21  
22  
23 26. Strand GA. Community leadership competencies in the Northeast US: implications  
24  
25 for training public health educators. *Am J Public Health*1981;71:397-402.  
26  
27  
28  
29  
30  
31 27. Mohd-Shamsudin F, Chuttiattana N.Determinants of managerial competencies for  
32  
33 primary care managers in Southern Thailand. *J Health Organ*  
34  
35 *Manag*2012;26:258-80.  
36  
37  
38  
39  
40  
41  
42 28. Hana J1, Rudebeck CE. Leadership in rural medicine: the organization on thin ice?  
43  
44  
45 *Scand J Prim Health Care* 2011;29:122-8.  
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**Table Interview guide**

1. What competencies do you feel are necessary to becoming a leader in community medicine?
2. Why do you think they are necessary?
3. Please tell me an episode that illustrates why the competency is necessary?
4. How did you learn this competency?
5. Please tell me how you think a person can acquire it ?
6. What advice can you give us for developing an educational program for training future leaders in the field of community medicine?
7. I will summarize what I heard. Is my understanding correct?



Table 1  
Standards for Reporting Qualitative Research (SRQR)<sup>a</sup>

No.	Topic	Item
<b>Title and abstract</b>		
S1 Page 1	Title	✓ Yes Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended
S2 Page 2-3	Abstract	✓ Yes Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions
<b>Introduction</b>		
S3 Page 5-7	Problem formulation	✓ Yes Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement
S4 Page 7	Purpose or research question	✓ Yes Purpose of the study and specific objectives or questions
<b>Methods</b>		
S5 Page 8	Qualitative approach and research paradigm	✓ Yes Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/interpretivist) is also recommended; rationale <sup>b</sup>
S6 Page 8-9	Researcher characteristics and reflexivity	✓ Yes Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability
S7 Page 8	Context	✓ Yes Setting/site and salient contextual factors; rationale <sup>b</sup>
S8 Page 8	Sampling strategy	✓ Yes How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale <sup>b</sup>
S9 Page 8	Ethical issues pertaining to human subjects	✓ Yes Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues
S10 Page 9	Data collection methods	✓ Yes Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale <sup>b</sup>
S11 Page 8-9	Data collection instruments and technologies	✓ Yes Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study
S12 Page 10	Units of study	✓ Yes Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)
S13 Page 9	Data processing	✓ Yes Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/deidentification of excerpts
S14 Page 9	Data analysis	✓ Yes Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale <sup>b</sup>
S15 Page 9	Techniques to enhance trustworthiness	✓ Yes Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale <sup>b</sup>
<b>Results/findings</b>		
S16 Page 11-17	Synthesis and interpretation	✓ Yes Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory
S17 Page 11-17	Links to empirical data	✓ Yes Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings
<b>Discussion</b>		
S18 Page 18-22	Integration with prior work, implications, transferability, and contribution(s) to the field	✓ Yes Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field
S19 Page 22	Limitations	✓ Yes Trustworthiness and limitations of findings

(Table continues)

Table 1

(Continued)

Item	Topic	Response	Item
<b>Other</b>			
S20	Conflicts of interest	✓ Yes	Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed
S21	Funding	✓ Yes	Sources of funding and other support; role of funders in data collection, interpretation, and reporting

\*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

<sup>b</sup>The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

should provide evidence (e.g., examples, quotes, or text excerpts) to substantiate the main analytic findings.<sup>20,29</sup>

**Discussion.** The discussion of qualitative results will generally include connections to existing literature and/or theoretical or conceptual frameworks, the scope and boundaries of the results (transferability), and study limitations.<sup>10-12,28</sup> In some qualitative traditions, the results and discussion may not have distinct boundaries; we recommend that authors include the substance of each item regardless of the section in which it appears.

### Discussion

The purpose of the SRQR is to improve the quality of reporting of qualitative research studies. We hope that these 21 recommended reporting standards will assist authors during manuscript preparation, editors and reviewers in evaluating a manuscript for potential publication, and readers when critically appraising, applying, and synthesizing study findings. As with other reporting guidelines,<sup>35-37</sup> we anticipate that the SRQR will evolve as it is applied and evaluated in practice. We welcome suggestions for refinement.

Qualitative studies explore “how?” and “why?” questions related to social or human problems or phenomena.<sup>10,38</sup> Purposes of qualitative studies include understanding meaning from participants’ perspectives (How do they interpret or make sense of an event, situation, or action?); understanding the nature and

influence of the context surrounding events or actions; generating theories about new or poorly understood events, situations, or actions; and understanding the processes that led to a desired (or undesired) outcome.<sup>39</sup> Many different approaches (e.g., ethnography, phenomenology, discourse analysis, case study, grounded theory) and methodologies (e.g., interviews, focus groups, observation, analysis of documents) may be used in qualitative research, each with its own assumptions and traditions.<sup>12</sup> A strength of many qualitative approaches and methodologies is the opportunity for flexibility and adaptability throughout the data collection and analysis process. We endeavored to maintain that flexibility by intentionally defining items to avoid favoring one approach or method over others. As such, we trust that the SRQR will support all approaches and methods of qualitative research by making reports more explicit and transparent, while still allowing investigators the flexibility to use the study design and reporting format most appropriate to their study. It may be helpful, in the future, to develop approach-specific extensions of the SRQR, as has been done for guidelines in quantitative research (e.g., the CONSORT extensions).<sup>37</sup>

### Limitations, strengths, and boundaries

We deliberately avoided recommendations that define methodological rigor, and therefore it would be inappropriate to use the SRQR to judge the quality of research methods and findings. Many of the original sources from which we derived the SRQR were intended as

criteria for methodological rigor or critical appraisal rather than reporting; for these, we inferred the information that would be needed to evaluate the criterion. Occasionally, we found conflicting recommendations in the literature (e.g., recommending specific techniques such as multiple coders or member checking to demonstrate trustworthiness); we resolved these conflicting recommendations through selection of the most frequent recommendations and by consensus among ourselves.

Some qualitative researchers have described the limitations of checklists as a means to improve methodological rigor.<sup>33</sup> We nonetheless believe that a checklist for reporting standards will help to enhance the transparency of qualitative research studies and thereby advance the field.<sup>29,39</sup>

Strengths of this work include the grounding in previously published criteria, the diversity of experience and perspectives among us, and critical review by experts in three countries.

### Implications and application

Similar to other reporting guidelines,<sup>35-37</sup> the SRQR may be viewed as a starting point for defining reporting standards in qualitative research. Although our personal experience lies in health professions education, the SRQR is based on sources originating in diverse health care and non-health-care fields. We intentionally crafted the SRQR to include various paradigms, approaches, and methodologies used in qualitative research. The elaborations offered in

# BMJ Open

## The competencies necessary for becoming a leader in the field of community medicine :a Japanese, qualitative interview study

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<b>Primary Subject Heading</b>:	Health services research
Secondary Subject Heading:	Medical education and training
Keywords:	community medicine, leader, competency, qualitative study

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5 **1 The competencies necessary for becoming a leader in the field of community**  
6 **2 medicine :a Japanese qualitative interview study**  
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5 **1 Abstract**

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7 2 Objectives: To clarify competencies for inclusion in our curriculum that focuses on  
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10 3 developing leaders in community medicine.

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13 4 Design: Qualitative interview study.

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16 5 Setting: All six regions of Japan, including urban and rural areas.

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18 6 Participants: Nineteen doctors (male 18, female 1) who play an important leadership  
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21 7 role in their communities participated in semi-structured interviews (mean age 48.3  
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24 8 years, range 34-59; mean years of clinical experience 23.1 years, range 9-31).

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27 9 Method: Semi-structured interviews were held and transcripts were independently  
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30 10 analyzed and coded by the first two authors. The third and fourth authors discussed and  
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33 11 agreed or disagreed with the results to give a consensus agreement. Doctors were  
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36 12 recruited by maximum variation sampling until thematic saturation was achieved.

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38 13 Results: Six themes emerged: 1) "Long term perspective". The ability to develop a  
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41 14 long-term, comprehensive vision and to continuously work to achieve the vision.

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44 15 Cultivation of future generations of doctors is included. 2) "Team building". The ability  
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47 16 to drive forward programs that include residents and local government workers, to  
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50 17 elucidate a vision, to communicate, and to accept other medical professionals.

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52 18 3) "Ability to negotiate". The ability to negotiate with others to insure that programs and  
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55 19 visions progress smoothly 4) "Medical Ability". Includes psychological issues and

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6 1 difficult cases in addition to basic medical problems. High Medical ability gives  
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8 2 confidence to other medical professionals. 5) “Management ability”. The ability to run a  
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11 3 clinic, medical unit, or medical association. 6) “Enjoying oneself”; doctors need to feel  
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14 4 an attraction to community medicine, that it be fun and challenging for them.  
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17 5 Conclusions: We demonstrated six competencies that are needed by leaders in the field  
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20 6 of community medicine. The results of this study will contribute to designing a  
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23 7 curriculum that develops such leaders.  
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25 8 Key words: community medicine, leader, competency, qualitative study  
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5 **1 Strengths and Limitations of this study**

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3 This study qualitatively explores competencies through the perceptions of real leaders  
4 of community medicine.

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6 Individual interviews contribute to capturing the perceptions of the individual regarding  
7 the competencies needed by a leader in the field of community medicine.

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9 Limitations include the relatively smaller sample size than necessary for significance in  
10 a quantitative study

## 1 **Introduction**

2 The Alma-Ata Declaration on Primary Health Care in 1978 suggested that the concept  
3 of primary health care was the key strategy to achieving good health for all <sup>1</sup>, thus the  
4 development of primary health care plays an important role in health promotion around  
5 the world. In addition, the 34<sup>th</sup> World Health Organization Assembly in 1981 suggested  
6 the adaptation of a global strategy for reorientation of national health systems based on  
7 primary health care.<sup>2</sup> Community health centers are facing a shortage of primary care  
8 physicians at a time when government plans have called for an expansion of community  
9 health center programs. To succeed with this expansion, community health centers  
10 require additional well-trained physician leadership.<sup>3</sup> Furthermore, it acknowledged the  
11 need for appropriate training of health care professional so that they are prepared for the  
12 tasks they will have to perform. Influenced by this trend, education in community  
13 medicine, which we define as a branch of medicine that is concerned with the health of  
14 the members of a community, municipality, or region. has become popular throughout  
15 the world<sup>4</sup>, and is now incorporated in the model core curriculum in Japan.<sup>5</sup> In addition,  
16 because the collapse of community medicine has been a serious problem in Japan,  
17 training in community medicine is currently emphasized in medical undergraduate  
18 education.<sup>6</sup>



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6 1 It is also problematic that little research has been done in Japan into the competencies  
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9 2 necessary for leaders in community medicine

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11 3 The purpose of training in community medicine is to communicate the current status  
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14 4 of community medicine and to develop the abilities necessary to a successful career in  
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17 5 this field, which we hope will help motivate medical students to make a substantial  
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20 6 contribution to community medicine. It is accepted that leadership is a critical factor in  
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23 7 organizations as it has a great affect on goals, visions, strategy, social environment, and  
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26 8 work motivation among employees.<sup>7</sup> High-quality health care increasingly relies on  
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29 9 teams, collaboration, and interdisciplinary work, making physician leadership essential  
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32 10 for optimizing health system performance.<sup>8-10</sup> Further, it is reported that the key  
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35 11 elements of clinical leadership at an academic medical center fall into four important  
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38 12 themes: 1) management of the team, 2) establishing a vision, 3) communication, and 4)  
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41 13 personal attributes.<sup>11</sup> However, there have as yet been no competencies established in  
42  
43  
44 14 Japan for educational curriculums to develop such leaders. Competency based medical  
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47 15 education has become a core strategy in the United States and internationally as a means  
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49  
50 16 to educate and assess the next generation of physicians. Models of CBME are driven by  
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52  
53 17 the expansion of scientific knowledge and changes in medical practice.<sup>12-14</sup>  
54  
55  
56 18 Competency-based frameworks offer structural, contentment, and process based

1 benefits.

2 At present, training in community medicine is being done in all medical universities,  
3 medical students do clinical clerkships, and they study the importance of  
4 inter-professional relations, which creates a mindset for community medicine.

5 In the future, to contribute to the development of community medicine, it will be  
6 necessary for medical students to start to gain a comprehensive ability to solve a wide  
7 variety of problems, including in family and community settings, and the ability to be a  
8 leader in groups of people of various professional orientations, including hospital and  
9 clinic cooperation. To gain such ability, students must have not only clinical skill, but  
10 also the motivation to become a leader in the community setting. Curriculums to teach  
11 leadership in the clinical setting are being provided all over the world.<sup>15-18</sup> However, it  
12 has been reported that the abilities needed by leaders in a focused community setting are  
13 different from those in the general clinical setting.<sup>19</sup> There have as yet been no  
14 competencies established for educational curriculums to develop such leaders. This  
15 exploratory study was done to clarify the competencies important to such an educational  
16 curriculum.

17

## 1 **Materials and Methods**

### 2 **Design**

3 This study was designed qualitatively with reference to the grounded theory approach.<sup>20</sup>

4 **Setting:** All six regions of Japan, including urban and rural areas.

### 5 **Sampling**

6 Maximum variation sampling was conducted. The administrative director and  
7 vice-president of the Japan Primary Care Association (JPCA) were asked in 2014 to  
8 recommend candidates who are active as leaders of community medicine. Three  
9 academic organizations, The Japanese Medical Society of Primary Care, the Japanese  
10 Academy of Family Medicine, and the Japanese Society of General Medicine merged  
11 into JPCA on April 1st of 2010. The organization's aims include the promotion of  
12 accessible, continuing, comprehensive healthcare and related scientific activities that  
13 help citizens lead a healthy life. The administrative director and vice-president of the  
14 JPCA recommended twenty-five candidates. The research coordinator and the  
15 coauthors of this paper discussed the interview guide and appropriateness of the  
16 recommended doctors, with a balance of doctors from rural and urban areas. E-mails  
17 in which the objectives of the study were described were sent to the candidates.  
18 Fortunately, all of the candidates agreed to be interviewed. The study protocol was  
19 approved by the Kyushu University Hospital Ethics Committee. Written informed  
20 consent was obtained from all participants prior to the interview. The study was  
21 conducted in accordance with the principles of the Helsinki Declaration of 1975, as  
22 revised in 2000.

### 23 **Interview**

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6 1 The first author conducted all of the semi-structured interviews using the interview  
7  
8 2 guide shown in Table 1. He belonged to the Department of General Medicine of Kyushu  
9  
10 3 University Hospital for five years, and now manages the clinical training center for  
11  
12 4 community medicine in the undergraduate school. He is a specialist of herbal medicine  
13  
14 5 (Kampo) and community medicine. He had not met the participants previous to the  
15  
16 6 interview. He was trained by the second author, who is an expert in qualitative research.  
17  
18 7 All doctors gave consent to publish the results of their interview. The face to face  
19  
20 8 interviews took place one time at the physician's place of practice between November  
21  
22 9 2014 and July 2015. Each interview lasted for one to two hours. There was anyone else  
23  
24 10 presented besides the participant and interviewer. The questions included in the  
25  
26 11 interview guide did not change over time and served as a checklist of points for  
27  
28 12 discussion. However, interviewers were instructed to be flexible and to allow  
29  
30 13 participants to take the discussion in any direction they wished.

#### 33 **Data analysis**

34  
35 15 The semi-structured interviews of the selected participants were digitally recorded and  
36  
37 16 transcribed verbatim. The transcriptions were saved as a Microsoft Word document,  
38  
39 17 de-identified, and then read. Transcripts were independently analyzed and coded by the  
40  
41 18 four authors to extract the competencies proposed by the interviewees. In the first stage,  
42  
43 19 data were analyzed using a framework of four key elements.<sup>11</sup> However, each  
44  
45 20 interviewer used the constant comparative method, which involves constant and  
46  
47 21 repeated checking of the interpretation of the data.<sup>21</sup> After data collection and individual  
48  
49 22 analysis, the authors discussed the data to build a consensus. The first and second  
50  
51 23 authors checked the interpretation of the themes derived from the data in order to  
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1 confirm that the data was interpreted deductively. The third and fourth authors  
2 discussed and agreed or disagreed with the results to give a consensus agreement.

### 3 **Data collection**

4 Twenty doctors (male 19, female 1) participated in the semi-structured interviews. The  
5 analysis reached saturation after the interviews of all participants and no new theme had  
6 emerged. The data of one doctor was eliminated from the analysis because his answers  
7 were vague and could not be summarized. Mean age of the interviewees was 48.3 years  
8 (range 34-59), and the mean years of clinical experience was 23.1 years (range 9-31).  
9 The areas in which the doctors interviewed practice are as follows: Hokkaido-Tohoku  
10 four, Kanto four, Hokuriku three, Kansai two, Chugoku-shikoku four, and  
11 Kyushu-Okinawa two. Quotations were selected that illustrate the themes and convey  
12 these physicians' experiences.

13

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6 **1 Results**

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9 2 Six themes emerged from analysis of the responses (Figure).

10  
11 3 **1. Long term perspective.**

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13  
14 4 Developing a comprehensive, long-term vision, then practicing continuously to achieve  
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16  
17 5 the vision. The leader needs the capacity to develop a strategic vision to improve the  
18  
19  
20 6 health of the community over the long term and to be able to see the “big picture” to  
21  
22  
23 7 keep sight of the direction in which community medicine is moving. It is also important  
24  
25  
26 8 to work in the same community for long enough to gain the respect of the residents.  
27  
28  
29 9 Cultivation of future generations of doctors and other medical staff members is an  
30  
31  
32 10 important aspect of this vision. Cultivating medical staff members includes delegation  
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34  
35 11 of responsibility to other medical staff members to reduce the workload of the leader.  
36  
37  
38 12 Further, cultivating future generations of doctors and other medical staff members  
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40  
41 13 requires patience and persistence needs. A sense of balance and flexibility in meeting  
42  
43  
44 14 situations encountered were also included in the theme. To solve the problems of the  
45  
46  
47 15 community and to cultivate productive members requires a long-term perspective,  
48  
49  
50 16 patience, and a capacity for endurance.

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6 1 *1. "I think they should have a sense of the needs of the community and think*  
7  
8  
9 2 *strategically about many things." (P3)*

10  
11 3  
12  
13  
14 4 *2. "I think that it will be difficult to become a leader in the field of community medicine*  
15  
16  
17 5 *if you can not observe things comprehensively." (P4)*

18  
19  
20 6  
21  
22  
23 7 *3. "I think it is necessary to have a view of at least five to six years." (P7)*

24  
25 8  
26  
27  
28 9 *4. "I think that the task that is most important and most difficult for leaders is to*  
29  
30  
31 10 *cultivate and keep a successor." (P13)*

32  
33  
34 11  
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36  
37 12 **2. Team building**

38  
39  
40 13 The ability to drive forward community programs that include residents and members of  
41  
42 14 the local government to communicate and bring about a vision and to gain the  
43  
44  
45 15 acceptance of other medical professionals. Moreover, the leader needs to show a  
46  
47  
48 16 willingness to compromise with the residents of his community, have good relations  
49  
50  
51 17 with other members of the staff by maintaining a barrier-free, compromising, respectful  
52  
53  
54 18 atmosphere that takes into account the viewpoints of each other. For this process to be

1 successful, the leader must have a vision, the ability to communicate the vision to others,  
2 must not whimsically change the vision, and must take on the role of conduit so that  
3 community members will be able to communicate the vision of the leader to their staff.

4 Further, the capacity to communicate, which includes active listening, effective use  
5 language, and the capacity to make decisions fitting to the times are also important. It is  
6 important to remember that private opinions should not be communicated to other  
7 members.

8  
9 *1. "The ability to understand and organize resources and the occupational ability of  
10 other medical professionals is important." (P8)*

11  
12 *2. "To become a person who is easy to consult. This means to be easy to talk to." (P1)*

13  
14 *3. "There are things that I must go ahead with even if they are opposed by other  
15 members. I think that the strength to show your vision is necessary." (P15)*

16  
17 *4. "If a doctor does not go out into the community in a positive manner, many things will  
18 not go well." (P2)*



1

2 **3. Ability to negotiate**

3 The ability to negotiate with others to insure that programs and visions progress  
4 smoothly. In the objectives, local government was also included. A leader must create  
5 and maintain good relations with local government and community leaders, and it is  
6 important to have key persons to deal with. A leader makes the first step to go to the  
7 community to collect information such as the social climate, culture, and history of the  
8 community so that he can understand the needs of the community. When collecting the  
9 information, the leader should also listen to the needs of minority groups. To succeed  
10 the negotiation, participants thought that binding the roots of the community was also  
11 important.

12

13 *1. "Most of the work of a leader involves dealing with other persons, so it is necessary  
14 to negotiate with them well" (P7)*

15

16 *2. "The ability to negotiate in a way I can get important information. This means I can  
17 not be disliked, etc." (P18)*

18

#### 1 **4. Medical Ability**

2 In addition to routine general medicine, the doctors interviewed identified psychological  
3 issues and difficult cases as being important to community medicine. They also felt it  
4 important that confidence be developed through interaction with other medical  
5 professionals. Of note, the doctors thought that all Japanese doctors can do standard  
6 treatment and management, and thus a strong focus on medical ability is not necessary.

7  
8 *1. "If I do not have clinical ability and the ability to solve problems, no one will trust*  
9 *me."(P4)*

10  
11 *2. "In dealing with difficult problems that I cannot solve by myself, involving other*  
12 *members of the community through continuing contact will lead to solving the*  
13 *problem."(P11)*

#### 14 15 **5. Management capability**

16 The ability to run a clinic, medical unit, or medical association is thought to be  
17 important. Simply having good medical skills will not make a doctor a leader in the  
18 community.

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6 1 The leader must have management knowledge and the capacity to think from a  
7  
8  
9 2 management viewpoint. They must also be able to raise money for community projects  
10  
11  
12 3 and activities.

13  
14 4 *1. "The ability to think about finances" (P6)*  
15  
16

17 5

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19  
20 6 *2. "In the future, if a leader is not good at management nothing will be possible." (P9)*  
21  
22

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26 8 **6. *Enjoy oneself***

27  
28 9 The doctors interviewed felt an attraction to community medicine; that it is fun and  
29  
30  
31 10 challenging for them. A leader does not always feel happy, but it is important to have the  
32  
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34 11 mindset that they will enjoy everything and value the events that they feel are enjoyable  
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36  
37 12 when shared with other members of the community. Members of medical the staff will  
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40 13 think that the leader always feels happy.  
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45 15 *1. "I am rooted in the community and enjoy its activities." (P16)*  
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51 17 *2. "My mindset is that I will enjoy everything" (P19)*  
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## 1 **Discussion**

2 To best of our knowledge, this is the first report to demonstrate the competencies that  
3 are necessary to leaders in the field of community medicine. We identified six  
4 competencies that are necessary to leadership in the Japanese medical setting.  
5 “Developing a long term perspective”, “team building that includes residents and local  
6 government officials”, and “Enjoying oneself” are examples of specific competencies  
7 that would be useful for educational curriculums designed to develop leaders in the field  
8 of community medicine.

9 The “five-star doctor” concept was proposed by the WHO as an ideal profile of a  
10 doctor possessing a mix of aptitudes necessary to carrying out the range of services that  
11 a health setting must deliver to meet the requirement of relevance, quality,  
12 cost-effectiveness, and equity in health.<sup>22</sup> A “five-star doctor” can be summarized as a  
13 care provider, decision-maker, communicator, community leader, and manager. In this  
14 paper, a community leader is defined as a doctor who meets the needs and problems of  
15 the whole community in a suburban or rural setting. According to the WHO,  
16 understanding the determinants of health inherent in the physical and social  
17 environment and by appreciating the breadth of each problem or health risk, “five-star  
18 doctors” do not simply treat individuals who seek help but will also take a positive  
19 interest in community health activities, which will benefit a large number of people.

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6 1 However, the competencies that are required of community leaders are vague in this  
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9 2 WHO definition.

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11 3 In general, Schwartz et al reported that 1) strategic and tactical planning, 2)  
12  
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14 4 persuasive communication, 3) negotiation, 4) financial decision-making, 5) team  
15  
16  
17 5 building, 6) conflict resolution, and 7) interviewing are essential skills in physician  
18  
19  
20 6 leadership.<sup>23</sup> Another paper on leadership by Kouzes and Posner reported the following  
21  
22  
23 7 attributes: 1) challenge the process 2) inspire a shared vision, 3) enable others to act 4)  
24  
25  
26 8 model the way, and 5) encourage the heart.<sup>24</sup> A paper by the Dine group reported that  
27  
28  
29 9 the key elements of clinical leadership at an academic medical center fall into four  
30  
31 10 important themes.<sup>11</sup>

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33  
34 11 From these previous reports, team building and management of the team, establishing a  
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37 12 vision, inspiring a shared vision, and communication are common attributes of general  
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39  
40 13 medical leadership.

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42 14 From another perspective, according to Dr. Sarah Elaine Eaton in Literacy,  
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45 15 Languages and Leadership, “A community leader’s job is not to take on all the problems  
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48 16 of the world themselves and fix everything, but rather to work together with everyone in  
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51 17 the community, to mobilize and guide others, to facilitate solutions and things about the  
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53  
54 18 long-term health of the community and its people”<sup>25</sup> This is related to our competency

1 finding indicating the need for medical ability to manage difficult cases. She also  
2 reported ten characteristics that are particular to excellent community leaders  
3 1)Maximize individuals'strengths,2) Balance the needs of your leadership group, 3)  
4 Work as a team,4)Mobilize others 5) Pitch in,6) Practice stewardship 7)Be accountable  
5 to the community, 8)Think forward, 9) Recruit and mentor new leaders,10) walk beside,  
6 don't lead from above. Furthermore, nine factors for community leadership  
7 competencies in the Northeast US were reported by Gerald A. Strand. 1)Problem  
8 solving ability, 2)Demeanor, 3)Budgeting and supervisory competencies,4)Needs  
9 assessment competencies 5)Promoting feelings of importance in community  
10 members,6) Group organization and communication competencies, 7) Organization  
11 leadership competencies, 8) Leadership attitude/principles, and 9) Management of  
12 change competencies.<sup>26</sup> From these reports and the outcomes of our study, the  
13 competencies required of physician leaders were almost same as those of community  
14 leaders. Although in previous reports team building was one of the competencies of  
15 leaders, residents and members of the local government were not included in the team.  
16 We think that residents are the center of a community and that the local government  
17 should play an important role, thus including residents and local government officials in  
18 the team is of utmost importance.

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6 1 Notably, personal attitude was included in the competencies; for example, model the  
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9 2 way, encourage the heart. We additionally found that our participants identified  
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11 3 enjoyment as a key factor. They felt that community leaders enjoyed their work and  
12  
13  
14 4 found it challenging.

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16  
17 5 Faridahwait Mohd-Shamsudin reported that the success of any organized health  
18  
19  
20 6 program depends upon effective management,<sup>27</sup> but that health systems worldwide face  
21  
22  
23 7 a lack of competent management at all levels. He identified six clinical managerial  
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26 8 competencies within the context of the rural primary care sector: visionary leadership;  
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29 9 assessment, planning, and evaluation; promotion of health and prevention of disease;  
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32 10 information management; partnership and collaboration; and communication. Our data  
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35 11 also demonstrated that management ability is an important competency. Of his proposed  
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38 12 competencies, promotion of health and prevention of disease was lacking in our study.  
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41 13 However, we think that in addition to treatment, prevention of disease is important work  
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44 14 for a community leader.

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47 15 Jan Hana and Carl Edvard Rudebeck explored the personal experiences of and  
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50 16 conceptions regarding leadership in rural primary care in Northern Norway.<sup>28</sup> They  
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52  
53 17 identified three main categories: Demands and challenge, personal quantification, and  
54  
55  
56 18 exercising leadership. In exercising leadership, they described a vision of a style of

1 coaching and coordination leadership and the display of communication skills,  
2 decision-making ability, result focusing, and ad hoc solutions. These are all included in  
3 our competencies. In the Hana and Rudebeck paper, the participants felt that they were  
4 not prepared for leadership and not taking enough leadership training. One of our  
5 competencies is having a long-term perspective, which includes cultivation of future  
6 generations of doctors and other medical staff members. Furthermore, in demands and  
7 challenges, they found that a lack of doctors resulted in less time for leadership. Hence,  
8 we believe that cultivation of future generations of doctors is an important competency  
9 for community leaders.

10 A limitation of this study is that we could interview only in a Japanese setting, so we  
11 cannot say if the six competencies that emerged can be applied in other areas of the  
12 world. In the near future, we plan to interview leaders in the other areas of the world  
13 and to create design a curriculum that includes these six competencies to train leaders in  
14 the field of community medicine. Further, sample size is relatively small and there is the  
15 possibility of biased recommendations for the physicians. However, we reached  
16 saturation of the interviews and the administrative director and vice-president of the  
17 JPCA know community medicine very well, which minimizes the negative aspects of  
18 these issues.



1

**2 Conclusions**

3 We demonstrated six competencies that are needed by leaders in the field of community  
4 medicine. The results of this study will contribute to designing a curriculum that will  
5 help develop such leaders.

**6 Contributorship Statement**

7 Dr. Kainuma planned the study, interviewed the doctors, and wrote the paper. Dr  
8 Kikukawa did the transcripts semi-structured interviews and analyzed and coded them  
9 with Dr Kainuma. Drs Nagata and Yoshida discussed and agreed or disagreed with the  
10 results to give a consensus agreement.

11

**12 Competing interests**

13 There are no competing interests

14 The authors declare that they have no conflict of interest in this study.

15

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18 Welfare (grant number 26460605)

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**20 Data sharing Statement**

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2 No additional data are available  
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For peer review only

## References

- 1 .UNICEF : Primary health care report of the International Conference on primary health care, WHO Alma Ata. 1978
- 2 .WHO. Global strategy for health for all by the year 2000 (No.3), p.15 Health For All Series: World Health Organization;1981.
3. Markuns JF, Fraser B, Orlander JD. The path to physician leadership in community health centers: implications for training. Fam Med 2010;42:403-7.
4. Watmough S.An evaluation of the impact of an increase in community-based medical undergraduate education in a UK medical school. Educ Prim Care 2012;23:385-90.
5. Ministry of Education, Culture, Sports,Science and Techonology: Model CoreCurriculum.2011.
6. Iwasaki T, Takeyama Y, Iki M, et al: The changes in students' consciousness about

- 1  
2  
3  
4  
5  
6 1 community medicine during our program. *Med Educ.* 2011;42:101-112(in Japanese),  
7  
8  
9 2  
10  
11 3 7. Yuki G. Leadership in organization. Upper Saddle River, NJ: Pearson Education; 2010.  
12  
13  
14 4  
15  
16  
17 5 8. Reinertsen JL Physicians as leaders in the improvement of health care systems. *Ann*  
18  
19  
20 6 *Intern Med* 1998;128:833-8  
21  
22  
23 7  
24  
25 8 9. McAlearney AS. Using leadership development programs to improve quality and  
26  
27  
28 9 efficiency in healthcare. *J Healthc Manag* 2008;53:319-31  
29  
30  
31 10  
32  
33  
34 11 10. Lee TH. Turing doctors into leaders. *Harv Bus Rev* 2010;88:50-8.  
35  
36  
37 12  
38  
39  
40 13 11. Dine CJ, Kahn JM, Abella BS, Asch DA, Shea JA. Key elements of clinical  
41  
42  
43 14 physician leadership at an academic medical center. *J Grad Med Educ* 2011;3:31-6.  
44  
45  
46 15  
47  
48 16 12. Carraccio C, Wolfsthal SD, Englander R, Ferentz K, Martin C. Shifting paradigms:  
49  
50  
51 17 from Flexner to competencies. *Acad Med* 2002;77:361-7.  
52  
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54 18  
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60

- 1  
2  
3  
4  
5  
6 1 13. Malone K1, Supri S. A critical time for medical education: the perils of  
7  
8 2 competence-based reform of the curriculum. *Adv Health Sci Educ Theory*  
9  
10  
11 3 *Pract*2012;17:241-6.  
12  
13  
14 4  
15  
16  
17 5 14. Huddle TS1, Heudebert GR Taking apart the art: the risk of anatomizing clinical  
18  
19 6 competence. *Acad Med* 2007;82:536-41.  
20  
21  
22  
23 7  
24  
25 8 15. Varkey P1, Peloquin J, Reed D, Lindor K, Harris I. Leadership curriculum in  
26  
27 9 undergraduate medical education: a study of student and faculty perspectives. *Med*  
28  
29 10 *Teach* 2009;31:244-50.  
30  
31  
32  
33  
34 11  
35  
36 12 16. O'Sullivan H1, McKimm J. Medical leadership and the medical student.  
37  
38 13 *Br J Hosp Med (Lond)* 2011;72:346-9.  
39  
40  
41  
42 14  
43  
44  
45 15 17. Quince T, Abbas M, Murugesu S, Crawley F, Hyde S, Wood D, Benson J.  
46  
47 16 Leadership and management in the undergraduate medical curriculum: a qualitative  
48  
49 17 study of students' attitudes and opinions at one UK medical school. *BMJ Open*2014  
50  
51  
52 18 25;4:e005353.  
53  
54  
55  
56  
57  
58  
59  
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- 1  
2  
3  
4  
5  
6 1 18. Cadieux DC, Lingard L, Kwiatkowski D, Van Deven T, Bryant M, Tithecott G.  
7  
8 2 Challenges in Translation: Lessons from Using Business Pedagogy to Teach  
9  
10  
11 3 Leadership in Undergraduate Medicine. *Teach Learn Med* 2017;29:207-215.  
12  
13  
14 4  
15  
16  
17 5 19. Size T. Leadership development for rural health. *N C Med J* 2006;67:71-6.  
18  
19  
20 6  
21  
22  
23 7 20. F Lingard L, Albert M, Levinson W: Grounded theory, mixed methods, and action  
24  
25 8 research. *BMJ* 2008;337:a567.  
26  
27  
28 9  
29  
30  
31 10 21. Glaser B. The constant comparative method of quantitative analysis. *Soc Probl*  
32  
33  
34 11 1965.  
35  
36  
37 12  
38  
39  
40 13 22. Boelen C. The five-star doctor: an asset to health care reform?  
41  
42 14 [www.who.int/hrh/en/HRDJ\\_1\\_1\\_02.pdf](http://www.who.int/hrh/en/HRDJ_1_1_02.pdf) (accessed 7 July 2017)  
43  
44  
45 15  
46  
47  
48 16 23. Schwartz RW, Pogge C. Physician leadership: essential skills in a changing  
49  
50  
51 17 environment. *Am J Surg*. 2000;180:187-92  
52  
53  
54 18  
55  
56  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6 1 24. Kouzeu JM, Posner BZ. The leadership challenge: How to keep getting  
7  
8  
9 2 extraordinary things done in organizations. San Francisco:Jossey-Bass;1995.  
10  
11  
12 3  
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14 4 25. Sarah Elaine Eaton 10 Characteristics of Community Leaders.  
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17 5 <http://wp.me/pNAh3-1tI> (accessed 7 July 2017)  
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20 6  
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23 7 26. Strand GA. Community leadership competencies in the Northeast US: implications  
24  
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26 8 for training public health educators. *Am J Public Health*1981;71:397-402.  
27  
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29 9  
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32 10 27. Mohd-Shamsudin F, Chuttipattana N.Determinants of managerial competencies for  
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34 11 primary care managers in Southern Thailand. *J Health Organ*  
35  
36  
37 12 *Manag*2012;26:258-80.  
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43 14 28. Hana JI, Rudebeck CE. Leadership in rural medicine: the organization on thin ice?  
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46 15 *Scand J Prim Health Care* 2011;29:122-8.  
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5 **1 Table Interview guide**  
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- 8 3 1. What competencies do you feel are necessary to becoming a leader in community  
9 4 medicine?  
10 5 2. Why do you think they are necessary?  
11 6 3. Please tell me an episode that illustrates why the competency is necessary?  
12 7 4. How did you learn this competency?  
13 8 5. Please tell me how you think a person can acquire it ?  
14 9 6. What advice can you give us for developing an educational program for training  
15 10 future leaders in the field of community medicine?  
16 11 7. I will summarize what I heard. Is my understanding correct?  
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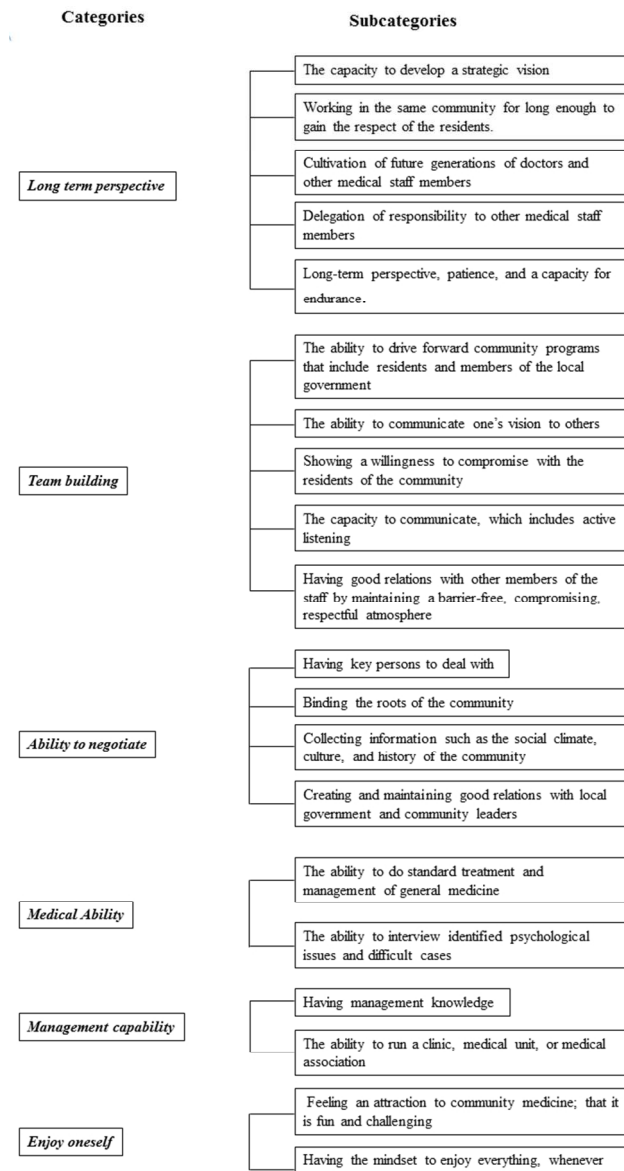


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5 **1 Figure legends**

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8 **3** Figure: Twenty competency subcategories divided into six themes.  
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For peer review only



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## COREQ (Consolidated criteria for Reporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
<b>Domain 1: Research team and reflexivity</b>			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	P8,line23-24
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	P1,line19
Occupation	3	What was their occupation at the time of the study?	P1,line12-13
Gender	4	Was the researcher male or female?	P8,line24
Experience and training	5	What experience or training did the researcher have?	P9,line4
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	P9,line3-4
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	P9,line3-4
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	P9,line2-3
<b>Domain 2: Study design</b>			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	P8,line3
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	P8,line13-14
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	P8,line16-17
Sample size	12	How many participants were in the study?	P10,line1
Non-participation	13	How many people refused to participate or dropped out? Reasons?	P10,line 3-4
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	P9,line 6
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	P9,line7-8
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	P10,line 5-8
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	P8,line14-15
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	P9,line 6
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	P9,line13
Field notes	20	Were field notes made during and/or after the interview or focus group?	P9,line14
Duration	21	What was the duration of the interviews or focus group?	P9,line6-7
Data saturation	22	Was data saturation discussed?	P10,line1-3
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N and A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
<b>Domain 3: analysis and findings</b>			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	P9,line20-23
Description of the coding tree	25	Did authors provide a description of the coding tree?	N and A
Derivation of themes	26	Were themes identified in advance or derived from the data?	P11,line1-P16
Software	27	What software, if applicable, was used to manage the data?	P9 line14
Participant checking	28	Did participants provide feedback on the findings?	N and A
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	P11,line1-P16
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	P11,line1-P16
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	N and A

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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# BMJ Open

## The competencies necessary for becoming a leader in the field of community medicine :a Japanese qualitative interview study

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-020082.R2
Article Type:	Research
Date Submitted by the Author:	10-Feb-2018
Complete List of Authors:	KAINUMA, MOSABURO; Graduate School of Medical Sciences, Kyushu University; Kikukawa, Makoto; Graduate School of Medical Sciences, Kyushu University, Department of Medical Education Nagata, Masaharu; Graduate School of Medical Sciences, Kyushu University Yoshida, Motofumi; School of Medicine, International University of Health and Welfare
<b>Primary Subject Heading</b>:	Health services research
Secondary Subject Heading:	Medical education and training
Keywords:	community medicine, leader, competency, qualitative study

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5 **1 The competencies necessary for becoming a leader in the field of community**  
6 **2 medicine :a Japanese qualitative interview study**  
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9 4 Mosaburo Kainuma<sup>1)</sup>, Makoto Kikukawa<sup>2)</sup>, Masaharu Nagata<sup>1)</sup>, Motofumi Yoshida<sup>3)</sup>.

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16 9 and Welfare  
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5 **Abstract**

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7 **Objectives:** To clarify competencies for inclusion in our curriculum that focuses on  
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3 developing leaders in community medicine.

4 **Design:** Qualitative interview study.

5 **Setting:** All six regions of Japan, including urban and rural areas.

6 **Participants:** Nineteen doctors (male 18, female 1) who play an important leadership  
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7 role in their communities participated in semi-structured interviews (mean age 48.3  
8 years, range 34-59; mean years of clinical experience 23.1 years, range 9-31).

9 **Method:** Semi-structured interviews were held and transcripts were independently  
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10 analyzed and coded by the first two authors. The third and fourth authors discussed and  
11 agreed or disagreed with the results to give a consensus agreement. Doctors were  
12 recruited by maximum variation sampling until thematic saturation was achieved.

13 **Results:** Six themes emerged: 1) **“Medical Ability”**: Includes psychological issues and  
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14 difficult cases in addition to basic medical problems. High Medical ability gives  
15 confidence to other medical professionals. 2) **“Long term perspective”** : The ability to  
16 develop a long-term, comprehensive vision and to continuously work to achieve the  
17 vision. Cultivation of future generations of doctors is included. 3) **“Team building”** :  
18 The ability to drive forward programs that include residents and local government  
19 workers, to elucidate a vision, to communicate, and to accept other medical

1 professionals. 4)“**Ability to negotiate**”: The ability to negotiate with others to ensure  
2 that programs and visions progress smoothly 5) “**Management ability**” : The ability to  
3 run a clinic, medical unit, or medical association. 6) “**Enjoying oneself**” : doctors need  
4 to feel an attraction to community medicine, that it be fun and challenging for them.

5 **Conclusions:** We found six competencies that are needed by leaders in the field of  
6 community medicine. The results of this study will contribute to designing a curriculum  
7 that develops such leaders.

8 Key words: community medicine, leader, competency, qualitative study  
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5 **1 Strengths and Limitations of this study**  
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8 3 This study qualitatively explores competencies through the perceptions of real leaders  
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10 4 of community medicine.  
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14 6 Individual interviews contribute to capturing the perceptions of the individual regarding  
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16 7 the competencies needed by a leader in the field of community medicine.  
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19 8  
20 9 Limitations include that the interviewer belongs to the General Medicine Department.  
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22 10 Thus, there is potential bias in his perception of community medicine.  
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## 1 **Introduction**

2 The Alma-Ata Declaration on Primary Health Care in 1978 suggested that the concept  
3 of primary health care was the key strategy to achieving good health for all <sup>1</sup>, thus the  
4 development of primary health care plays an important role in health promotion around  
5 the world. In addition, the 34<sup>th</sup> World Health Organization Assembly in 1981 suggested  
6 the adaptation of a global strategy for reorientation of national health systems based on  
7 primary health care.<sup>2</sup> Community health centers are facing a shortage of primary care  
8 physicians at a time when government plans have called for an expansion of community  
9 health center programs. To succeed with this expansion, community health centers  
10 require additional well-trained physician leadership.<sup>3</sup> Furthermore, it acknowledged the  
11 need for appropriate training of health care professional so that they are prepared for the  
12 tasks they will have to perform. Influenced by this trend, education in community  
13 medicine, which we define as a branch of medicine that is concerned with the health of  
14 the members of a community, municipality, or region. has become popular throughout  
15 the world<sup>4</sup>, and is now incorporated in the model core curriculum in Japan.<sup>5</sup> In addition,  
16 because the collapse of community medicine has been a serious problem in Japan,  
17 training in community medicine is currently emphasized in medical undergraduate  
18 education.<sup>6</sup>

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6 1 It is also problematic that little research has been done in Japan into the competencies  
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9 2 necessary for leaders in community medicine.

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11 3 The purpose of training in community medicine is to communicate the current status  
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14 4 of community medicine and to develop the abilities necessary to a successful career in  
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17 5 this field, which we hope will help motivate medical students to make a substantial  
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20 6 contribution to community medicine. It is accepted that leadership is a critical factor in  
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23 7 organizations as it has a great effect on goals, visions, strategy, social environment, and  
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26 8 work motivation among employees.<sup>7</sup> High-quality health care increasingly relies on  
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29 9 teams, collaboration, and interdisciplinary work, making physician leadership essential  
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32 10 for optimizing health system performance.<sup>8-10</sup> In general, Schwartz et al reported that  
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34 11 1) strategic and tactical planning, 2) persuasive communication, 3) negotiation, 4)  
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37 12 financial decision-making, 5) team building, 6) conflict resolution, and 7) interviewing  
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40 13 are essential skills in physician leadership.<sup>11</sup> Another paper on leadership by Kouzes and  
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43 14 Posner reported the following attributes: 1) challenge the process 2) inspire a shared  
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46 15 vision, 3) enable others to act 4) model the way, and 5) encourage the heart.<sup>12</sup> Further,  
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49 16 it is reported that the key elements of clinical leadership at an academic medical center  
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52 17 fall into four important themes: 1) management of the team, 2) establishing a vision, 3)  
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54 18 communication, and 4) personal attributes.<sup>13</sup> The “five-star doctor” concept was

1 proposed by the WHO as an ideal profile of a doctor possessing a mix of aptitudes  
2 necessary to carrying out the range of services that a health setting must deliver to meet  
3 the requirement of relevance, quality, cost-effectiveness, and equity in health.<sup>14</sup> A  
4 “five-star doctor” can be summarized as a care provider, decision-maker, communicator,  
5 community leader, and manager. In this paper, a community leader is defined as a  
6 doctor who meets the needs and problems of the whole community in a suburban or  
7 rural setting. According to the WHO, understanding the determinants of health inherent  
8 in the physical and social environment and by appreciating the breadth of each problem  
9 or health risk, “five-star doctors” do not simply treat individuals who seek help but will  
10 also take a positive interest in community health activities, which will benefit a large  
11 number of people. However, the competencies that are required of community leaders  
12 are vague in this WHO definition, Moreover, there have as yet been no competencies  
13 established in Japan for educational curriculums to develop such leaders.  
14 Competency-Based Medical Education (CBME) has become a core strategy in the  
15 United States and internationally as a means to educate and assess the next generation of  
16 physicians. Models of CBME are driven by the expansion of scientific knowledge and  
17 changes in medical practice.<sup>15-17</sup> Competency-based frameworks offer structural,  
18 contentment, and process based benefits.

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6 1 At present, training in community medicine is being done in all medical universities,  
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8 2 medical students do clinical clerkships, and they study the importance of  
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10 3 inter-professional relations, which creates a mindset for community medicine.

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12 4 In the future, to contribute to the development of community medicine, it will be  
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14 5 necessary for medical students to start to gain a comprehensive ability to solve a wide  
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16 6 variety of problems, including in family and community settings in both rural and urban  
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18 7 area, and the ability to be a leader in groups of people of various professional  
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20 8 orientations, including hospital and clinic cooperation. To gain such ability, students  
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22 9 must have not only clinical skill, but also the motivation to become a leader in the  
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24 10 community setting. Curriculums to teach leadership in the clinical setting are being  
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26 11 provided all over the world.<sup>18-21</sup> However, it has been reported that the abilities needed  
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28 12 by leaders in a focused community setting are different from those in the general  
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30 13 clinical setting.<sup>22</sup> There have as yet been no competencies established for educational  
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32 14 curriculums to develop such leaders. This exploratory study was done to clarify the  
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34 15 competencies important to such an educational curriculum.  
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## 1 **Materials and Methods**

### 2 **Design**

3 The study design was descriptive qualitative research using in-depth interviews.

4 **Setting:** All six regions of Japan, including urban and rural areas.

### 5 **Sampling**

6 Maximum variation sampling was conducted. The administrative director and  
7 vice-president of the Japan Primary Care Association (JPCA) were asked in 2014 to  
8 recommend candidates who are active as leaders of community medicine. Three  
9 academic organizations, The Japanese Medical Society of Primary Care, the Japanese  
10 Academy of Family Medicine, and the Japanese Society of General Medicine merged  
11 into JPCA on April 1st of 2010. The organization's aims include the promotion of  
12 accessible, continuing, comprehensive healthcare and related scientific activities that  
13 help citizens lead a healthy life. The administrative director and vice-president of the  
14 JPCA recommended twenty-five candidates. The research coordinator and the  
15 coauthors of this paper discussed the interview guide and appropriateness of the  
16 recommended doctors, with a balance of doctors from rural and urban areas. E-mails  
17 in which the objectives of the study were described were sent to the candidates.  
18 Fortunately, all of the candidates agreed to be interviewed. The study protocol was  
19 approved by the Kyushu University Hospital Ethics Committee (26-217). Written  
20 informed consent was obtained from all participants prior to the interview. The study  
21 was conducted in accordance with the principles of the Helsinki Declaration of 1975, as  
22 revised in 2000.

### 23 **Interview**

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6 1 The first author conducted all of the semi-structured interviews using the interview  
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8 2 guide shown in Table. He belonged to the Department of General Medicine of Kyushu  
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10 3 University Hospital for five years, and now manages the clinical training center for  
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12 4 community medicine in the undergraduate school. He is a specialist of herbal medicine  
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14 5 (Kampo) and community medicine. He had not met the participants previous to the  
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16 6 interview. He was trained by the second author, who is an expert in qualitative research.  
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18 7 All doctors gave consent to publish the results of their interview. The face to face  
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20 8 interviews took place at the physician's place of practice between November 2014 and  
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22 9 July 2015. Each interview lasted for one to two hours. There was no one else present  
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24 10 besides the participant and interviewer. The questions included in the interview guide  
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26 11 did not change over time and served as a checklist of points for discussion. However,  
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28 12 interviews were flexible and allowed the participants to take the discussion in any  
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30 13 direction they wished.

#### 33 14 **Data analysis**

35 15 The semi-structured interviews of the selected participants were digitally recorded and  
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37 16 transcribed verbatim and double checked by our well trained technicians. The  
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39 17 transcriptions were saved as a Microsoft Word document, de-identified, and then read.  
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41 18 Transcripts were independently analyzed and coded by the four authors to extract the  
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43 19 competencies proposed by the interviewees. In the first stage, data were analyzed  
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45 20 openly. However, each author used the constant comparative method, which involves  
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47 21 constant and repeated checking of the interpretation of the data.<sup>23</sup> After data collection  
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49 22 and individual analysis, the authors discussed the data to build a consensus. The first  
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51 23 and second authors checked the interpretation of the themes derived from the data in  
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1 order to confirm that the data was interpreted deductively. The third and fourth authors  
2 discussed and agreed or disagreed with the results to give a consensus agreement.

### 3 **Data collection**

4 Twenty doctors (male 19, female 1) participated in the semi-structured interviews. The  
5 analysis reached saturation after the interviews of all participants and no new theme had  
6 emerged. The data of one doctor was eliminated from the analysis because his answers  
7 were vague and could not be summarized. Mean age of the interviewees was 48.3 years  
8 (range 34-59), and the mean years of clinical experience was 23.1 years (range 9-31).  
9 The areas in which the doctors interviewed practice are as follows: Hokkaido-Tohoku  
10 four, Kanto four, Hokuriku three, Kansai two, Chugoku-shikoku four, and  
11 Kyushu-Okinawa two. Quotations were selected that illustrate the themes and convey  
12 these physicians' experiences.

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6 **1 Results**

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9 2 Six themes emerged from analysis of the responses (Figure).

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12 3 **1. Medical Ability**

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14 4 In addition to routine general medicine, the doctors interviewed identified psychological  
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16 5 issues and difficult cases as being important to community medicine. They also felt it  
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18 6 important that confidence be developed through interaction with other medical  
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20 7 professionals. Of note, the doctors thought that all Japanese doctors can do standard  
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22 8 treatment and management, and thus specialized medical ability is not necessary.  
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31 10 *1. "If I do not have clinical ability and the ability to solve problems, no one will trust*  
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34 11 *me" (P4)*

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40 13 *2. "In dealing with difficult problems that I cannot solve by myself, involving other*  
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42 14 *members of the community through continuing contact will lead to solving the*  
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45 15 *problem" (P11)*

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51 17 **2. Long term perspective.**

1 “Long term perspective” refers to developing a comprehensive, long-term vision, then  
2 practicing continuously to achieve the vision. The leader needs the capacity to develop a  
3 strategic vision to improve the health of the community over the long term and to be  
4 able to see the “big picture” to keep sight of the direction in which community medicine  
5 is moving. It is also important to work in the same community for long enough to gain  
6 the respect of the residents. Cultivation of future generations of doctors and other  
7 medical staff members is an important aspect of this vision. Cultivating medical staff  
8 members includes delegation of responsibility to other medical staff members to reduce  
9 the workload of the leader. Further, cultivating future generations of doctors and other  
10 medical staff members requires patience and persistence needs. A sense of balance and  
11 flexibility in meeting situations encountered were also included in the theme. To solve  
12 the problems of the community and to cultivate productive members requires a  
13 long-term perspective, patience, and a capacity for endurance.

14  
15  
16 *1. “I think they should have a sense of the needs of the community and think*  
17 *strategically about many things” (P3)*

18

1 2. "I think that it will be difficult to become a leader in the field of community medicine

2 if you can not observe things comprehensively" (P4)

3  
4 3. "I think it is necessary to have a view of at least five to six years" (P7)

5  
6 4. "I think that the task that is most important and most difficult for leaders is to

7 cultivate and keep a successor" (P13)

### 8 9 **3. Team building**

10 "Team building" means that the ability to drive forward community programs that

11 include residents and members of the local government to communicate and bring about

12 a vision and to gain the acceptance of other medical professionals. Moreover, the leader

13 needs to show a willingness to compromise with the residents of his community, have

14 good relations with other members of the staff by maintaining a barrier-free,

15 compromising, respectful atmosphere that takes into account the viewpoints of each

16 other. For this process to be successful, the leader must have a vision, the ability to

17 communicate the vision to others, must not whimsically change the vision, and must

18 take on the role of conduit so that community members will be able to communicate the

1 vision of the leader to their staff. Further, the capacity to communicate, which includes  
2 active listening, effective word usage, and the capacity to make decisions fitting to the  
3 times are also important. It is important to remember that private opinions should not be  
4 communicated to other members.

5  
6 *1. "The ability to understand resources and the occupational ability of other medical  
7 professionals and to organize professionals is important"(P8)*

8  
9 *2. "To become a person who is easy to consult. This means to be easy to talk to"(P1)*

10  
11 *3. "There are things that I must go ahead with even if they are opposed by other  
12 members. I think that the strength to show your vision is necessary"(P15)*

13  
14 *4. "If a doctor does not go out into the community in a positive manner, many things will  
15 not go well"(P2)*

16  
17 **4. Ability to negotiate**

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6 1 The ability to negotiate with others to ensure that programs and visions progress  
7  
8 2 smoothly. In the objectives, local government was also included. A leader must create  
9  
10 3 and maintain good relations with local government and community leaders, and it is  
11  
12 4 important to have key persons to deal with. A leader makes the first step to go to the  
13  
14 5 community to collect information such as the social climate, culture, and history of the  
15  
16 6 community so that he can understand the needs of the community. When collecting the  
17  
18 7 information, the leader should also listen to the needs of minority groups. To succeed in  
19  
20 8 the negotiation, participants thought that developing close relations in the community  
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22 9 was also important.  
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35 11 *1. "Most of the work of a leader involves dealing with other persons, so it is necessary*  
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37 12 *to negotiate with them well" (P7)*  
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43 14 *2. "The ability to negotiate in a way I can get important information. This means I can*  
44  
45 15 *not be disliked, etc" (P18)*  
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## 51 **5. Management capability**

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54 18 The ability to run a clinic, medical unit, or medical association is thought to be  
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56

1 important. Simply having good medical skills will not make a leader in the  
2 community.

3 The leader must have management knowledge and the capacity to think from a  
4 management viewpoint. They must also be able to raise money for community projects  
5 and activities.

6 *1. "The ability to think about finances" (P6)*

7  
8 *2. "In the future, if a leader is not good at management nothing will be possible" (P9)*

## 10 **6. Enjoy oneself**

11 The doctors interviewed felt an attraction to community medicine; that it is fun and  
12 challenging for them. A leader does not always feel happy, but it is important to have the  
13 mindset that they will enjoy everything and value the events that they feel are enjoyable  
14 when shared with other members of the community.

15  
16 *1. "I am rooted in the community and enjoy its activities" (P16)*

17  
18 *2. "My mindset is that I will enjoy everything" (P19)*

19

## 1 Discussion

2 To best of our knowledge, this is the first report to demonstrate the competencies that  
3 are necessary to leaders in the field of community medicine. We identified six  
4 competencies that are necessary to leadership in the Japanese medical setting.  
5 “Developing a long term perspective”, “team building that includes residents and local  
6 government officials”, and “Enjoying oneself” are examples of specific competencies  
7 that would be useful for educational curriculums designed to develop leaders in the field  
8 of community medicine.

9 In previous reports,<sup>11-13</sup> team building and management of the team, establishing a  
10 vision, inspiring a shared vision, and communication were reported to be common  
11 attributes of general medical leadership. From another perspective, according to Dr.  
12 Sarah Elaine Eaton in Literacy, Languages and Leadership, “A community leader’s job  
13 is not to take on all the problems of the world themselves and fix everything, but rather  
14 to work together with everyone in the community, to mobilize and guide others, to  
15 facilitate solutions and things about the long-term health of the community and its  
16 people”<sup>24</sup> This is related to our competency finding indicating the need for medical  
17 ability to manage difficult cases. She also reported ten characteristics that are particular  
18 to excellent community leaders 1)Maximize individuals’strengths,2) Balance the needs  
19 of your leadership group, 3) Work as a team,4)Mobilize others 5) Pitch in,6) Practice

1 stewardship 7)Be accountable to the community, 8)Think forward, 9) Recruit and  
2 mentor new leaders,10) walk beside, don't lead from above. Furthermore, nine factors  
3 for community leadership competencies in the Northeast US were reported by Gerald A.  
4 Strand. 1)Problem solving ability, 2)Demeanor, 3)Budgeting and supervisory  
5 competencies,4)Needs assessment competencies 5)Promoting feelings of importance in  
6 community members,6) Group organization and communication competencies, 7)  
7 Organization leadership competencies, 8) Leadership attitude/principles, and 9)  
8 Management of change competencies.<sup>25</sup> From these reports and the outcomes of our  
9 study, the competencies required of physician leaders were almost same as those of  
10 community leaders. Although in previous reports team building was one of the  
11 competencies of leaders, residents and members of the local government were not  
12 included in the team. We think that residents are the center of a community and that the  
13 local government should play an important role, thus including residents and local  
14 government officials in the team is of utmost importance.

15 Notably, personal attitude was included in the competencies; for example, model the  
16 way, encourage the heart. We additionally found that our participants identified  
17 enjoyment as a key factor. They felt that community leaders enjoyed their work and  
18 found it challenging.



1 Faridahwait Mohd-Shamsudin reported that the success of any organized health  
2 program depends upon effective management,<sup>26</sup> but that health systems worldwide face  
3 a lack of competent management at all levels. He identified six clinical managerial  
4 competencies within the context of the rural primary care sector: visionary leadership;  
5 assessment, planning, and evaluation; promotion of health and prevention of disease;  
6 information management; partnership and collaboration; and communication. Our data  
7 also demonstrated that management ability is an important competency. Of his proposed  
8 competencies, promotion of health and prevention of disease was lacking in our study.  
9 However, we think that in addition to treatment, prevention of disease is important work  
10 for a community leader.

11 Jan Hana and Carl Edvard Rudebeck explored the personal experiences of and  
12 conceptions regarding leadership in rural primary care in Northern Norway.<sup>27</sup> They  
13 identified three main categories: Demands and challenge, personal quantification, and  
14 exercising leadership. In exercising leadership, they described a vision of a style of  
15 coaching and coordination leadership and the display of communication skills,  
16 decision-making ability, result focusing, and ad hoc solutions. These are all included in  
17 our competencies. In the Hana and Rudebeck paper, the participants felt that they were  
18 not prepared for leadership and not taking enough leadership training. One of our

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6 1 competencies is having a long-term perspective, which includes cultivation of future  
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8 2 generations of doctors and other medical staff members. Furthermore, in demands and  
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11 3 challenges, they found that a lack of doctors resulted in less time for leadership. Hence,  
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13  
14 4 we believe that cultivation of future generations of doctors is an important competency  
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17 5 for community leaders.

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20 6 A limitation of this study is that we could interview only in a Japanese setting, so we  
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22  
23 7 cannot say if the six competencies that emerged can be applied in other areas of the  
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26 8 world. Further, the interviewer belongs to the General Medicine Department. Thus,  
27  
28  
29 9 there is potential bias in his perception of community medicine.  
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## 34 12 **Conclusions**

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37 13 We demonstrated six competencies that are needed by leaders in the field of community  
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40 14 medicine. The results of this study will contribute to designing a curriculum that will  
41  
42  
43 15 help develop such leaders.  
44

45 16

## 46 47 48 17 **Contributorship Statement**

49  
50  
51 18 Dr. Kainuma planned the study, interviewed the doctors, and wrote the paper. Dr  
52  
53  
54 19 Kikukawa did the transcripts semi-structured interviews and analyzed and coded them  
55  
56

1 with Dr Kainuma. Drs Nagata and Yoshida discussed and agreed or disagreed with the  
2 results to give a consensus agreement.

### 3 **Competing interests**

4 There are no competing interests

5 The authors declare that they have no conflict of interest in this study.

### 7 **Funding**

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9 Welfare (grant number 26460605)

### 11 **Data sharing Statement**

13 No additional data are available

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5 **References**  
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8  
9 1 .UNICEF : Primary health care report of the International Conference on primary  
10  
11 health care, WHO Alma Ata. 1978.  
12  
13

14  
15  
16  
17 2 .WHO. Global strategy for health for all by the year 2000 (No.3), p.15 Health For All  
18  
19 Series: World Health Organization;1981 (accessed 7 July 2017).  
20  
21  
22

23  
24  
25 3. Markuns JF, Fraser B, Orlander JD.  
26  
27

28 The path to physician leadership in community health centers: implications for training.  
29  
30  
31 *Fam Med* 2010;**42**:403-7.  
32  
33

34  
35  
36  
37 4. Watmough S.An evaluation of the impact of an increase in community-based medical  
38  
39 undergraduate education in a UK medical school. *Educ Prim Care* 2012;**23**:385-90.  
40  
41  
42

43  
44  
45 5. Ministry of Education, Culture, Sports,Science and Techonology: Model  
46  
47  
48 CoreCurriculum.2011.  
49  
50

51  
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54  
55  
56  
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6 1 6. Iwasaki T, Takeyama Y, Iki M, et al: The changes in students' consciousness about  
7  
8  
9 2 community medicine during our program. *Med Educ* 2011;**42**:101-112(in Japanese).  
10  
11  
12 3  
13  
14 4 7. Yuki G. Leadership in organization. Upper Saddle River, NJ: Pearson Education; 2010.  
15  
16  
17 5  
18  
19  
20 6 8. Reinertsen JL Physicians as leaders in the improvement of health care systems. *Ann*  
21  
22  
23 7 *Intern Med* 1998;**128**:833-8.  
24  
25  
26 8  
27  
28 9 9. McAlearney AS. Using leadership development programs to improve quality and  
29  
30  
31 10 efficiency in healthcare. *J Healthc Manag* 2008;**53**:319-31.  
32  
33  
34 11  
35  
36  
37 12 10. Lee TH. Turingi doctors into leaders. *Harv Bus Rev* 2010;**88**:50-8.  
38  
39  
40 13  
41  
42  
43 14 11. Schwartz RW, Pogge C. Physician leadership: essential skills in a changing  
44  
45  
46 15 environment. *Am J Surg* 2000;**180**:187-92.  
47  
48  
49 16  
50  
51 17 12. Kouzeu JM, Posner BZ. The leadership challenge: How to keep getting  
52  
53  
54 18 extraordinary things done in organizations. San Francisco: Jossey-Bass; 1995.  
55  
56  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6 1 13. Dine CJ, Kahn JM, Abella BS, Asch DA, Shea JA. Key elements of clinical  
7  
8  
9 2 physician leadership at an academic medical center. *J Grad Med Educ* 2011;**3**:31-6.  
10  
11 3  
12  
13  
14 4 14. Boelen C. The five-star doctor: an asset to health care reform?  
15  
16  
17 5 [www.who.int/hrh/en/HRDJ\\_1\\_1\\_02.pdf](http://www.who.int/hrh/en/HRDJ_1_1_02.pdf) (accessed 7 July 2017).  
18  
19  
20 6  
21  
22  
23 7 15. Carraccio C, Wolfsthal SD, Englander R, Ferentz K, Martin C. Shifting paradigms:  
24  
25 8 from Flexner to competencies. *Acad Med* 2002;**77**:361-7.  
26  
27  
28  
29 9  
30  
31  
32 10 16. Malone K1, Supri S. A critical time for medical education: the perils of  
33  
34  
35 11 competence-based reform of the curriculum. *Adv Health Sci Educ Theory Pract*  
36  
37  
38 12 2012;**17**:241-6.  
39  
40  
41 13  
42  
43  
44 14 17. Huddle TS1, Heudebert GR Taking apart the art: the risk of anatomizing clinical  
45  
46  
47 15 competence. *Acad Med* 2007;**82**:536-41.  
48  
49  
50 16  
51  
52  
53 17  
54  
55  
56  
57  
58  
59  
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3  
4  
5  
6 1 18. Varkey P1, Peloquin J, Reed D, Lindor K, Harris I. Leadership curriculum in  
7  
8 2 undergraduate medical education: a study of student and faculty perspectives. *Med*  
9  
10 3 *Teach* 2009;**31**:244-50.  
11  
12 4  
13  
14  
15  
16  
17 5 19. O'Sullivan H1, McKimm J. Medical leadership and the medical student.  
18  
19 6 *Br J Hosp Med (Lond)* 2011;**72**:346-9.  
20  
21 7  
22  
23  
24  
25 8 20. Quince T, Abbas M, Murugesu S, Crawley F, Hyde S, Wood D, Benson J.  
26  
27 9 Leadership and management in the undergraduate medical curriculum: a qualitative  
28  
29 10 study of students' attitudes and opinions at one UK medical school. *BMJ Open* 2014  
30  
31 11 **25**;4:e005353.  
32  
33  
34  
35  
36  
37 12  
38  
39  
40 13 21. Cadieux DC, Lingard L, Kwiatkowski D, Van Deven T, Bryant M, Tithecott G.  
41  
42 14 Challenges in Translation: Lessons from Using Business Pedagogy to Teach  
43  
44 15 Leadership in Undergraduate Medicine. *Teach Learn Med* 2017;**29**:207-15.  
45  
46  
47  
48 16  
49  
50  
51 17 22. Size T. Leadership development for rural health. *N C Med J* 2006;**67**:71-6.  
52  
53  
54 18  
55  
56  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6 1 23. Glaser B. The constant comparative method of quantitative analysis. *Soc Probl*  
7  
8 2 1965.  
9  
10  
11 3  
12  
13  
14 4 24. Sarah Elaine Eaton 10 Characteristics of Community Leaders.  
15  
16  
17 5 <http://wp.me/pNAh3-1tI> (accessed 7 July 2017).  
18  
19  
20 6  
21  
22  
23 7 25. Strand GA. Community leadership competencies in the Northeast US: implications  
24  
25 8 for training public health educators. *Am J Public Health* 1981;**71**:397-402.  
26  
27  
28 9  
29  
30  
31 10 26. Mohd-Shamsudin F, Chuttipattana N. Determinants of managerial competencies for  
32  
33 11 primary care managers in Southern Thailand. *J Health Organ Manag*  
34  
35 12 2012;**26**:258-80.  
36  
37  
38  
39  
40 13  
41  
42 14 27. Hana JI, Rudebeck CE. Leadership in rural medicine: the organization on thin ice?  
43  
44 15 *Scand J Prim Health Care* 2011;**29**:122-8.  
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5 **1 Table Interview guide**  
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- 8 3 1. What competencies do you feel are necessary to becoming a leader in community  
9 4 medicine?  
10 5 2. Why do you think they are necessary?  
11 6 3. Please tell me an episode that illustrates why the competency is necessary?  
12 7 4. How did you learn this competency?  
13 8 5. Please tell me how you think a person can acquire it ?  
14 9 6. What advice can you give us for developing an educational program for training  
15 10 future leaders in the field of community medicine?  
16 11 7. I will summarize what I heard. Is my understanding correct?  
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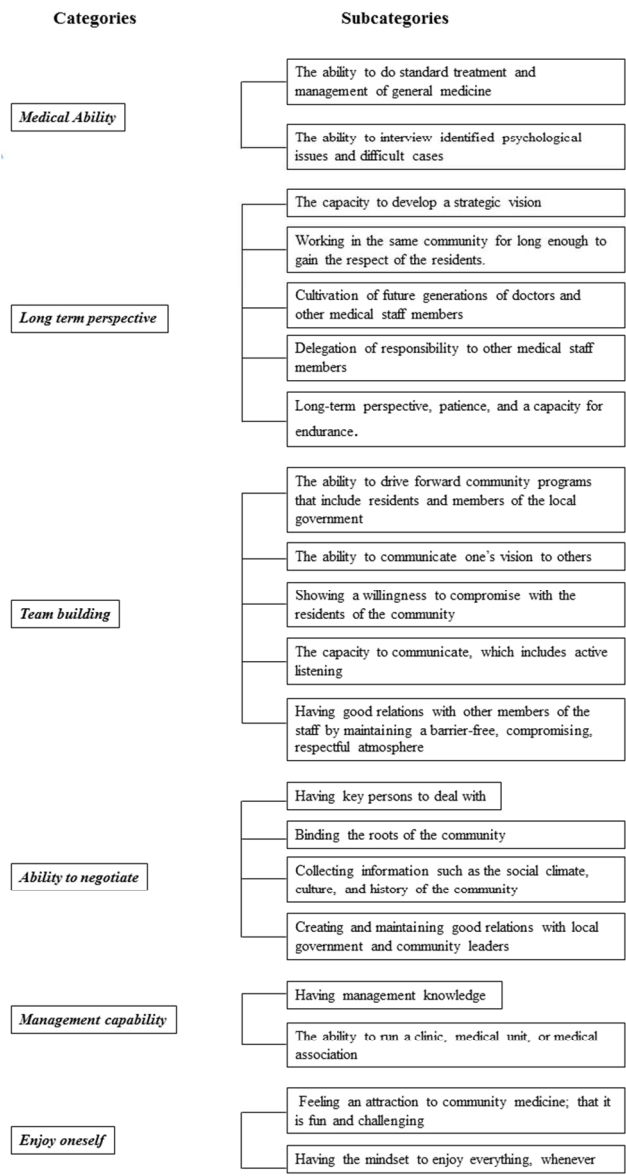
1 **Figure legends**

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3 Figure: Twenty competency subcategories divided into six themes.

For peer review only

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## COREQ (Consolidated criteria for Reporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
<b>Domain 1: Research team and reflexivity</b>			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	P8,line23-24
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	P1,line19
Occupation	3	What was their occupation at the time of the study?	P1,line12-13
Gender	4	Was the researcher male or female?	P8,line24
Experience and training	5	What experience or training did the researcher have?	P9,line4
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	P9,line3-4
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	P9,line3-4
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	P9,line2-3
<b>Domain 2: Study design</b>			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	P8,line3
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	P8,line13-14
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	P8,line16-17
Sample size	12	How many participants were in the study?	P10,line1
Non-participation	13	How many people refused to participate or dropped out? Reasons?	P10,line 3-4
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	P9,line 6
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	P9,line7-8
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	P10,line 5-8
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	P8,line14-15
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	P9,line 6
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	P9,line13
Field notes	20	Were field notes made during and/or after the interview or focus group?	P9,line14
Duration	21	What was the duration of the interviews or focus group?	P9,line6-7
Data saturation	22	Was data saturation discussed?	P10,line1-3
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N and A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
<b>Domain 3: analysis and findings</b>			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	P9,line20-23
Description of the coding tree	25	Did authors provide a description of the coding tree?	N and A
Derivation of themes	26	Were themes identified in advance or derived from the data?	P11,line1-P16
Software	27	What software, if applicable, was used to manage the data?	P9 line14
Participant checking	28	Did participants provide feedback on the findings?	N and A
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	P11,line1-P16
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	P11,line1-P16
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	N and A

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

**Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.**