

HR practices facilitating EDI of doctors and of nurses

Author: Samantha Dijkstra
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

Abstract:

Purpose: In order to optimize the products and processes in the healthcare sector, it needs to be innovative. Employee Driven Innovation is a bottom-up approach for innovation. This research aims to optimize Employee Driven Innovation in the healthcare sector, by finding how the HRM practices performance appraisal, training, teamwork and job rotation can be applied to the occupational groups: doctors and nurses to optimize their EDI.

Methodology: This research is based on semi-structured interviews with four doctors and five nurses. The interviews were conducted in two different hospitals in the Netherlands. The interviews were recorded, and written out. The doctors and nurses are anonymous.

Findings: **First**, nurses have a need for feedback, goalsetting and recognition from a superior and would like a tangible reward, where doctors just need these from their colleagues and has no need for a tangible reward. **Second**, nurses need more interdepartmental training, where doctors already have multidisciplinary meetings. **Third**, nurses rely more on teamwork and could benefit from project groups, where doctors are more individual and have meetings. **Last**, nurses would benefit from job rotation, where doctors have enough different tasks to be satisfied and gain knowledge from other specializations through meetings. Also, doctors are even more specialized than nurses, what would complicate job rotation.

Practical Implications: This research can help the healthcare sector to be more innovative in a bottom-up approach, by fit HRM practices to the occupational groups doctors and nurses.

Originality: Employee driven innovation is a subject that is not often combined with the healthcare sector. In addition to this, this research specifies on the differences between doctors and nurses in need for HRM practices.

First supervisor: Anna Bos-Nehles
Second supervisor: Jeroen Meijerink
Third supervisor: Maarten Renkema

Keywords

Employee-Driven Innovation; Human Resource Management; occupational groups; Innovation; performance appraisal; training; teamwork; job-rotation

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1. INTRODUCTION

To optimize all processes and treatments in the healthcare sector, the healthcare sector needs to be innovative (Herzlinger, 2006; Omachonu & Einspruch, 2010; Thakur, Hsu & Fontenot, 2012). Innovation can also be a way to balance the costs and improve the healthcare quality (Omachonu & Einspruch, 2010). Robertson, Callinan and Bartram (2002; p. 24) define innovation as “the development and implementation of new and improved products or ways of working”. These should result in increased firm performance (Rogers; 1998). Innovation can be from the top down, or from the bottom up. Employee Driven Innovation (EDI) is a bottom-up approach in which the employees are the drivers of innovation in a company, and where the innovation is not part of their official job description (Birkenshaw & Duke; 2013; Høystrup; 2010). These innovations can be radical or incremental (Wihlman, Hoppe, Wihlman & Sandmark; 2014). According to Høystrup (2010), EDI can be an effective way to innovate, because employees have skills, a significant amount of knowledge, and are in the centre of the flow of information. This way they can exchange their knowledge and have the potential to come up with important innovations.

However, the healthcare sector has a, what Mintzberg calls, a professional bureaucracy. The characteristics of bureaucracy are specialization, which is needed in healthcare; hierarchy of authority, a system of rules and impersonality (Blau; 1956). The hierarchy and rules of the bureaucracy are effecting the innovation negatively (Thompson; 1965). And they are the reason that the innovation in the healthcare sector often has a top-down approach: Cohen (1999) mentioned the need for innovation in human services organizations, but states that in these organizations “there is a strong tendency to believe that change can only come from the top” (p. 48). Birkenshaw and Duke (2013), however, think EDI is a good way to innovate in the healthcare. The employees have the contact with their clients and are therefore in a good position to come up with important innovative ideas (Wihlman et al.; 2014). Høystrup (2010) mentioned this to be a key reason for EDI. The employees in the healthcare sector that have the most contact with the clients and have a good position to come up with good ideas in the healthcare sector, are doctors and nurses. According to Shipton, West, Dawson, Birdi and Patterson (2006) there are various Human Resource Management (HRM) practices which facilitate innovation. But, how these HRM practices facilitate the doctors and nurses to be innovative, can differ between the occupational groups.

1.1 Occupational groups

Spiegelaere, et al. (2012) found that different occupational groups had different levels of EDI. And also Lepak and Snell (1999) thought that it would be “inappropriate to simplify the nature of human capital investments and suggest that there exists a single optimal HR architecture for managing all employees” (p. 32). Currie, Burgess and Hayton (2015) emphasized the differences between doctors and nurses: “doctors and nurses are socialized differently and develop distinctive professional identities” (p. 15). Also, Kingston, Evans, Smith and Berry (2004) found that doctors and nurses have different cultures in their workplace. Ang, Bartram, McNeil, Leggat and Stanton (2013) stated that because the professions of a hospital are all very different, they need to be managed different. But the most important difference is probably the difference between the content of their jobs. There are many differences: nurses work in teams, where doctors work more individually. Nurses do the same thing, every day, where a doctor has different shifts of tasks: office hours, surgery or helping on the floor. Also, a nurse has less responsibilities: the doctor decides the big decisions in the end. And a doctor is even more specialized than a nurse.

These differences imply HRM practices should be used different for doctors and nurses to facilitate EDI.

1.2 HRM practices

As mentioned earlier, Shipton et al. (2006) had found several HRM practices that facilitate innovation. HRM is “a philosophy about how people should be managed” (p. 1), and the idea is that you can manage these people in a way that the effectiveness of a business improves and the business will be morally sound. HRM practices are the activities used to achieve this better effectiveness (Armstrong & Taylor; 2014). The practices thought to facilitate innovation are: an appraisal scheme, extensive training, teamwork, and sophisticated and extensive induction procedures (Shipton, West, Dawson, Birdi & Patterson; 2006). There can also be a combination of HRM practices (bundles). These practices or bundles of practices are intended to develop skills, knowledge and attitudes (West, Dawson, Birdi and Patterson; 2006). The bundles of HR practices can have a bigger impact together than if you sum up the impact individually (Laursen, 2002). In addition to the practices of Armstrong and Taylor, Laursen (2012) found that performance related pay also has an impact on innovative behaviour. Lundvall and Nielsen (2007) also found that if a company is focused on learning, they have a bigger chance on innovative solutions. Ellström (2011) stated that it should be work-based learning that is important to enhance innovation. Spiegelaere, Van Gyes and Van Hootigem (2012) even stated that workplace learning is related to employee innovation. Concrete forms of workplace learning are: “learning by observing others; learning through the sharing of experience and knowledge; learning through mentoring arrangements; learning from mistakes; and learning through individual or collective reflection” (Høystrup; 2010; p. 150-151). Because of the many possibilities, the most important HRM practices need to be selected. For example, recruitment is also linked to innovation (Tan & Nasurdin, 2011), but this study focuses on HRM practices that can be applied to existing employees. However, learning and gaining is in so many studies proven to enhance innovation that training, teamwork and job rotation are chosen as HRM practices. These all have a linkage with learning, since teamwork and job rotation are both based on the knowledge and new perspectives you gain from your colleagues. Next, also the appraisal scheme is linked to innovation by Armstrong and Taylor (2014), this contains feedback, reward, goal setting and recognition, which also enhance knowledge and PRP.

1.3 Research questions

Although innovation is such an important factor in the healthcare sector, the literature misses to handle the way to optimize EDI in this sector. But more importantly, there is no literature that specifically searches for differences in which way HRM practices can be applied to doctors and nurses to optimize their EDI. To gain this knowledge, the main question in this research is:

How can HRM practices be applied to doctors and nurses to facilitate EDI?

2. LITERATURE REVIEW

In the introduction, we discussed the differences between doctors and nurses and HRM practices that can facilitate EDI. These HRM practices are performance appraisal, training, teamwork, and job rotation. In this section, I will explain the HRM practices and how they could have a different impact on doctors and nurses.

2.1 HRM practices

2.1.1 Performance Appraisal

With a performance appraisal the individual and team performance is assessed (Huselid; 1995). Appraisal systems focus on development and feedback (Lepak & Snell; 2002). This feedback reveals the gap between what the company wants from its employees and what the employees are doing will become clearer, which makes the employees more innovative (Guzzo, Jettie & Katzell; 1985). So, to appraise doctors and nurses, their performance should be monitored, so a feedback can be given, from where they can make progression in their performance. Shipton et al. (2010) states that an appraisal scheme has a positive effect on the innovativeness of employees. Meyer and Smith (2000) emphasize the effect a fair appraisal has on the commitment of the employees: an employee is willing to work harder and come up with improvements for the company when they are committed. According to Tan and Nasurdin (2011) this commitment and satisfaction is an outcome of the chance employees get to discuss their own performance with an appraisal. Performance appraisal can also clarify someone's learning curve. This way, the performance appraisal is an important part of gaining knowledge (Lepak & Snell; 2002). So, by appraising the performances of employees, they have a clearer view on their performance. This results in growing work performance. As part of the performance appraisal, goal setting can contribute to innovativeness because they can improve individual performance, if they are specific and difficult (Kleingeld, Mierlo & Arends; 2011). This effect can be enhanced by, among other things, feedback, teamwork and task complexity (Latham, Locke, & Fassina, 2002; Hoegl & Praveen Parboteeah; 2003). If the goal is difficult, the employee will have to be innovative to achieve it.

Another part of performance appraisal is reward and recognition, which can maintain the motivation of the employees to be innovative (ABU El-Ella, Stoetzel & Bessant; 2013). Danish and Usman (2010) stress the importance of reward and recognition. According to them, it facilitates the employees satisfaction and motivation and this will lead to innovation. They also stress that it is key to reward the employee with something tangible.

Differences

Edmonstone (1996) explains the origin of performance appraisal began in the nursing profession, in 1970. This is a big contrast with the performance appraisal of doctors: according to Overeem (2011) this is only an issue for ten years. This means that it took thirty-one years longer to appraise doctors. This could be an outcome of the status doctors had.

An important difference between a doctor and a nurse is that a doctor does not really have a superior. With the nurses, there is a hierarchy, so they have to answer to their superior. This could mean that doctors and nurses have to be appraised differently, their feedback have to come from different persons. Overeem, Driessen, Arah, Lombarts, Wollersheim and Grol (2011) did recommend to point out colleagues and coworkers as mentors who could give some feedback. These mentors should not be colleagues and coworkers who work much with the doctors.

2.1.2 Training

Although Laplagne and Bensted (1999) wrote their paper on how training and innovation are influencing the organizational performance, they also saw the linkage between the two: "In some cases innovation and training are reinforcing, with the (re)training of workers enhancing the productivity of innovative and more sophisticated technology"(p. 1). Training leads to knowledge and knowledge leads to innovation, and the more knowledge, the better (Darroch; 2005). Koskinen and

Vanharanta (2002) stated that knowledge indeed leads to innovation, but they emphasize that not the amount of knowledge, but the utilization is important. This knowledge will come from, among other things, training. The idea of training is that if the employees have more knowledge about the tasks they perform, this gives a deeper insight so they can innovate easier. Training will also help the employees in generating new ideas (Kesting & Ulhøi; 2008). Besides that, with new training, they will also be more critical to their own performance (Shipton et al.; 2010).

Differences

It is obvious that doctors and nurses have different needs regarding the content of training, because they need different knowledge for their job. But besides that, it could be that doctors have different needs in the kind of training. For example, nurses give the patient the treatment the doctor prescribes. This treatment should be trained. This could be more important for nurses than it is for doctors.

2.1.3 Teamwork

Tushman and Nadler (1986) stated that innovation rarely comes from an individual, but almost always from a group. Also Hirst and West (2003) found that teamwork has a positive effect on innovation. However, they too stress the importance of diversity in the team. They think that the diversity, in for example work tasks, makes that you have more information in a group. Also, team members will communicate individually with persons outside of the team and can bring new knowledge again. Also Shipton et al. (2010) found the positive effect and thinks this is because different people have different knowledge and perspectives and together, they can learn something from each other. According to Robbertson, Callinan and Bartram (2002) this combined knowledge leads to new ideas and the centralization leads to good implementation.

Differences

In a research conducted by Sexton, Thomas and Helmreich (2000), it seemed that doctors and nurses had different perspectives on their co-operation: the doctors rated the teamwork with the nurses higher than the nurses did. This could be caused by the fact that a nurse is always working in a team, where a doctor is more individual. Because of this, "teamwork" has different meanings for doctors and nurses. Brunetto, Farr-Wharton and Shacklock (2011) also find a correlation between the relationship supervisor-nurse and the perception of nurses on teamwork. As mentioned earlier, the doctors do not have a supervisor, which could impact their perception on teamwork.

2.1.4 Job rotation

According to Tushman and Nadler (1986), innovation depends on how motivated, willing to experiment and creative the employees are. And according to them, job rotation has a positive effect on the creativity of employees. Job rotation is the transfer of employees from one job to another in an organization (Campion, Cheraskin & Stevens; 1994). This transfer results in learning new things and new people, with whom they can exchange knowledge, which in turn has a positive influence on innovation (Triggs and King; 2000). The HRM practice is also known for reducing boredom of employees (Ortega; 2001), which has a positive impact on job satisfaction (Ho, Chang, Shih and Liang; 2009), which in turn leads to innovativeness. However, Huang (1999) stresses that job rotation can be very costly for companies, especially when there is specialization needed. This could be a problem for nurses and doctors, since their jobs are very specialized and the healthcare have to cut back. Still, there is an important correlation with knowledge.

Differences

Job rotation is hard to accomplish in the healthcare for both doctors and nurses. However, doctors have different tasks within their job, so they already have a sort of job rotation. But it will be even harder for them to rotate between departments, because they are more specialized than nurses.

3. METHODOLOGY

3.1 Data collection method

Because the research question is an open, explanatory question, a qualitative study is needed to find how the HRM practices should be applied to facilitate EDI of doctors and nurses. Semi-structured interviews in two different hospitals in the Netherlands are used to gather quantitative data that can answer this question. Semi-structured interviews are the most used form of interviewing for qualitative research (DiCicco-Bloom & Crabtree; 2006), and is a way of gaining a great amount of information in a relatively short period of time. This information is needed to gain an in-depth understanding of EDI in the healthcare and the perspectives of doctors and nurses on HRM practices to facilitate this EDI (Hennink, Hutter & Bailey, 2010). The interview contained a set of open-ended questions, but there was room for “asking questions emerging at the dialogue” (DiCicco-Bloom & Crabtree; 2006). These open-ended questions were the same for doctors and nurses, so the answers can be compared to each other. Information gathered from interviews was sometimes used to turn it into a question for the next interviewee. Sometimes there were follow-up questions needed to be sure that the question was optimally answered (Turner; 2010), because the differences within the HRM practices needed to be clarified and often there were follow-up question in order to be able to make a good comparison. Before the actual interview, the interviewees were informed about the keywords of the interview. All of the interviews were recorded, with the permission of the interviewees, and written out. This to ensure the ability of comparing the answers without leaving out important information.

3.2 Sample

For this research, I conducted 9 interviews: 4 interviews with doctors and 5 interviews with nurses. I had this sample based on availability and personal relationships. The interviews were conducted in 2 different hospitals in the Netherlands: Medisch Spectrum Twente (MST) en Universitair Medisch Centrum Utrecht (UMC Utrecht). In order to find differences between doctors and nurses, I needed to ask the same questions to all the doctors and nurses. The interviewees all had to answer the questions based on their personal opinion, but by comparing the answer within the occupational group, the interviews can say something over the doctors and nurses overall. The interviews were also taken in different departments, so the outcomes could not be the overall opinion of one department. The interviews took place in the hospital, sometimes in an office, but most of the time in a common area chosen by the interviewee.

Interviewee	Duration interview
Nurse A	29 min 48 s
Nurse B	35 min 46 s
Nurse C	24 min 15 s
Nurse D	25 min 03 s
Nurse E	25 min 42 s
Doctor A	30 min 14 s
Doctor B	22 min 40 s
Doctor C	22 min 43 s
Doctor D	19 min 11 s

3.3 Information about the hospitals

As mentioned before, the hospitals where the interviews took place were MST and UMC Utrecht. Important to mention: the UMC Utrecht is an academic hospital. This means that it is expected from its employees to be innovative, as is advertised on their vacancy-page: “our organization is namely everlasting focused on renewal and improvement” (werkenbijumcutrecht.nl). Furthermore, The hospital is a non-profit organization and counts more than 12.000 employees which makes it one of the biggest public healthcare system in the Netherlands.

The MST is originated from a fusion between two hospitals in Oldenzaal and Enschede and has 2 polyclinics: one in Haakbergen and one in Losser. It has 4000 employees and is one of the biggest educational hospitals in the Netherlands. Although it is not an academic hospital, they claim to be able to give the same care as an academic hospital in some departments.

3.4 Operationalization and analysis

3.4.1 Operationalization

The questions in the interviews were asked to collect information about what the impact the doctors and nurses thought the HRM practices had on their innovativeness [APPENDIX 1]. Some of those HRM practices were already used and if so, there was still the question what they thought the impact of this HRM practice was. Most of the concept were translated into Dutch, except when the English word was a common word in Dutch too.

The interview was constructed with seven general questions about innovation, then six more specific questions and it ended with a last general question.

The seven general questions were used to make the interviewee at ease, but also to determine whether it was really EDI they were talking about. Also, there was given an opportunity to come up by themselves with HRM practices/activities that enhance EDI, which could cause new questions for the next interviewee. When something new was brought up, I determined whether it was a HRM practice or a factor that is not relevant to answer my research question.

For examining the HRM practice “performance appraisal”, I asked what impact the interviewees thought ‘setting goals’ would have and what impact they thought would ‘recognition’.

For each HRM practice, I made a selection of keywords which could determine the effect of the HRM practices, based on the used definitions. I made a table for this data:

Performance appraisal	Feedback
	Goals
	Performance gap
	Recognition/ appreciation
	Performance interview
	Meeting
Training	Cursus
	Training/education
	Seminar
	Knowledge
	Literature readings
	Presentation
Job rotation	Rotation of tasks
	Creativity
	New ways of doing things / New experiences
	Dialogue about actions
	Other perspective
	Tasks
	Other departments
Teamwork	Team
	Feedback
	Knowledge
	Other perspective
	Meeting
	Supervisor
	New colleagues

Last, I asked again whether they could come up with another factor of impact, because they now might have a clearer perspective on what could be of influence.

3.4.2 Data analysis

To analyze the gathered data, I used the mentioned keywords to code the interviews per practice, and performance appraisal was divided in feedback and recognition. Since the question is to find differences within the HRM practices, the content of the answers were important to answer the research question. The answers were first compared within the occupational group. This way, the personal opinions of the doctors and nurses could be used to find a general opinion of the occupational groups. This to ensure that the right opinion is displayed and not the opinion of only one of the interviewees. Then, the answers were compared between the occupational groups to find differences which could indicate different needs in HRM practices to facilitate EDI.

3.5 Validity and Reliability

3.5.1 Content validity

To ensure the content validity, literature was reviewed to enclose all the different aspects of the concepts. These different aspects were then translated to questions for the interview. This way, the answers in the interview could be analyzed correctly and no

aspects would be left out. Because of the division of the concepts in different questions, the “measure covers the range of meanings included within a concept” (Babbie, 2007).

3.5.2 Internal validity

To ensure that the causal relationship between the dependent and independent variables are as measured, a random sample was chosen to be used as sample. This way, the threat to selection is minimized (Shadish, Cook, and Campbell; 2002). However, although the interviewees were selected by availability, the nurses were asked by their supervisor. This could be a threat to the internal validity, because the supervisor may have selected the nurse who he thought was most suitable for the interview.

3.5.3 External validity

To ensure the ability to generalize the results, the interviews were conducted in different departments and even in different hospitals. This way, the results can't be subscribed to a department or an hospital. Although the sample was small, there were more than one doctor and more than one nurse, so the answers could be compared to each other, to find out whether the answers were generalizable for doctors and for nurses.

3.5.4 Reliability

The comparison of the answers between doctors and between nurses, ensures the reliability of the results. If all the doctors and all the nurses give the same answer, the results can be seen as reliable. This comparison was possible because each doctor and nurse were asked the same questions.

4. RESULTS

4.1 EDI in the healthcare sector

In the introduction is mentioned that EDI in the healthcare sector is difficult, because there is the belief that innovation can only come from the top. However, to the question whether the innovation comes from themselves or a superior, the doctors and nurses generally answer the innovations come from them.

“I think mainly from the colleagues themselves. And the things that are transcending come from the superior. But purely for the patientcare, that is mainly from the colleagues” (nurse E, UMC).

Only the changes for multiple departments come from the superiors, according to Nurse E. This indicates that EDI in the healthcare is very possible. As long as the changes are for the department, the doctors and nurses can come up with them themselves. Only when an institution needs a change in more than one department the innovations can be top-down. However, several doctors and nurses indicated that the hospital would set goals, when there needed to be changes for more than one department. For example, the research towards mistakes. The hospital requires more examination, which leads to more innovation from the employees themselves to solve the problems.

The rules and regulations from a bureaucracy is only mentioned once.

“I think it is not easy to be innovative in our job, because you have to deal with a lot of rules [...]” (doctor B, UMC)

The only way it is mentioned otherwise, is when they mention they need the resources to be able to be innovative. As discussed later, it are mostly the doctors that bring this problem up.

Also important to mention is that nurses seem to be more motivated to be innovative than doctors. This can be, because nurses do the same processes every day, so they need to optimize these processes to be as effective as possible.

4.2 Differences in HRM practices between doctors and nurses

4.2.1 Performance appraisal

For the performance appraisal there are 2 different subjects: feedback and recognition.

4.2.1.1 Feedback

When asked about feedback sessions, both doctors and nurses where positive and thought it could motivate them, because it makes clear what needs to change and what is ok. It would also be stimulating when they get personal goals, to improve themselves:

“Because I think that if you get personal goals, you will try to accomplish that goal in a manner” (doctor A; UMC)

“You get clear, what am I doing now and is that in line with what the goals are” (nurse A; UMC).

A difference between doctors and nurses is from whom they receive the feedback. Where a nurse most often has a superior, a doctor only has peers. This way, doctors can only get feedback from their colleagues. So for doctors, performance appraisal and teamwork are connected.

“We have a work meeting [...] And where you can test each other, or can fill up each other’s blind spots” (doctor D; MST).

Goals could also help if it was for a whole department: it could be stimulating to achieve this goal, if it was structured and clear enough. The moment the goals were not specific enough, it was not motivating anymore. There was only one doctor who did not think the goals were motivating, but other than that, the responses were positive:

“We set ourselves so many goals, it is all a little too much, I think” (doctor B; UMC).

The doctors seemed sometimes to be more pessimistic about the actual ability to execute the ideas than the nurses. The nurses do have the restriction of each other (will be addressed later) and from their superior, but the doctors see the hospital itself as the problem for executing their innovative ideas:

“If you get the people, the finance, the time. Of course. When the goal is realistic” (doctor D; MST).

Also, it appeared that nurses set more goals for themselves than doctors. They are, as mentioned earlier, more focused on innovation than doctors.

4.2.1.2 Recognition

When I asked about recognition, every doctor and nurse thinks that it is a very important aspect of being innovative. It is highly motivating to be innovative when colleagues and superiors recognize that what they did was a good thing.

“I think that it is crucial (nurse B; UMC)” and “A lot (doctor C; UMC)”.

However, when questioned, there appeared to be a difference between doctors and nurses: doctors thought it was enough when the recognition was from their direct colleagues, where nurses liked it when it came from their supervisors. One nurse said:

“we have a platform, you know. Connect, an intranet, well, if you see a message on there with “the lungdepartment has come up with this and this..”, than the whole department would be proud” (nurse B; UMC).

But when I asked the doctors for recognition from their superiors, they thought it was less important:

“well, if it comes from the hospital, well, I would not find it that necessary” (doctor A; UMC).

Of course the nurses liked it too when their direct colleagues recognized their innovative ideas, but most ideas came from the whole department or a part of that department.

When asked if money, as a form of reward, would facilitate EDI, all the interviewees answered that they would not be motivated by it, and that they wanted to be innovative to make sure their patient got the care they deserved. Nurses raised also the problem that most innovations were an output of teamwork, so they could not be paid for it. However, they would like to be rewarded if it is a sign of recognition. Some of the nurses thought that something like a team trip would be motivating to be more innovative. But there was also a nurse who thought that it would be nice if an important innovation of their department would be recognized on their intranet.

“Well, if you see a message on there with ‘the lung department has invented this and it works very well’, then you feel proud as a department for achieving that” (nurse A; UMC)

She even thought that recognition would work the best of all the practices. The doctors thought of another reward, namely having more money for further research. This is more a reward than an recognition, but they saw it partially as a form of recognition. Besides that, the doctors do not need the recognition from the hospital itself, they like to be recognized by their colleagues.

“If it comes from the hospital, well, I would find that less important” (doctor A; UMC).

So doctors, again, like to have the recognition from their colleagues.

4.2.2 Training

Both the doctors and nurses thought that training could motivate them to be innovative. But, both the nurses and the doctors made it clear that there needed to be time for that within their job. They did not want to do it outside the office hours:

“as long it is in the hours of work” (nurse C; UMC).

However, it appears that nurses are more engaged with training than doctors. 3 nurses stated that there were trained in their breaks sometimes. Some nurses were so active with training that they sometimes invited nurses from different departments to tell something about their specialism, so they could help their patients even better. Every employee has a budget for training and if they invite someone from another department, it does not cost anything:

“and we really try to do that with clinical lessons here, really invite people from other specialisms” (nurse B3 west).

One nurse mentioned a trip to the Scania factory, to gain knowledge of the LEAN method. Even though such a factory has nothing to do with the healthcare, he told he learned something from it, because the same method was used. After this trip, he introduced a “support-nurse”, to fill in when necessary.

“That is just copying an example of what I saw in the factory in Zwolle” (nurse B, UMC).

None of the doctors said anything about such a training. One doctor, however, mentioned the multidisciplinary meetings, which are very educational. This again shows a relation with teamwork. However, the biggest training for both doctors and nurses are the mistakes they make, or the problems they face. It is clear that the biggest motivation for innovation are the problems and mistakes. When I ask what motivates them to be innovative, most of them answer that they want to do what is best for the patient:

“I want to change and better the things that could be done differently” (doctor B; UMC);

“so if it is something that costs much effort, but you clearly see that the patient benefits from it, that motivates big time” (nurse A; UMC);

“.. and that the number of mistakes decrease, that is nice” (nurse B; UMC) and

“We also make mistakes, as nurses and doctors. We investigate them nowadays [...] ‘can we do something about that’ [...] ‘why is that going wrong regularly’” (nurse D; UMC).

Many departments have a team that works together to look at the mistakes made many times and search for solutions to these problems. These mistakes are thus a learning moment which they use to come up with innovative ideas.

Also with training, you see that the nurses are more at it, and use it to be innovative, and to optimize their processes.

“I mean, I do see us as one team, but yes indeed, the nurses are more engaged with each other [...] Those are all processes of course which the nurses are engaged with, that need to be optimized” (doctor A; UMC).

Doctors are less occupied with training. Even though they 3 out of 4 thought it would motivate to be more innovative, they are not actively engaged with it. One doctor said that doctors try to stay updated by reading literature about their specialisms. So doctors and nurses do think that it makes them more innovative, but nurses are more active in training.

4.2.3 Teamwork

When it comes to teamwork, most of the doctors and nurses do think it can motivate to be innovative. but on the other side, for nurses, it can also sabotage innovation. It is probably common knowledge that nurses work in teams, where doctors work more individually. However, as mentioned earlier, doctors do meet in teams of doctors to consult with each other about patients. They do think they learn from each other when they have meetings:

“we have a work meeting, where we discuss the more difficult patients. And where you can test each other and fill each other’s blind spots” (doctor, MST) and

“we sit in a room together and there we have regular meetings about how we can do some things differently, how we can improve it, so yes” (doctor B; UMC).

As mentioned, nurses see positive and negative sides of teamwork. Although they think they learn from each other and that it is helpful that everyone is good at something else, it can sabotage innovation, because the whole department has to supportive to make it work. This can cause a problem for them:

“[...] that there are people who are more innovative than others. [...] But if you have a team from which the biggest part is not innovative, it does not work” (nurse E; UMC).

Also, there are so many nurses, that to come up with ideas, there are too many nurses to have meetings with all of them. Some departments use project groups to think of an innovative idea, so there are not too many people interfere. But most of the nurses think teamwork has a positive influence on innovation:

“so it is just very nice that you can supplement each other” (nurse C; UMC).

Another part of teamwork is that you can teach something from each other. More than 1 nurse mentioned that it was always nice to have someone new in the team, because they came with new insights. They were thought something different and always questioned why nurses did it the way they did it. This made the nurses also think about their routines.

“I notice that the moment there arrive some new colleagues, there is always a boost of ‘hey’. They see things differently. Then

they say, ‘with the previous we did it this and that way, can’t we do that here too?’” (nurse C, UMC).

In the interviews conducted with nurses, it seemed that the more innovative departments also used project groups. This way, it seemed that the departments which use project groups are more innovative. But it is not clear what is dependable and undependable. This could be an interesting thing to study.

4.2.4 Job rotation

Job rotation is hard to accomplish for a nurse, because they do not really divide tasks. Everyone does the same things, although they do have different tasks through the day. When asked about job rotation between departments, they all think it would be very motivating to be innovative, but there is no way to realize it.

“I don’t think we are flexible enough for that. [...] But it costs a lot of time, because you can’t work independently, because you just don’t know enough about the specialization. But it would be good for your knowledge” (nurse A; UMC).

The reason this is not realizable, is that the nurses do not know enough of the expertise of other departments. So when nurses would be exchanged, the department has a problem because of the nurse they come short. The working pressure is too high to be able to miss someone. Still, they were very positive about this idea, because it would give a chance to look how other departments do it and they could learn something from each other.

Doctors do have many different tasks and rotate in these tasks:

“So now, for example, I work at a department, but next week I have consults, so in people’s homes, or I am at the Emergency” (doctor A; UMC).

So in a way, they already have a job rotation. However, they also are not able to switch between departments because they are too specialized. There is also the problem that they work individually, so they would not be able to look at another doctor. But, as mentioned earlier, they do have multidisciplinary meetings, where they do teach from each other.

So in order to enhance innovation, nurses would like to have the ability to switch between departments, where doctors have enough job rotation to keep them innovative.

5. DISCUSSION

In the results, the answers of the nurses were compared with the answers of the doctors. This made clear that there are many differences between de needs in HRM practices to facilitate EDI of doctors and nurses.

5.1 Performance appraisal

From the interviews we know that performance appraisal is used in the hospital. Doctors and nurses agree that it helps them to be more innovative. However, it seems that there is a difference in how this appraisal should be applied.

Nurse A (UMC) perfectly confirms the research of Guzzo, Jettee and Katzell (1985), that feedback reveals the gap between what the employee is doing and what the company expects, which leads to innovation. This feedback comes from their supervisor. However, it became clear that because doctors do not have superiors, they get appraised by their colleagues. Overeem et al. (2011) recommended to use a colleague as a mentor. The problem with their idea, is that the doctors can only be appraised for the behavior that is known. And the direct colleagues are the colleagues that know best how a doctor is performing. This means that there is not yet an optimized way to appraise doctors, even though it facilitates EDI.

Also, goal setting seems to facilitate the EDI of doctors and nurses, if they are specific enough (Kleingeld, Mierloo & Arends, 2011). The doctors and nurses all emphasize the importance of a specific goal, but also that there should be resources available to reach these goals. Specifically the doctors emphasize the importance of the resources. It could be that doctors have more radical innovations which needs more resources than the innovations of nurses. However, it still is important to make sure the doctors have the feeling they can achieve their goals. If done properly, the institution can facilitate EDI of doctors.

Reward, but mainly recognition, is also an important part of facilitating EDI of doctors and nurses. Both occupational groups acknowledge the importance of reward and recognition, as supported by other research (ABU El-Ella, Stoetzel & Bessant, 2013; Danish & Usman, 2010). There is however a difference in how doctors and nurses like to receive the reward or recognition. First of all, as mentioned, none of the interviewees would be motivated by receiving money as a reward for innovation. And all the interviewees thought that recognition of a good job is really important in facilitating EDI. Some of the interviewees thought of it as being the most important motivation to be innovative. However, doctors thought that recognition from peers would be enough, where nurses would like to have the recognition of their supervisor. Also, when asked for a different kind of reward, the nurses were more positive about a tangible reward, such as being praised on the intranet or having a team trip. This fits with the research of Danish and Usman (2010) who stress the importance of a tangible reward. It is important for an healthcare institution to anticipate on this, to optimize EDI. It could be that the need for a tangible reward is the result of teamwork. Because they did it together, they like it when the whole team is rewarded. A tangible reward could make them extra proud for the team.

5.2 Training

Training is a much used tool in the hospital to gain knowledge, which leads, according to the doctors and nurses, to EDI. Most of the doctors and nurses do think it can motivate to be innovative. However, nurses are more occupied in arranging training for themselves than doctors are.

From the results, we find that, for the nurses, the research of Laplagne and Bensted (1999) and Darroch (2005) are right. Because nurses often have to treat patients with illnesses from other specialisms, they have to have a basic knowledge from those illnesses as well. For this they sometimes invite nurses from other departments to give a lecture about their specialism. This enhances the innovation, because they gain more and more knowledge (Darroch, 2005). But also the research of Koskinen and Vanharanta (2002) is in agreement with what the nurses said. First, the training given by nurses from other departments is utilized for the patients. And second, one nurse explained the importance of the knowledge he gained in a factory, that had nothing to do with the healthcare sector. As mentioned earlier, doctors are a little less active in being trained.

Doctors, however, do stress that they learn a lot from multidisciplinary meetings. This way they do learn a lot from their colleagues. They do however not need much training from other departments, because they treat patients only for their specialization.

5.3 Teamwork

Nurses already work in teams and think that it is making them more innovative. But they also see the downside of teamwork, since they need the whole team to be cooperative when they have something new. Doctors do work individually, but because of

meetings they have a kind of teamwork. This form of teamwork is said to be very good for innovation, since this is their way to correct, recognize and learn from each other. So although they have different types of teamwork, they both need it to be innovative.

Hirst and West (2003) mentioned the new knowledge from persons outside the team could be good for innovation. In a different way, but with the same outcome, according to the nurses, new colleagues can give you this knowledge, because they have a different perspective on things. They learned it differently. Also, because everyone is good in different things, colleagues can learn something from each other. Both agree with the research of Shipton et al. (2010) and Robbertson, Callinan and Bartram (2002).

Another interesting result is that it seems to be that the nurses who worked with project groups are more innovative than those who do not. This is in line with Hoegl and Parboteeah (2003), who say that teamwork can be even more effective combined with goal setting. In a project group, both are used. However, this correlation can also be reverse: because the nurses are more innovative, they are more motivated and that is why they work with project groups.

Doctors have multidisciplinary meetings, which agrees with all the found research, because it has different doctors, from different departments, that all have different knowledge. This way, you learn a lot from each other which leads to innovation. Doctors also have to cooperate with nurses, which is also a sort of teamwork.

5.4 Job rotation

It appears not to be possible for doctors and nurses to engage in job rotation, because of the work pressure. It is too costly for a healthcare institution to pay for all the extra manpower that would be needed. This is also what Huang (1999) mentioned. He also stresses the part of specialization in this costs. Since the jobs of doctors and nurses are very specialized, it could only be logical that the costs would get too high for a healthcare institution.

However, nurses do think it would be very beneficial to be able to rotate in jobs, because they could learn a lot from new colleagues (Triggs & King, 2000). Doctors however, already have a lot of different tasks in their job description, so they do not need it that much. And because of the multidisciplinary meetings of doctors, they do have a chance to learn how other doctors do their jobs.

Nurses however, do not know how other departments work. This means that to optimize EDI, nurses do need job rotation even though it is expensive and hard to realize.

5.5 Limitations and further research

5.5.1 Limitations

A limitation to this research is that 2 of the 4 doctors were doctors in training. Nonetheless they did have a fair amount of experience with working in a hospital. For further research, however, it would be better to find certificated doctors since their opinion could be different.

8 out of 9 interviews were from 1 hospital, which was an academic hospital and this could influence the bureaucratic environment. Also, with more hospitals, the outcomes would have been more reliable, because different hospitals work differently. I did however use different departments, to make sure the findings could not be assigned to one department. For further research, the generalizability would be improved if the interviews were taken over different hospitals.

There is a possibility that some employees told what they thought they should say, because it was recorded. For instance, they could find it not ethical to be motivated by PRP, so they say that it is not motivating. The interviews were taken anonymously to prevent the interviewee from holding back. It could be an option to not record the interviewees, but the outcomes could be less reliable, due to the inability to collect all data.

Besides that, the interviewees were assigned to me and (especially the nurses) could be assigned to me because of their innovativeness. For further research a random sample would be better, but changes are that it is not possible in a healthcare sector, due the work pressure.

Last, this research was only conducted in hospitals. Of course there are many more healthcare institutions, where the results can be different. For this paper it was not possible to extend to other healthcare institution, but it would be good for future research to research different kinds of healthcare institutions.

5.5.2 Further research

First, I think it would be very beneficial if this research was also conducted in different healthcare institutions. Doctors and nurses in a retirement homes can have a very different opinion, because their job description are not the same.

Second, I would like to mention the research of finding an alternative for the appraisal of doctors. It would be very beneficial when a method is researched where a doctor can be appraised without being appraised by his peers. For instance, why are the nurses not involved in the appraisal of the doctor? They are most involved in what doctors do.

Third, work pressure was a factor that was mentioned many times by doctors and nurses. It would be very interesting to know what impact it precisely has on EDI.

Last, it would be very interesting to gain more knowledge about the effect project groups have on EDI. It seems that the combination of teamwork and goal setting has a positive influence on EDI.

6. CONCLUSIONS

To answer my research question "*How can HRM practices be applied to doctors and nurses to facilitate EDI?*", I divide the answer in the different HRM practices.

In the HRM practice "performance appraisal" the feedback for the nurses should be from the supervisor the goals. With doctors, all these come from their colleague doctors. There should be a system to appraise doctors too. The reward and recognition for the nurses can come from colleagues, but they also need them from their supervisor or even from the institution. They also should be more rewarded with tangible, non-monetary, rewards, where the doctors just need the recognition from their colleagues and have no need for tangible rewards.

For the HRM practice "training", nurses need more access to interdepartmental training and train their processes, and this knowledge makes them more innovative. Where doctors learn a lot from each other in meetings and use other kinds of training, like research papers to be innovative.

For the HRM practice "teamwork", nurses rely on their teams, but also have to deal with them in order to implement an innovation. Project groups could be a good solution for these problems, they also facilitate EDI. Doctors have meetings where they learn from each other.

For the HRM practice "job rotation" it is almost impossible to implement it in the healthcare sector. However, nurses would really benefit from it to be more innovative, where doctors do not really need it and gain some knowledge from other departments through multidisciplinary meetings.

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8. APPENDIX

8.1 Interview questions

How long are you working at UMC Utrecht?

Do you think that innovation is important for the healthcare sector? And if you do, then why?

To what extent do you think are you and your co-workers innovative?

Does this innovative behaviour come from you or your manager?

What, do you think, is restrictive for you to be innovative?

What, do you think, is stimulating for you to be innovative?

When you are innovative, are you innovative in process or product? And which process or product?

To what extent, in your opinion, can training have an influence on your innovative behaviour?

To what extent, in your opinion, can rotation in tasks have an influence on your innovative behaviour?

To what extent, in your opinion, can teamwork have an influence on your innovative behaviour?

To what extent, in your opinion, can appraisal have an influence on your innovative behaviour?

To what extent, in your opinion, can mindless tasks, such as cleaning, have an influence on your innovative behaviour?

Do you think that there would be another way for the hospital to have an influence on your innovative behaviour? If you do, then what would that be?