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The competencies necessary for becoming a leader in the field of community 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, range34-59; mean years of clinical experience 23.1years, 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.

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

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 develops such leaders.

Key words: community medicine, leader, competency, qualitative study, medical 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 [1], thus the development of primary health care plays an important role in health promotion around the world. In addition, the 34th World Health Organization Assembly in 1981 suggested the adaptation of a global strategy for reorientation of national health systems based on primary health care.[2] 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.[3] 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[4], and is now incorporated in the model core curriculum in Japan.[4] 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.[6]

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

this field, which we hope will help motivate medical students to make a substantial contribution to community medicine. It is accepted that leadership is a critical factor in organizations as it has a great affect on goals, visions, strategy, social environment, and work motivation among employees.[7] High-quality health care increasingly relies on teams, collaboration, and interdisciplinary work, making physician leadership essential for optimizing health system performance.[8-10] Further, it is reported that the key elements of clinical leadership at an academic medical center fall into four important themes: 1) management of the team, 2) establishing a vision, 3) communication, and 4) personal attributes.[11] However, there have as yet been no competencies established in Japan for educational curriculums to develop such leaders. Competency based medical education has become a core strategy in the United States and internationally as a means to educate and assess the next generation of physicians. Models of CBME are driven by the expansion of scientific knowledge and changes in medical practice.[12-14] Competency-based frameworks offer structural, contentment, and process based benefits.

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

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

Materials and Methods

Setting

This study was designed with reference to the constant comparative method of the grounded theory approach.[20]

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

Hopital 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.[11] However, each interviewer used the constant comparative method, which involves constant and repeated checking of the interpretation of the data.[21] 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

emerged. The data of one doctor was eliminated from the analysis because his answers were vague and could not be summarized. Mean age of the interviewees was 48.3 years (range 34-59), and the mean years of clinical experience was 23.1 years (range 9-31). The areas in which the doctors interviewed practice are as follows: Hokkaido-Tohoku four, Kanto four, Hokuriku three, Kansai two, Chugoku-shikoku four, and Kyushu-Okinawa two. Quotations were selected that illustrate the themes and convey these physicians' experiences.

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.

Typical quotes

1."I think they should have a sense of the needs of the community and think strategically about many things."

2."I think that it will be difficult to become a leader in the field of community medicine if you can not observe things comprehensively."

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

4."I think that the task that is most important and most difficult for leaders is to cultivate and keep a successor."

2. *Team building*

The ability to drive forward community programs that include residents and members of the local government to communicate and bring about a vision and to gain the acceptance of other medical professionals. Moreover, the leader needs to show a willingness to compromise with the residents of his community, have good relations with other members of the staff by maintaining a barrier-free, compromising, respectful

atmosphere that takes into account the viewpoints of each other. For this process to be successful, the leader must have a vision, the ability to communicate the vision to others, must not whimsically change the vision, and must take on the role of conduit so that community members will be able to communicate the vision of the leader to their staff. Further, the capacity to communicate, which includes active listening, effective use language, and the capacity to make decisions fitting to the times are also important. It is important to remember that private opinions should not be communicated to other members.

Typical quotes

1."The ability to understand and organize resources and the occupational ability of other medical professionals is important."

2."To become a person who is easy to consult. This means to be easy to talk to."

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

4."If a doctor does not go out into the community in a positive manner, many things will not go well."

3. *Ability to negotiate*

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

Typical quotes

1."Most of the work of a leader involves dealing with other persons, so it is necessary to negotiate with them well"

2."The ability to negotiate in a way I can get important information. This means I can not be disliked, etc."

4. *Medical Ability*

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

Typical quotes

1."If I do not have clinical ability and the ability to solve problems, no one will trust me."

2."In dealing with difficult problems that I cannot solve by myself, involving other members of the community through continuing contact will lead to solving the problem."

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

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"

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.[22] 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.

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

In general, Schwartz et al reported that 1) strategic and tactical planning, 2) persuasive communication, 3) negotiation, 4) financial decision-making, 5) team building, 6) conflict resolution, and 7) interviewing are essential skills in physician leadership.[23] Another paper on leadership by Kouzes and Posner reported the following attributes: 1) challenge the process 2) inspire a shared vision, 3) enable others to act 4) model the way, and 5) encourage the heart.[24] A paper by the Dine group reported that the key elements of clinical leadership at an academic medical center fall into four important themes.[11]

From these previous reports, team building and management of the team, establishing a vision, inspiring a shared vision, and communication are common attributes of general medical leadership.

From another perspective, according to Dr. Sarah Elaine Eaton in Literacy, Languages and Leadership, "A community leader's job is not to take on all the problems of the world themselves and fix everything, but rather to work together with everyone in the community, to mobilize and guide others, to facilitate solutions and things about the long-term health of the community and its people".[25] This is related to our competency

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

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

Faridahwait Mohd-Shamsudin reported that the success of any organized health program depends upon effective management,[27] but that health systems worldwide face a lack of competent management at all levels. He identified six clinical managerial competencies within the context of the rural primary care sector: visionary leadership; assessment, planning, and evaluation; promotion of health and prevention of disease; information management; partnership and collaboration; and communication. Our data also demonstrated that management ability is an important competency. Of his proposed competencies, promotion of health and prevention of disease was lacking in our study. However, we think that in addition to treatment, prevention of disease is important work for a community leader.

Jan Hana and Carl Edvard Rudebeck explored the personal experiences of and conceptions regarding leadership in rural primary care in Northern Norway.[28] They identified three main categories: Demands and challenge, personal quantification, and exercising leadership. In exercising leadership, they described a vision of a style of

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

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

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

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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)[a]

No.	Topic	Item
	Title and abstract	
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
	Introduction	
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
	Methods	
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[b]
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[b]
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[b]
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[b]
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 [b]
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[b]
	Results/findings	
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
	Discussion	
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)

No.	Topic		Item
	Other		
S20	Conflicts of interest	✓Yes Page 23	Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed
S21	Funding	✓Yes Page 23	Sources of funding and other support; role of funders in data collection, interpretation, and reporting

[a]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.
[b]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.[20,29]

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.[10–12,28] 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,[35–37] 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.[10,38] 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.[38] 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.[1,2] 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).[37]

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.[13] We nonetheless believe that a checklist for reporting standards will help to enhance the transparency of qualitative research studies and thereby advance the field.[29,39]

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,[35–37] 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

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

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

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Abstract

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

Design: Qualitative interview study.

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

Participants: Nineteen doctors (male 18, female 1) who play an important leadership role in their communities participated in semi-structured interviews (mean age 48.3 years, range34-59; mean years of clinical experience 23.1years, 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. Cultivation of future generations of doctors is included. 2) “Team building”. The ability to drive forward programs that include residents and local government workers, to elucidate a vision, to communicate, and to accept other medical professionals. 3)“Ability to negotiate”. The ability to negotiate with others to insure that programs and visions progress smoothly 4)“Medical Ability”. Includes psychological issues and

difficult cases in addition to basic medical problems. High Medical ability gives confidence to other medical professionals. 5) “Management ability”. The ability to run a clinic, medical unit, or medical association. 6) “Enjoying oneself”; doctors need to feel an attraction to community medicine, that it be fun and challenging for them.

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 develops such leaders.

Key words: community medicine, leader, competency, qualitative study

Strengths and Limitations of this study

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

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

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

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 [1], thus the development of primary health care plays an important role in health promotion around the world. In addition, the 34th World Health Organization Assembly in 1981 suggested the adaptation of a global strategy for reorientation of national health systems based on primary health care.[2] 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.[3] 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, which we define as a branch of medicine that is concerned with the health of the members of a community, municipality, or region. has become popular throughout the world[4], and is now incorporated in the model core curriculum in Japan.[5] 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.[6]

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

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 this field, which we hope will help motivate medical students to make a substantial contribution to community medicine. It is accepted that leadership is a critical factor in organizations as it has a great affect on goals, visions, strategy, social environment, and work motivation among employees.[7] High-quality health care increasingly relies on teams, collaboration, and interdisciplinary work, making physician leadership essential for optimizing health system performance.[8-10] Further, it is reported that the key elements of clinical leadership at an academic medical center fall into four important themes: 1) management of the team, 2) establishing a vision, 3) communication, and 4) personal attributes.[11] However, there have as yet been no competencies established in Japan for educational curriculums to develop such leaders. Competency based medical education has become a core strategy in the United States and internationally as a means to educate and assess the next generation of physicians. Models of CBME are driven by the expansion of scientific knowledge and changes in medical practice.[12-14] Competency-based frameworks offer structural, contentment, and process based

benefits.

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

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

Materials and Methods

Design

This study was designed qualitatively with reference to the grounded theory approach.[20]

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

Sampling

Maximum variation sampling was conducted. 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 interview guide and appropriateness of the recommended doctors, 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

The first author conducted all of the semi-structured interviews using the interview guide shown in Table 1. He belonged to the Department of General Medicine of Kyushu University Hopital 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 one time at the physician's place of practice between November 2014 and July 2015. Each interview lasted for one to two hours. There was anyone else presented besides the participant and interviewer. 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.

Data analysis

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.[11] However, each interviewer used the constant comparative method, which involves constant and repeated checking of the interpretation of the data.[21] After data collection and individual analysis, the authors discussed the data to build a consensus. 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.

Data collection

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 emerged. The data of one doctor was eliminated from the analysis because his answers were vague and could not be summarized. Mean age of the interviewees was 48.3 years (range 34-59), and the mean years of clinical experience was 23.1 years (range 9-31). The areas in which the doctors interviewed practice are as follows: Hokkaido-Tohoku four, Kanto four, Hokuriku three, Kansai two, Chugoku-shikoku four, and Kyushu-Okinawa two. Quotations were selected that illustrate the themes and convey these physicians' experiences.

Results

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

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.

1."I think they should have a sense of the needs of the community and think strategically about many things." (P3)

2."I think that it will be difficult to become a leader in the field of community medicine if you can not observe things comprehensively." (P4)

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

4."I think that the task that is most important and most difficult for leaders is to cultivate and keep a successor." (P13)

2. *Team building*

The ability to drive forward community programs that include residents and members of the local government to communicate and bring about a vision and to gain the acceptance of other medical professionals. Moreover, the leader needs to show a willingness to compromise with the residents of his community, have good relations with other members of the staff by maintaining a barrier-free, compromising, respectful atmosphere that takes into account the viewpoints of each other. For this process to be

successful, the leader must have a vision, the ability to communicate the vision to others, must not whimsically change the vision, and must take on the role of conduit so that community members will be able to communicate the vision of the leader to their staff. Further, the capacity to communicate, which includes active listening, effective use language, and the capacity to make decisions fitting to the times are also important. It is important to remember that private opinions should not be communicated to other members.

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

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

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

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

3. *Ability to negotiate*

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

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

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

4. *Medical Ability*

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

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

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

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.

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

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

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 think that the leader always feels happy.

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

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

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.[22] 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 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.

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

In general, Schwartz et al reported that 1) strategic and tactical planning, 2) persuasive communication, 3) negotiation, 4) financial decision-making, 5) team building, 6) conflict resolution, and 7) interviewing are essential skills in physician leadership.[23] Another paper on leadership by Kouzes and Posner reported the following attributes: 1) challenge the process 2) inspire a shared vision, 3) enable others to act 4) model the way, and 5) encourage the heart.[24] A paper by the Dine group reported that the key elements of clinical leadership at an academic medical center fall into four important themes.[11]

From these previous reports, team building and management of the team, establishing a vision, inspiring a shared vision, and communication are common attributes of general medical leadership.

From another perspective, according to Dr. Sarah Elaine Eaton in Literacy, Languages and Leadership, "A community leader's job is not to take on all the problems of the world themselves and fix everything, but rather to work together with everyone in the community, to mobilize and guide others, to facilitate solutions and things about the long-term health of the community and its people".[25] This is related to our competency

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

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

Faridahwait Mohd-Shamsudin reported that the success of any organized health program depends upon effective management,[27] but that health systems worldwide face a lack of competent management at all levels. He identified six clinical managerial competencies within the context of the rural primary care sector: visionary leadership; assessment, planning, and evaluation; promotion of health and prevention of disease; information management; partnership and collaboration; and communication. Our data also demonstrated that management ability is an important competency. Of his proposed competencies, promotion of health and prevention of disease was lacking in our study. However, we think that in addition to treatment, prevention of disease is important work for a community leader.

Jan Hana and Carl Edvard Rudebeck explored the personal experiences of and conceptions regarding leadership in rural primary care in Northern Norway.[28] They identified three main categories: Demands and challenge, personal quantification, and exercising leadership. In exercising leadership, they described a vision of a style of

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

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

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

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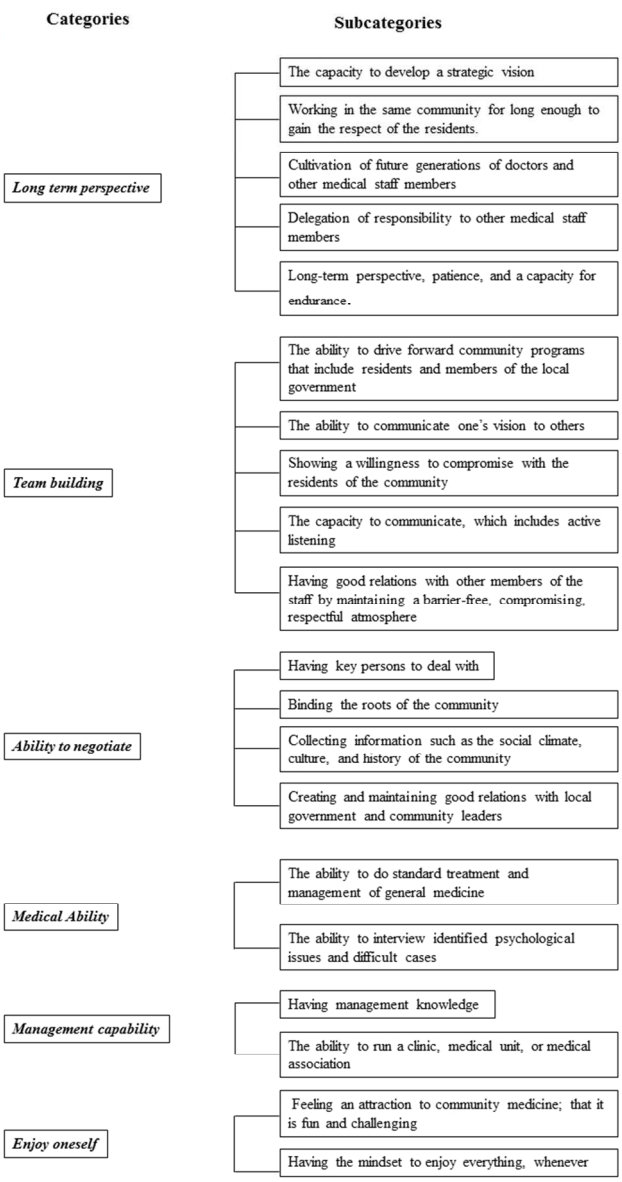
Table Interview guide

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?

Figure legends

Figure: Twenty competency subcategories divided into six themes.



190x338mm (96 x 96 DPI)

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.
Domain 1: Research team and reflexivity			
Personal characteristics			
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.liine19
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
Relationship with participants			
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 inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	P9,line2-3
Domain 2: Study design			
Theoretical framework			
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
Participant selection			
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
Setting			
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
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	P8,line14-15
Repeat interviews	18	Were repeat inter views 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 inter view or focus group?	P9,line14
Duration	21	What was the duration of the inter views 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?	
Domain 3: analysis and findings			
Data analysis			
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
Reporting			
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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The competencies necessary for becoming a leader in the field of community medicine :a Japanese qualitative interview study

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

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Abstract

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

Design: Qualitative interview study.

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

Participants: Nineteen doctors (male 18, female 1) who play an important leadership role in their communities participated in semi-structured interviews (mean age 48.3 years, range34-59; mean years of clinical experience 23.1years, 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)**"Medical Ability"**: Includes psychological issues and difficult cases in addition to basic medical problems. High Medical ability gives confidence to other medical professionals. 2)**"Long term perspective"** : The ability to develop a long-term, comprehensive vision and to continuously work to achieve the vision. Cultivation of future generations of doctors is included. 3) **"Team building"** : The ability to drive forward programs that include residents and local government workers, to elucidate a vision, to communicate, and to accept other medical

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

Conclusions: We found 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 develops such leaders.

Key words: community medicine, leader, competency, qualitative study

Strengths and Limitations of this study

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

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

Limitations include that the interviewer belongs to the General Medicine Department. Thus, there is potential bias in his perception of community medicine.

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 [1], thus the development of primary health care plays an important role in health promotion around the world. In addition, the 34th World Health Organization Assembly in 1981 suggested the adaptation of a global strategy for reorientation of national health systems based on primary health care.[2] 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.[3] 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, which we define as a branch of medicine that is concerned with the health of the members of a community, municipality, or region. has become popular throughout the world[4], and is now incorporated in the model core curriculum in Japan.[5] 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.[6]

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

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 this field, which we hope will help motivate medical students to make a substantial contribution to community medicine. It is accepted that leadership is a critical factor in organizations as it has a great effect on goals, visions, strategy, social environment, and work motivation among employees.[7] High-quality health care increasingly relies on teams, collaboration, and interdisciplinary work, making physician leadership essential for optimizing health system performance.[8-10] In general, Schwartz et al reported that 1) strategic and tactical planning, 2) persuasive communication, 3) negotiation, 4) financial decision-making, 5) team building, 6) conflict resolution, and 7) interviewing are essential skills in physician leadership.[11] Another paper on leadership by Kouzes and Posner reported the following attributes: 1) challenge the process 2) inspire a shared vision, 3) enable others to act 4) model the way, and 5) encourage the heart.[12] Further, it is reported that the key elements of clinical leadership at an academic medical center fall into four important themes: 1) management of the team, 2) establishing a vision, 3) communication, and 4) personal attributes.[13] 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.[14] 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 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. However, the competencies that are required of community leaders are vague in this WHO definition, Moreover, there have as yet been no competencies established in Japan for educational curriculums to develop such leaders. Competency-Based Medical Education (CBME) has become a core strategy in the United States and internationally as a means to educate and assess the next generation of physicians. Models of CBME are driven by the expansion of scientific knowledge and changes in medical practice.[15-17] Competency-based frameworks offer structural, contentment, and process based benefits.

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

In the future, to contribute to the development of community medicine, it will be necessary for medical students to start to gain a comprehensive ability to solve a wide variety of problems, including in family and community settings in both rural and urban area, and the ability to be a leader in groups of people of various professional orientations, including hospital and clinic cooperation. To gain such ability, students must have not only clinical skill, but also the motivation to become a leader in the community setting. Curriculums to teach leadership in the clinical setting are being provided all over the world.[18-21] However, it has been reported that the abilities needed by leaders in a focused community setting are different from those in the general clinical setting.[22] There have as yet been no competencies established for educational curriculums to develop such leaders. This exploratory study was done to clarify the competencies important to such an educational curriculum.

Materials and Methods

Design

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

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

Sampling

Maximum variation sampling was conducted. 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 interview guide and appropriateness of the recommended doctors, 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 (26-217). 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

The first author conducted all of the semi-structured interviews using the interview guide shown in Table. He belonged to the Department of General Medicine of Kyushu University Hopital 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. There was no one else present besides the participant and interviewer. The questions included in the interview guide did not change over time and served as a checklist of points for discussion. However, interviews were flexible and allowed the participants to take the discussion in any direction they wished.

Data analysis

The semi-structured interviews of the selected participants were digitally recorded and transcribed verbatim and double checked by our well trained technicians. 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 openly. However, each author used the constant comparative method, which involves constant and repeated checking of the interpretation of the data.[23] After data collection and individual analysis, the authors discussed the data to build a consensus. 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.

Data collection

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 emerged. The data of one doctor was eliminated from the analysis because his answers were vague and could not be summarized. Mean age of the interviewees was 48.3 years (range 34-59), and the mean years of clinical experience was 23.1 years (range 9-31). The areas in which the doctors interviewed practice are as follows: Hokkaido-Tohoku four, Kanto four, Hokuriku three, Kansai two, Chugoku-shikoku four, and Kyushu-Okinawa two. Quotations were selected that illustrate the themes and convey these physicians' experiences.

Results

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

1. *Medical Ability*

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

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

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

2. *Long term perspective.*

"Long term perspective" refers to 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.

1."I think they should have a sense of the needs of the community and think strategically about many things" (P3)

2."I think that it will be difficult to become a leader in the field of community medicine if you can not observe things comprehensively" (P4)

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

4."I think that the task that is most important and most difficult for leaders is to cultivate and keep a successor" (P13)

3. *Team building*

"Team building" means that the ability to drive forward community programs that include residents and members of the local government to communicate and bring about a vision and to gain the acceptance of other medical professionals. Moreover, the leader needs to show a willingness to compromise with the residents of his community, have good relations with other members of the staff by maintaining a barrier-free, compromising, respectful atmosphere that takes into account the viewpoints of each other. For this process to be successful, the leader must have a vision, the ability to communicate the vision to others, must not whimsically change the vision, and must take on the role of conduit so that community members will be able to communicate the

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

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

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

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

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

4. *Ability to negotiate*

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

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

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

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.

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

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

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.

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

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

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.

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

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

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

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

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

competencies is having a long-term perspective, which includes cultivation of future generations of doctors and other medical staff members. Furthermore, in demands and challenges, they found that a lack of doctors resulted in less time for leadership. Hence, we believe that cultivation of future generations of doctors is an important competency for community leaders.

A limitation of this study is that we could interview only in a Japanese setting, so we cannot say if the six competencies that emerged can be applied in other areas of the world. Further, the interviewer belongs to the General Medicine Department. Thus, there is potential bias in his perception of community medicine.

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

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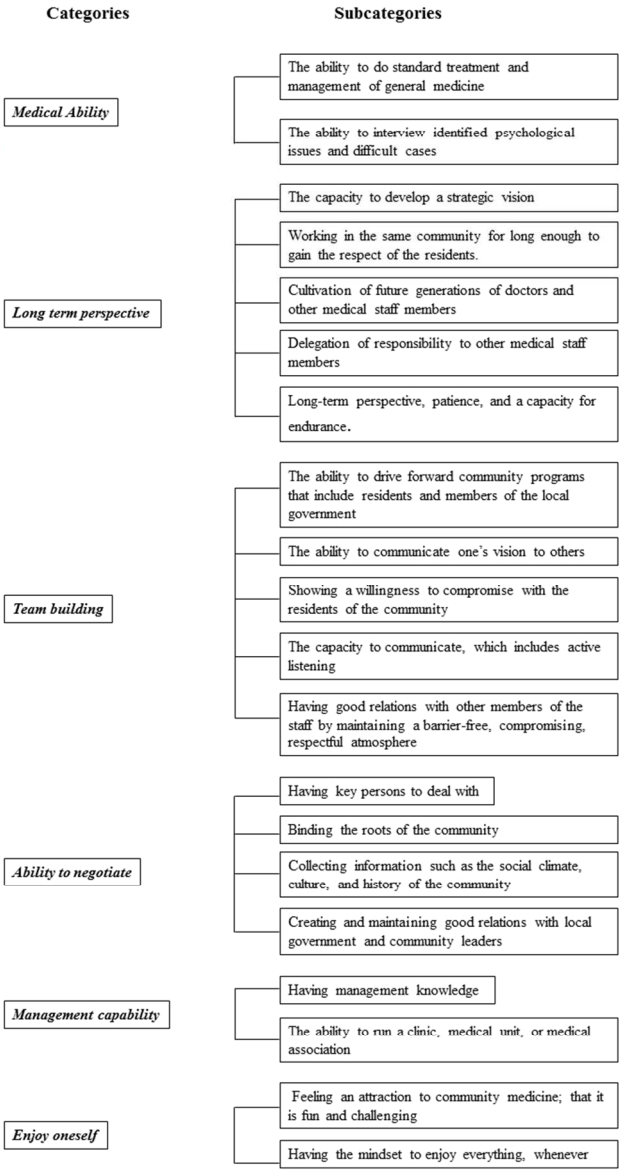
Table Interview guide

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?

Figure legends

Figure: Twenty competency subcategories divided into six themes.



60x108mm (300 x 300 DPI)

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.
Domain 1: Research team and reflexivity			
Personal characteristics			
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.liine19
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
Relationship with participants			
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 inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	P9,line2-3
Domain 2: Study design			
Theoretical framework			
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
Participant selection			
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
Setting			
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
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Duration	21	What was the duration of the inter views 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?	
Domain 3: analysis and findings			
Data analysis			
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
Reporting			
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.