

# *Shaping the midwifery profession in Nepal: A qualitative study on facilitators and barriers between actors*

Please cite this paper as:

Bogren, M.U., Berg, M., Edgren, L., van Teijlingen, E., Wigert, H. Shaping the midwifery profession in Nepal - Uncovering actors' connections using a Complex Adaptive Systems framework, *Sexual & Reproductive Healthcare* **10**: 48-55.

Malin Upper Bogren<sup>1\*</sup>, Marie Berg<sup>1,2</sup>, Lars Edgren<sup>1</sup>, Edwin van Teijlingen<sup>3</sup>, Helena Wigert<sup>1,2</sup>

<sup>1</sup> Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

<sup>2</sup> Centre for Person-Centred Care (GPCC), University of Gothenburg, Gothenburg, Sweden

<sup>3</sup> Centre for Midwifery, Maternal & Perinatal Health, Bournemouth University, Bournemouth, UK

Malin Upper Bogren, Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Arvid Wallgrens Backe, Box 457, S-405 30 Gothenburg, Sweden. E-mail: [bogrenupper@gmail.com](mailto:bogrenupper@gmail.com)

Marie Berg, Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Arvid Wallgrens Backe, Box 457, S-405 30 Gothenburg, Sweden. Centre for Person-Centred Care (GPCC), University of Gothenburg. E-mail: [marie.berg@fhs.gu.se](mailto:marie.berg@fhs.gu.se)

Lars Edgren, Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg, Arvid Wallgrens Backe, Box 457, S-405 30 Gothenburg, Sweden. E-mail: [lars.edgren@vgregion.se](mailto:lars.edgren@vgregion.se)

Edwin van Teijlingen, Centre for Midwifery, Maternal & Perinatal Health, Bournemouth House, 19, Christchurch Road, Bournemouth University, Bournemouth BU1 3LH, UK. E-mail: [evteijlingen@bournemouth.ac.uk](mailto:evteijlingen@bournemouth.ac.uk)

Helena Wigert, Institute of Health and Care Sciences, Sahlgrenska Academy, University of Gothenburg; Centre for Person-Centred Care (GPCC) at the University of Gothenburg. Arvid Wallgrens Backe, Box 457, S-405 30 Gothenburg, Sweden; E-mail: [helena.wigert@gu.se](mailto:helena.wigert@gu.se)

**\*Corresponding author:** Malin Upper Bogren

Institute of Health & Care Sciences, Sahlgrenska Academy, University of Gothenburg, Arvid Wallgrens Backe, Box 457, S-405 30 Gothenburg, Sweden

Mobile: +46 738 099508

E-mail: [bogrenupper@gmail.com](mailto:bogrenupper@gmail.com)

## **Abstract**

**Objectives:** To explore how actors connect in a system aiming at promoting the establishment of a midwifery profession in Nepal.

**Methods:** A qualitative explorative study based on the framework of Complex Adaptive Systems. Semi-structured interviews were conducted with 17 key people representing eight different organisations [actors] promoting the development of the midwifery profession.

**Results:** The actors' connections can be described with a complex set of facilitators for and barriers to promoting the establishment of a midwifery profession. The identified facilitators for this establishment in Nepal are (1) a common goal and (2) a desire to collaborate, whilst the barriers are (1) different political interests and priorities, (2) competing interests of the nursing profession and societal views, (3) divergent academic opinions on a midwifery profession, and (4) insufficient communication. The results also showed that Nepalese society cannot distinguish between nursing and midwifery and that the public support for a midwifery profession was hence minimal.

**Conclusion:** The move of midwifery from an occupation to a profession in Nepal is an on-going, challenging process. The study indicates the importance of understanding the motivations of, and barriers perceived by, actors that can promote or obstruct the establishment of the midwifery profession. It also points to the importance of informing the wider public about the role and responsibility of an autonomous midwifery profession.

## **Highlights**

- The progress of midwifery from an occupation to a profession is a challenging process.
- Actors promoting the profession connect through a set of facilitators and barriers.
- Common goals and collaboration are critical for building a midwifery profession.
- Political priorities challenge the professional establishment.
- Conflicting opinions regarding midwives' required academic level delay the implementation process.

## **Keywords**

midwifery profession, higher education, midwife, professionalisation, Complex Adaptive System, South Asia

## **Introduction**

It is widely acknowledged that strengthening the midwifery profession is an important factor in improving maternal and child health [1-6]. Although substantial global efforts have been made, many maternal health targets set for 2015 have not been met. This is an urgent global public health challenge that needs to be addressed in order to reduce mortality and morbidity.

According to a 2014 series on midwifery in *The Lancet*, over 80% of all maternal deaths and neonatal stillbirths can be avoided [2]. To achieve these figures it is imperative to integrate professional midwives, educated to international standards and appropriately deployed, in national health systems to ensure the provision of safe reproductive, maternal and new-born services [1-3, 5].

Midwifery care has been identified as an important contributor to the improvement of maternal and child health [2], yet in many countries professional midwives are not recognised [by law] or educated to appropriate standards [6-8]. This is true for South Asia [9, 10], a region that accounted for 24% of global maternal deaths in 2013 [11]. Nepal, despite its challenging geography and political instability [12], is one of the South Asian countries that have made impressive gains in maternal health outcomes. Prior to the two devastating earthquakes in Nepal during the spring of 2015, the country was on track to achieve international targets [11]. Despite this progress, 149 women are still dying for every 100,000 live births [11], and only 36% of all births are conducted by a skilled birth attendant; i.e. an auxiliary nurse-midwife, a nurse or a doctor [13]. According to the latest Nepal Demographic Health Survey [2011] [14], 50% of all pregnant women have four or more antenatal care visits and only 35% of births occur in a facility. With a population of nearly 30 million and a total fertility rate of 2.6 children per woman, it is more common to have a skilled attendant at birth in urban areas [73%] than rural ones [32%] [14].

Nepali women do not have access to professional midwives who are educated, licensed and regulated [9, 10, 15] to the ICM's [International Confederations of Midwives] Global Standards [7, 8]. This may explain why maternity care there does not always uphold optimal quality [16]. The existing policy in Nepal, supporting the development of a separate cadre of professional midwives, expired in 2012 [13] and has yet to be updated.

Facing these problems requires a national midwifery policy that protects the public [women and families] as well as the midwifery profession, and thus enables possibilities for nationwide coverage offering accessible, acceptable, available and quality midwifery care [2]. Such an approach requires close collaboration and connections between actors on different levels such as the government, professional associations, academia, and UN [United Nations] agencies [10, 17]. In this study we focus on the interactions and relationships between actors [organisations] in a complex political and social system in Nepal, who have the power to influence [positively or negatively] the establishment of a separate midwifery profession. Our starting point is that there are factors beyond the official agenda [13] which are relevant to the development of a midwifery profession. The aim was thus to explore how different actors connect in a system aiming at promoting the establishment of a midwifery profession in Nepal.

## **Methods**

### **Study design**

This is a qualitative explorative study based on the framework of Complex Adaptive Systems [CAS] [18-21]. A system can be called complex if it contains non-linear relationships between many parts that interact in unstable and unpredictable ways. The term “complex” emphasises that the necessary competence to perform a task or fulfil a mission is not owned by any one part, but comes as a result of co-operation within a system. “Adaptive” means that system change happens through successive adaptions. A CAS consists of several subsystems, called actors, which act in relation to one another. CAS is described as an integrated model that connects the actors of a system instead of exploring the characteristics of each actor [22, 23]. The actors in the system interact in a self-organised manner. In the analysis of such systems, the individual parts are of subordinated interest; instead, we analyse the parts based on how they interact and take advantage of each other’s unique competence to the benefit of the system as a whole. The more complex the external environment, the more important it is for the parts to interact to solve a specific task [24].

Through the lens of CAS [18], we view actors influencing the midwifery profession in Nepal as components in a system and explore how they relate to each other within that system. Hence, CAS is used as a framework to analyse the connections, interactions and relationships among relevant actors.

### **Setting and participants**

Eight Kathmandu-based actors (organisations) involved in promoting the midwifery profession in Nepal were identified and selected. The actors consisted of different departments within the government, academia, the professional association, and donors (Table 1). Seventeen key people, 13 females and four males, representing the eight actors were purposively selected for interviews based on their position and policy influence in their respective organisation (Table 1). Fifteen of the 17 interviewees were Nepalese citizens. The actors representing academia were working towards starting a midwifery education, and were selected based on the criteria identified by a previous study in Nepal [10]. The interviewees’ professional backgrounds included nurse-midwife (n=3), nurse (n=8), medical doctor (n=5), and other (n=1). The median age was 55 years for female interviewees and 53 for males. The interviewees had been employed within their current organisation between one and 39 years, with an average length of employment of eight years.

**Table 1 to be inserted**

### **Data collection**

Data were collected through semi-structured individual interviews. An interview guide was developed with the purpose of identifying and mapping connections between the actors and their influencing factors. The interview guide consisted of open-ended questions based on four key areas: (1) the organisation and its resources; (2) collaboration; (3) communication channels; and (4) future plans. The questions addressed interactions, connections and driving forces

concerning these four areas. All interviews were conducted in English in April 2014, were audio-recorded and lasted about 30-75 minutes, with an average interview time of 50 minutes. The interviewees were encouraged to speak freely, and probing questions were asked when necessary. All interviews took place at the interviewees' workplaces.

### **Data analysis**

The interviews were transcribed verbatim. Qualitative data analysis was performed, inspired by Miles, Huberman and Saldana [25]. The first and last authors analysed the interviews to get a sense of the whole. Finally, the findings were discussed among all authors until consensus was reached. The data analysis included:

*Data condensation:* Each transcript was read several times and condensed to distil information relevant to the study aim. Secondly, the text was coded relevant to the study aim, dividing the content into parts, with the purpose of making it possible to identify content characteristics on a more abstract level.

*Data display:* Codes were imported into a designed matrix, with rows and columns representing each of the 17 interviews. In the analysis, patterns of meaning were clustered and essential structures successively emerged that described and explicated how actors connected to promote Nepal's midwifery profession.

*Conclusion-drawing and verification:* Involves testing the meaning that emerges from the data for their likelihood and for whether or not they can be confirmed. Final conclusions were reached after the first and last authors conducted separate analyses, which were discussed and further analysed among all authors until consensus was reached.

### **Ethical considerations**

The responsible research body for the study was the University of Gothenburg. Local approval and permission to conduct the study were obtained from the manager of each participating organisation. Ethical guidelines for human and social research have been followed throughout the study [26]. According to Swedish rules and guidelines for research, no formal ethical approval was necessary since no patients were involved, nor were health care staff interviewed in relation to maternity service. The study followed the principles of the Declaration of Helsinki [27], and was carried out in adherence to Swedish Law [28]. All participants were informed about the aim and study procedures, and confidentiality was assured. The participants gave written, informed consent, and were guaranteed the right to withdraw at any time without giving further explanation. Quotations in the text are labelled I1-I17 (I=interviewee) to maintain anonymity [29].

## **Results**

The actors' connections for the establishment of a midwifery profession in Nepal can be described with a complex set of facilitators for and barriers to promoting the establishment of a midwifery profession. The identified facilitators are (1) a common goal and (2) a desire to collaborate, whilst the identified barriers are (1) different political interests and priorities, (2) competing interests of the nursing profession and societal views, (3) divergent academic opinions on a midwifery profession, and (4) insufficient communication.

## **Facilitators for the establishment of a midwifery profession**

### ***Common goal***

A common goal for all interviewees was to reduce the high maternal and child mortality in the country. It was highlighted that unnecessary deaths could have been avoided if required measures such as educating professional midwives had been taken. This was being expressed as *only professional midwives can decrease the maternal and neonatal mortality rate.* (I9)

A critical aspect for reaching the goal of saving the lives of women, new-borns and families was the education of professional midwives, which the interviewees stated should be regulated by a framework based on international standards, and with support from a professional association:

*At present there is a gap with ICM global standards. If we meet global standards we meet the core competencies and the criteria. Once the ICM global standards are met we can save the lives of mothers and the new-borns.* (I3)

To move this process forward, it was suggested that the initiative should come from the government. This was also stated by the interviewees representing the government: *The government is also in line with the idea of the production of midwives. We need more than 5,000-7,000 midwives.* (I4)

However, most interviewees declared that the goal set by the government, namely to establish a separate cadre of professional midwives, was not being achieved. The perceived reason for this was the lack of clear guidance and leadership on the government's side regarding how to proceed. A joint plan was seen by many as necessary, as it could lead the actors to advance the process, working towards the same goal:

*We need a policy that agrees that deliveries should be conducted by midwives, and we need to have some guidelines on how to go forward. There are no supporting policies today.* (I4)

*The government needs to work on a plan for how to recruit, deploy and retain the new cadre of midwives.* (I16)

### ***Desire to collaborate***

The desire to collaborate was related to the shared goal of reducing the high maternal and child mortality rates. Collaboration was recognised by all interviewees as a crucial part of the drive to establish a midwifery profession. Despite the acknowledged benefits of collaboration only a few outputs were achieved as a result of the actors' joint efforts, the main one centred on the government's official statement:

*The most concrete accomplishments are the discussions being held, and the letter from the government to start the midwifery education programme, but besides this, there are not many achievements.* (I17)

The collaboration had resulted in one main concrete activity to which all actors had contributed, namely a draft bachelor degree curriculum for midwives along with teaching and learning tools.

Most interviewees were encouraged by the fact that many different actors were collaborating around the establishment of a midwifery profession. It was even suggested that other actors be invited, such as women's groups in the community. Such women's group actors were identified

to be a crucial tool for reaching out and raising awareness about using the midwifery profession, in the struggle for women's rights to safe maternity care: *Women's groups could pressurise the government through the Ministry of Finance and the local development to sustain the midwives in the rural area.* (I17)

## Barriers to the establishment of a midwifery profession

### ***Different political interests and priorities***

A central barrier to the establishment of a midwifery profession was expressed as the actors' different political interests and priorities on an individual and an organisational level:

*A lot of political plays are going on within different bodies; every individual isn't thinking the same way about how to reach the goal. It's rather politicised! Individualist politics thinking; if you belong to a different [political] party to the one I belong to, you may receive support; this kind of attitude isn't taking things forward. The bottleneck is individual party politics.* (I16)

*Every time government changes they say that this isn't my agenda. When a political party comes into power they commit to one thing and this change when a new party comes into power.* (I9)

Several interviewees expressed that many actors were working in isolation in their respective silos of expertise, rather than using each other's unique competence to advance the development. An example of this was when a decision was taken by one actor (Government 1) to start a midwifery education programme. At that time no other actors "joined" this initiative; i.e., they did not use this opportunity to start a programme. In their defence, most of the non-governmental actors blamed frequent political changes in the government, resulting in earlier policy decisions not being followed up.

### ***Competing interests from nursing profession and societal views***

A central dilemma was the competing interests of the nursing profession. Some respondents interpreted that nurses and their official organisations felt threatened and bypassed. Hence, the latter could not see the added value of having midwifery as a separate profession as they regarded "midwifery care" as already embedded in their nursing regulations and tasks. This is illustrated in the following quote from one academia actor:

*We are the nurse-midwives. The Nepal Nursing Council did not register our names as midwives. This is their fault. All nurses complain all donor agencies are after the midwifery education and they're trying to isolate the nursing education; this is our grievance. Why do they not contact us, why do they not consult us, why are they bypassing us?* (I6)

Interviewees perceived that the failure of the general public to recognise the midwife as a separate and different form of nurse was also a key barrier to establishing the profession. This was expressed as *people don't know what a midwife is and why midwives are needed* (I3). Thus, another barrier was the general lack of knowledge in the wider society, regarding who a midwife is and what a midwife does. This was regarded as a contributing factor to the notion that a

separate midwifery profession is not important, as midwives care for women, and women's issues are a low priority for decision-makers in Nepal. This was articulated as:

*The woman's family decides over her reproductive and sexual health; her own decision role is very limited. This means it's necessary to reach out to society to make them understand that midwives are a way to strengthen women's issues and gender issues on women's rights as such. (I1)*

### ***Divergent academic opinions on a midwifery profession***

There was considerable disagreement among the academic and government actors about the appropriate academic level for midwifery education. Some raised the concern that training midwives to a higher education level might become a push factor for them to leave the country. This would mean a highly educated midwifery profession that was unlikely to serve the most remote areas, while some interviewees promoted investment in a midwifery education to international standards. The following quote describes one of the difficulties expressed:

*A bachelor level might be too high for midwives. None of the bachelor general nursing of science graduates went to work in the remote areas'. This is the evidence! The area with the most need will be devoid of more highly qualified people. Therefore, the Auxiliary Nurse-Midwives should be the country-specific midwives. (I17)*

Another important weakness was the conflicting opinions regarding the pending revised midwifery curriculum for final approval by Government 2. The curriculum was largely driven by academic actors and donors. This inactivity, along with the reluctance of Government 2 to accept the idea of educating midwives to a higher degree level, created a weak connection between academia, Government 2 and the donors, the professional association, and Government 1.

*We aren't doing anything related to midwifery education. We haven't made this a specific registration because we don't know when the people will graduate, because none of the universities have developed any curricula. We can't do anything unless a university has submitted a curriculum. (I17)*

All academia actors supported the start of a midwifery education programme. Given the limited funding resources, interviewees were frustrated by the lack of (a) a clear faculty development plan, (b) human resources, and (c) equipment to run such a programme. Many interviewees worried about the reluctance of Government 2, not fully accepting the idea of having midwives on a higher degree level and hence causing delays. The interviewees representing academia believed that, as a result of these difficulties, little progress was being made in establishing a midwifery profession.

### ***Insufficient communication***

All interviewees agreed that good communication was central to achieving professional recognition. Their communication channels were described as both formal and informal in nature. A mix of communication channels was being used, depending on whether the communication was personal or official.

The communication between actors consisted of both internal and external channels. While the external communication to promote the midwifery profession was successfully conducted through advocacy events such as celebration of the International Day of the Midwife, committee meetings and face-to-face meetings, the internal communication was less successful, especially between the academic actors. This was expressed as: *there's disagreement about the implementation of midwives (= midwifery education). The disagreement is about why nurses can't be counted as nurse-midwives. I'm ready to implement this education, but without planning, without faculty, we aren't ready to implement it* (I6).

Other important communication links were the personal relationships nurtured after office hours, as most of the decisions were made at these informal meetings: *The informal meetings are very important here. Everything's about contacts, so informal meetings are extremely important and it gives you the seats in more formal meetings* (I1). These informal channels were seen by some as a means of getting around political factions to gain a mandate to influence decision-makers. The most common methods of communication among the actors are presented in Table 2.

## Table 2 to be inserted

As illustrated in Table 2, the communication channels for actors representing the professional association and donors show a larger number of channels than the government and academia actors, which had fewer opportunities to reach out. Despite agreeing that there is a need for good communication channels, a lack of communication between actors was a barrier. All interviewees mentioned this as a missing ingredient. The lack of communication was sometimes expressed as: *the problem is that we don't have good communication or coordination. I don't know what's causing it* (I8).

### ***Competition for financial and technical support***

This dimension predominately encompassed the limitation of and subsequent competition for available financial and technical support for the establishment of a separate midwifery profession. At the time there was only one actor (Donor 1) in Nepal who provided financial support; all other actors depended on external funding to support the establishment. Due to limited resources, funding was carefully distributed by Donor 1 among selected actors (Figure 1). This was seen as a competing interest. The following quote expresses the problem faced in providing financial aid:

*Money is a factor affecting collaboration. It becomes a competition. If you give me the money, then I do it; if you don't give me money, then I don't do it. If you give me more money, I'll do more.* (I2)

**Figure 1 Financial support links within system promoting midwifery profession in Nepal**

Figure 1 shows that funds were channelled through the professional association and the Government 2 for selected midwifery activities. As one interviewee outlined: *the government is asking us to start the programme, but the curriculum is not approved and we need teachers who will teach.* (I11) According to interviewees, there were no available funds for recruiting new faculty or increasing the capacity of existing faculty members at higher education institutions. This barrier was explained by another interviewee as: *the government wants to start the midwifery programme without having sufficient funding.* (I14)

All academic actors stressed the impossibility to start the programme if neither the government nor donors invested in faculty development or in equipping existing facilities with extra teaching and learning resources. All interviewees acknowledged that the academic institutions were willing to start the midwifery programme, but that they were prevented from doing so by a lack of staff and infrastructure. Without the financial support of the government and the donors, progress was limited. The following quote describes the need for financial attention:

*The academic institutions themselves have the willingness, desire and motivation to make this happen. The barriers and the contrariness need to be understood by the government and donors to make them willing to help the academic institutions in overcoming these barriers, so that the programme can be launched.* (I14)

As shown in Figure 2, the technical support was mainly provided through Donor 1 and the professional association. This support was acknowledged by most interviewees as a contribution to strengthened policy dialogue, evidence-based research, and a developed draft midwifery curriculum and learning aids for the academic institutions to adopt.

## **Figure 2 Technical support links within system promoting midwifery profession in Nepal**

In an attempt to establish the midwifery profession and advance the process, a professional association had been formed. Some described the birth of this association as the result of technical and financial support from Donor 1. The professional association was still young, but had positioned and profiled itself and was given a seat at policy level. Through its outreach work, the association had established international networks for inspiration and external support, to strengthen its role as a professional body. As a result of this work, a professional exchange programme had been established with the British midwifery association, the Royal College of Midwives. This was expressed as:

*We have a twinning programme to strengthen our association: a strong association is helping a weak association. Two to three volunteers come every quarter as per our needs, and hold workshops. We are learning a lot. They also provide financial support for us to attend conferences.* (I3)

As much as the professional exchange programme was adding value for the faculty development, comments like the one below were also made:

*We were hoping they would coordinate with us. They've just sent midwives here to train faculty members and we're not ready; we don't have the universities' agreement. So what's the point in sending faculty staff? It's a waste of their resources if they don't coordinate and collaborate with us. (I2)*

## Discussion

The analysis identified a complex set of facilitators and barriers in the connectedness among the actors, who all aimed at establishing a midwifery profession in Nepal. The actors were connected by the common goal of working towards reducing the maternal and child mortality in their country. While this goal was seen as a driving force for collaboration, opposing factors were taking the upper hand. Connection between the actors was challenged by weak ties and poor alignment as a result of political unrest as well as disagreement regarding the professionalisation and academic level of the midwifery profession. Our discussion will further interpret these three identified dimensions: the politicisation, professionalisation, and academisation of midwifery in Nepal.

**Politicisation:** The actors' capability of exerting influence through their connections went beyond the official agenda, and had entered political territory. For instance, the collaboration was being influenced by individual actors' differing political interests and priorities. Although the establishment of a midwifery profession had been gaining political attention in Nepal through the commitment given by the government, the actors somehow found it difficult to reach an agreement regarding how to move this decision forward. One reason for this could be the frequent changes of the leading positions within the government and universities, with the result that few actors wanted to take full responsibility for taking the initial steps to lead the development forward. Referring to CAS theory, the outcome is dependent on multiple interactions among system actors [30]. This study shows that the situation has become intricate, and none of the actors can navigate it because of the contradictory rules and opinions. This can perhaps be seen as a result of rules and procedures that no one has, or wants to have, control over. This condition can be regarded as a matter of informal power abuse, and will likely persist until policy changes are made.

**Professionalisation:** Striving for the establishment of a midwifery profession separate from nursing was questioned by some interviewees, and the study illustrates that midwifery education and its regulatory system have subsequently been marginalised. Thus, the outcomes of efforts to establish a midwifery profession in Nepal remain inconsistent and disappointing for the system promoting this establishment.

The findings also show that the actors struggled with the fact that there was a perceived lack of social acceptance of having midwives separate from the nursing profession. One reason for this might be an underestimation of the demand for midwifery care provided by professional midwives. This is described by van Teijlingen et al. [31] as "what is must be best"; i.e., ordinary people do not necessarily know what they need in terms of health care, and appear to assume that what is on offer [i.e. nurses attending deliveries] must be best option – otherwise, it would not happen. In the context of Nepal, the lack of social acceptance may have resulted in there being no demand for having the two professions separated, and rather created a conflict between the two professional categories. Nurses objecting to the establishment of a separate midwifery profession are not a phenomenon unique to 21<sup>st</sup>-century Nepal. Historical conflicts

between midwives and nurses have become an arena of competition [32], which has resulted in tension, rivalry and poor communication between the two professions [33].

Our data suggest that the existing system needs to more actively invite Nepal's nursing profession to encourage change, especially the improvement of professional competencies and skills as well as regulation of the relationship between nurses and midwives. This kind of change would require the involvement of all actors in the studied system. In CAS, change can be difficult to promote, and cannot be forced [34, 35]. However, inviting the nursing profession, as an active component of the system, could create an understanding between the two professions and uncover potential threats towards one or the other. This would be in line with Anderson et al. [35]: a larger size of the system could contribute broader competence and more interaction, and build a source for new information. In the case of Nepal, this could support the demand and supply for having a midwifery profession separate from nursing. Such an approach could contribute to making the role of professional midwives more appropriate to the social and cultural setting. In the theory of professions [36], from this situation we can interpret that the actors must thus work towards protecting the occupational jurisdiction of the midwifery work. This can only be achieved when the scope of work of the midwifery profession comes to be protected through a legal system that legitimises the profession to perform certain services but exclude others. The twinning project with the Royal College of Midwives had this professionalisation process very much at the heart of its collaboration, through supporting and strengthening MIDSON as the professional midwifery association [37].

**Academisation:** Nepal stands at the beginning of the process of the academisation of midwives. Although all actors expressed that they had jointly contributed to the development of a draft three-year midwifery education curriculum through an undergraduate degree programme, there was still no consensus whether midwifery education should entail conventional vocational training or be provided at a higher academic level. This can be explained by the fact that the proposed draft bachelor degree curriculum had not yet found a proper balance between academic, professional and community demands.

The academisation of midwifery education integrating within higher education is not only being debated in Nepal, but has also been a long process in Europe [38-41]. An example is Sweden, a country that has followed the educational reform and moved the education of midwives to a post-graduate level. A study [41] shows that this has strengthened the professional and academic development within midwifery. It requires that teachers as well as clinical preceptors have sufficient academic competence to teach in midwifery education programmes. In accordance with Hermansson and Mårtensson, who suggest that this can be of international significance [41], we believe that this should also be the case in Nepal, in order to enable, develop and perform evidence-based midwifery care at health care facilities, and thus improve maternal and child health. Another advantage to providing midwifery education on a university/higher education level may be that it will encourage students to stay in their country rather than losing them to studies abroad, from where they are less likely to return. At the same time it might attract foreign students to Nepal, which could promote research collaboration with international universities and consequently support the establishment of the midwifery profession.

### ***Strengths and limitations of the study***

The main strength of this study lies in its application of CAS theory [18] to empirical data. Our data suggest that a CAS perspective is useful as a framework for influencing methodological approaches while establishing professional midwives in a low-income country. The use of a multi-disciplinary team [42] (with expertise in health management, public health, sociology and maternal/new-born health in both high- and low-income countries, including Nepal) in the analysis enriched the synthesis, as it provided an opportunity to draw upon the expertise and interpretations of findings of a broad team. However, one limitation is that the findings are restricted to the individuals interviewed, and may not necessarily stand for the values of their organisations. Another limitation is that some interviewees represented more than one organisation. This may have challenged the prospect of capturing a rich understanding of the specific organisation, and instead contributed to an intertwined answer representing different organisations. However, this can also be seen as a strength as it helped us gain a deeper understanding of the complexity and interactions involved with establishing a midwifery profession in Nepal.

## **Conclusion**

The move of midwifery from an occupation to a profession in Nepal is an on-going, challenging process. The early stages of this process, as outlined in the study, suggest that there are barriers and opportunities in the system of actors in the field. Understanding these issues from the perspective of the actors offers greater insight into the process to date, and may help those promoting the establishment of midwifery as a recognised profession in Nepal and elsewhere in a similar context. One key message is that it is vital to educate the wider public about the midwife's role and responsibility, and how this profession differs from nursing, to gain the necessary societal support for the establishment of midwifery as an independent profession.

## **Competing interests**

The first author works as a Midwifery Specialist for a multi-lateral organisation. The authors declare that they have no competing interests.

## **Acknowledgements**

The authors would like to express their appreciation to all participants for their contribution to the data collection. We would also like to acknowledge Nor Islam Pappu for the transcripts and Prof. Kiran Bajracharya for her support and logistical assistance in Nepal.

## References

- [1] Rosskam E, Pariyo G, Hounton S, Aiga H. Increasing skilled birth attendance through midwifery workforce management. *Int J Health Plann Man* 2013 ;28[1]:e62-71.
- [2] Homer CS, Friberg IK, Dias MA, ten Hoope-Bender P, Sandall J, Speciale AM, et al. The projected effect of scaling up midwifery. *Lancet*. 2014 Sep 20;384[9948]:1146-57.
- [3] Renfrew MJ, McFadden A, Bastos MH, Campbell J, Channon AA, Cheung NF, et al. Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care. *Lancet*. 2014 Sep 20;384[9948]:1129-45.
- [4] ten Hoope-Bender P, de Bernis L, Campbell J, Downe S, Fauveau V, Fogstad H, et al. Improvement of maternal and newborn health through midwifery. *Lancet*. 2014 27;384[9949]:1226-35.
- [5] Van Lerberghe W, Matthews Z, Achadi E, Ancona C, Campbell J, Channon A, et al. Country experience with strengthening of health systems and deployment of midwives in countries with high maternal mortality. *Lancet*. 2014 27;384[9949]:1215-25.
- [6] UNFPA. The State of The World's Midwifery 2014. A Universal Pathway. A Woman's Right To Health. New York: UNFPA, 2014.
- [7] Thompson JB, Fullerton JT, Sawyer AJ. The International Confederation of Midwives: Global Standards for Midwifery Education [2010] with companion guidelines. *Midwifery*. 2011 ;27[4]:409-16.
- [8] Fullerton JT, Thompson JB, Severino R. The International Confederation of Midwives essential competencies for basic midwifery practice. an update study: 2009-2010. *Midwifery*. 2011 ;27[4]:399-408.
- [9] Bogren MU, Wiseman A, Berg M. Midwifery education, regulation and association in six South Asian countries--a descriptive report. *Sex Reprod Healthcare*. 2012;3[2]:67-72.
- [10] Bogren MU, van Teijlingen E, Berg M. Where midwives are not yet recognised: a feasibility study of professional midwives in Nepal. *Midwifery*. 2013 ;29[10]:1103-9.
- [11] WHO, UNICEF, UNFPA, Bank W. Trends in maternal mortality: 1990 to 2013. Geneva: WHO 2014.
- [12] UNFPA. State of World Population 2010. From conflict and crisis to renewal: generation of change. New York: UNFPA; 2010.
- [13] Ministry of Health and Population. National Policy on Skilled Birth Attendants. Kathmandu: Ministry of Health and Population; 2006.
- [14] Ministry of Health and Population. Nepal Demographic Health Survey. In: Division P, editor. Kathmandu: Government of Nepal; 2011.
- [15] Bogren Upper M BK, Berg M, Erlandsson K, Ireland J, Simkhada P, van Teijlingen E,. Nepal needs midwifery. *J Manmohan Memorial Inst Health Sci [JMMIHS]*2013;1: 41-4.

- [16] Cederfeldt J, Carlsson J, Begley C, Berg M, Sahlgrenska A, University of G, et al. Quality of intra-partum care at a university hospital in Nepal: A prospective cross-sectional survey. *Sex Reprod Healthcare*. 2016;7:52-7.
- [17] KC A BK. State of Midwives in Nepal: HRH to improve Maternal and Neonatal Health and Survival. *J Nepal Health Res C* 2013;11[23]:98-101.
- [18] Bar-Yam. Dynamics of complex systems: Reading, Mass: Perseus Books; 2003.
- [19] McDaniel RR, Jr., Jordan ME, Fleeman BF. Surprise, Surprise, Surprise! A complexity science view of the unexpected. *Health Care Manage Rev*. 2003;28[3]:266-78.
- [20] Maxwell J. Qualitative Research Design. 2 ed. Thousand Oaks, CA: Sage; 2005.
- [21] Hill PS. Understanding global health governance as a complex adaptive system. *Glob Publ Health*. 2011;6[6]:593-605.
- [22] Edgren L. The meaning of integrated care: a systems approach. *Int J Integr Care*. 2008;8.
- [23] Edgren L, Barnard K. Complex adaptive systems for management of integrated care. *Leadership Health Serv*. 2012;25[1]:39-51.
- [24] Weichhart G. The Learning Environment as a Chaotic and Complex Adaptive System. *Systems*. 2013;1[1]:36-53.
- [25] Miles M, Huberman M, Saldana J. Qualitative Data Analysis. A Methods Sourcebook London: Sage Publication, Inc; 2014.
- [26] Codex. Rules and guidelines for research. The Humanities and Social Sciences. 2013; Available from: <http://www.codex.vr.se/en/forskninghumsam.shtml>.
- [27] WMA. World Medical Association Declaration of Helsinki: The Swedish Research Council's guidelines for ethical evaluation of medical research on humans. 2008.
- [28] SFS. The Act of change in the Act [2003:460] concerning the Ethical Review of Research Involving Humans 2008. 2003.
- [29] Forrest Keenan K, van Teijlingen E. The quality of qualitative research in family planning and reproductive health care. *J Fam Plann Reprod Health Care*. 2004 ;30[4]:257-9.
- [30] Olney CA. Using evaluation to adapt health information outreach to the complex environments of community-based organizations. *J Med Library Assoc*. 2005 ;93[4 Suppl]:S57-67.
- [31] van Teijlingen ER, Hundley V, Rennie AM, Graham W, Fitzmaurice A. Maternity satisfaction studies and their limitations: "What is, must still be best". *Birth*. 2003 ;30[2]:75-82.
- [32] Ayala R, Binfa L, Vanderstraeten R, Bracke P. Exploring historical conflicts between midwives and nurses: a perspective from Chile. *J Inter- professional Care*. 2015 ;29[3]:216-22.
- [33] Reiger K. Domination or Mutual Recognition? Professional Subjectivity in Midwifery and Obstetrics. *Soc Theory Health*. 2008 ;6[2]:132-47.

- [34] Tsasis P, Evans JM, Owen S. Reframing the challenges to integrated care: a complex-adaptive systems perspective. *Int J Integr Care*. 2012;12:e190.
- [35] Anderson RA, Issel LM, McDaniel Jr RR. Nursing homes as complex adaptive systems: relationship between management practice and resident outcomes. *Nurs Res*. 2003 ;52[1]:12-21.
- [36] Abbott A. *The System of Professions – An Essay on the Division of Expert Labour*. Chicago: The University of Chicago Press; 1988.
- [37] Ireland J, van Teijlingen E, Kemp J. Twinning in Nepal: the Royal College of Midwives UK and the Midwifery Society of Nepal working in partnership. *J Asian Midwives*. 2015;2[1]:26-33.
- [38] Davies R. The Bologna process: the quiet revolution in nursing higher education. *Nurs Educ Today*. 2008 ;28[8]:935-42.
- [39] Fleming V, Pehlke-Milde J, Davies S, Zaksek T. Developing and validating scenarios to compare midwives' knowledge and skills with the International Confederation of Midwives' essential competencies in four European countries. *Midwifery*. 2011 ;27[6]:854-60.
- [40] Friedrichs A, Schaub HA. Academisation of the health professions - achievements and future prospects. *GMS Zeitschrift fur Medizinische Ausbildung*. 2011;28[4]:Doc50.
- [41] Hermansson E, Martensson LB. The evolution of midwifery education at the master's level: a study of Swedish midwifery education programmes after the implementation of the Bologna process. *Nurs Educ Today*. 2013 ;33[8]:866-72.
- [42] Malterud K. Qualitative research: standards, challenges, and guidelines. *Lancet*. 2001;358[9280]:483-8.

Table 1. Characteristics of interviewees and actors

Interviewees [I 1-17]	Actors/Organisation	Gender	Professional background
I 1	Donor 1	Female	Nurse and Midwife
I 2	Donor 1	Female	Nurse
I 3	Professional association	Female	Nurse
I 4	Government 1	Male	Medical Doctor
I 5	Government 1	Female	Nurse
I 6	Academia 1	Female	Nurse
I 7	Academia 3	Female	Nurse
I 8	Academia 3	Female	Nurse and Midwife
I 9	Academia 3	Female	Nurse
I 10	Professional association	Female	Nurse and Midwife
I 11	Academia 1	Male	Medical Doctor
I 12	Academia 2	Male	Medical Doctor
I 13	Professional association	Female	Nurse
I 14	Academia 2	Male	Medical Doctor
I 15	Donor 2	Female	Medical Doctor
I 16	Donor 1	Female	Non-Medical
I 17	Government 2	Female	Nurse

Table 2. Modes of communication channels among actors promoting Nepal's midwifery profession

Mode of communication	Government	Professional association	Academia	Donors
Official letters	√	√	√	√
E-mail		√	√	√
Phone calls		√	√	√
Social media	√	√		
Face-to face meetings	√	√	√	√
Virtual meetings		√		√
Field visits		√		√
Conferences	√	√		√
Workshops		√		√
Advocacy events	√	√		√
Steering committee	√	√	√	√
External development partner meetings				√