



## Pilot Test of the Key Skills Management Approach in 8 French Hospitals

### Context

Perioperative nursing is a safety critical work area due to the complexity and time constraints of the operating environment. It is not possible to work safely without the need for standardized methods and smooth teamwork.

The Key Skill Management (KSM) approach allows managers to identify, evaluate, monitor and improve key professional practices of their staff. It is a method for developing quality work in security critical areas.

This approach has been introduced in operating rooms with the Key skills management in the Operating Room Nursing (KSMOR) project. It is a three years Erasmus+ project with seven European partners. KSMOR experimentation is a continuation of the KSM project and provided information on the key competences of perioperative nursing, and, of which management reduces adverse events.

KSMOR project aims are:

- To increase knowledge on how to develop the perioperative nursing know-how in order to secure the safe treatment of patients in changing technological and human environments;
- To promote self-evaluation of the expertise of nursing staff working in the operating room;
- To elaborate and validate a self-assessment form of operating room nurses' professional skills;
- To elaborate an online tool which supports the assessment;
- To disseminate the results to all the professional organizations of the participants country as well as in public and private training centers e.g. universities and hospitals;
- To evaluate of the impact of KSM approach on the process of an operating room.

The implementation of this approach in operating rooms has several goals:

- To have a skills mapping helping in the management of human resources which is adapted to operating rooms requirements and specificities;
- To identify experts in a field;
- To optimize the process of an operating room.

The experimentation of the KSM approach takes place in 8 French hospitals and in at least one hospital per each partner country.

This article presents the evaluation of the impact of KSM approach on the process of an operating room in 8 French hospitals.



Co-funded by the  
Erasmus+ Programme  
of the European Union

KSMOR – Key Skill Management in Operating Room | Programme:  
Erasmus+ (2016-1-FR01-KA202-023948). This project has been funded with  
support from the European Commission. This publication reflects the views  
only of the author, and the Commission cannot be held responsible for any  
use which may be made of the information contained therein.



## Experimentation of the KSM approach in 8 French hospitals

The purpose of the experimentation is to test and to evaluate the KSM approach on the operating room's process. This problematic raises three questions:

- Is the KSM approach practical?
- What is the usability and the relevance of the tools?
- What are the impacts on the organization?

The main goals of hospitals included in the experimentation are the integration of new nurses and skills' improvement. Their motivations are the important turnover and the lack of tools.

## II. Method

### Study design

The experimentation of the KSM approach is taking place in eight French hospitals. It started in 2017 and has been carried out until 2019. One hospital left the pilot test in April 2018 due to lack of staff resources. On the whole about ten implementation meetings by hospitals with an independent contractor were planned. Each hospital spread out the key skill management approach at its own pace. The management of the institutions gave their agreement for the experimentation and several professionals are invested (Direction team, management of care, human resources, management of quality and training service). The approach is implemented by Head Operating Room Nurses (HORN) and Operating Room Nurses (ORN). Project leaders are Head Operating Room Nurses (HORN).

Hospitals	Blocs involved	Operating rooms	ORN involved
4 Universitary Hospitals	23	100	80
2 Local Hospitals	4	13	35
2 Private Hospitals	4	16	35

Table 1 : involved hospitals

### Data source

Data sources for the evaluation have been collected using online surveys and interviews:

- Four implementation interviews with project leaders;
- One directed questionnaires completed by project leaders;
- Online satisfaction surveys sent at each participant after each implementation meetings;



- Three online implementation questionnaires completed by project leaders.

Surveys and interviews consisted of closed and open questions and possibilities to add comments.

### Data processing and analysis

With this data, quantitative and qualitative analysis were carried out with the aim to assess the feasibility, the impact and the satisfaction of the Key Skill Management approach in Operating rooms.

## III. Results: evaluation of KSM approach in operating rooms

### Feasibility

#### Acceptability

There are a good overall acceptability of the approach by ORN, HORN, and direction. It's in progress by surgeons. Furthermore some surgeons are worried because of the large ORN turnover, so this approach could secure skills in operating rooms.

The experimentation had the full support of direction and HORN but some of them were worried about time needed. On the whole, the project had a good reception by ORN, who were invested and motivated by the experimentation. Particularly, this tool is a support, and useful for new nurses' skills assessment but it can be tedious for more experimented nurses. For these ones, it brings an evaluation and a questioning but that can be beneficial.

For HORN, it is perceived as a tool management. For ORN it is perceived as a support for assessment and valorization of skills which help to identify training and deepening of knowledge needs.

#### Applicability

Interviews highlighted that 57% of project leaders found KSM approach easy to use and 29% quite easy (n=7).

Among 141 respondents (staff who assisted at implementation meetings) at the online satisfaction survey, 33 % think that tools and methodology are practical and 64 % partially agree with that.

Most hospitals had to adapt the tools (multiskills table and monitoring form) however the results suggest a good applicability of KSM approach in operating rooms (figure 2). Moreover one hundred percent of respondents want to keep using the KSM approach in the long-term (n=7) and extend it to the whole operating rooms (n=6).

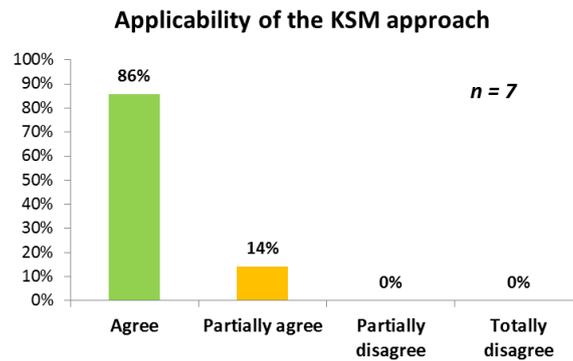


Figure 1 : applicability of the KSM approach

### Difficulties encountered

During the experimentation, the project leaders had to answer three online surveys about the implementation. Out of twenty one respondents sixty two percent 62% ( $n = 13$ ) reported having difficulties with the KSM approach. About one third of respondents have met organizational difficulties and difficulties related to lack of staff involvement. Nearly all respondents have met resource difficulties. It can be attributed to a lack of human resources, a lack of equipment or a lack of time.

### Barriers and promoters

The main barriers to implement the approach are the lack of dedicated time with an important workload, the lack of dedicated staff and the length of multiskills table.

To overcome these difficulties, several promoters were quoted like have external support, present approach during the operating room board meetings and the support provided by the Direction.

According to the evaluation it's very important to make time and to dedicate staff to successfully implement the KSM approach.

### Impacts

#### Indicators in operating rooms

The project leaders ( $n=7$ ) have been interviewed about their perception of the decrease of several indicators: overflow rate and human resources rates: turn over, absenteeism and temporary workers. On the whole, most of respondents didn't observe a significant impact on these indicators.

These indicators have also been collected from 2016 to 2019 and basically, the analysis of these indicators didn't show any significant impact. It is consistent with the perception of project leaders.

### Operating room functioning

Half ( $n=3$ ) of project leaders observed an improvement in operating room functioning.



### Skill's management

The implementation of the KSM approach has justified training time and allowed the development of a training plan in 86 % of hospitals (figure 3). On the whole, hospitals don't hire nurses which specific expertise in fields where lack of expertise have been identified. One hundred percent of hospitals have changed their welcome procedure (figure 4).

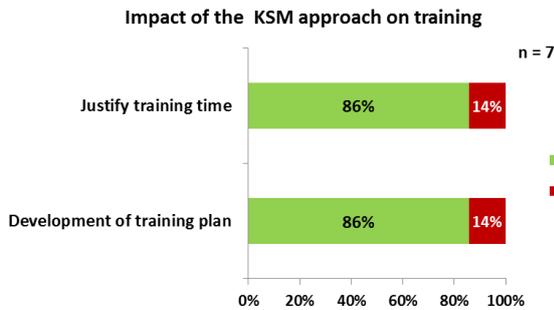


Figure 2 : Impact of the KSM approach on training

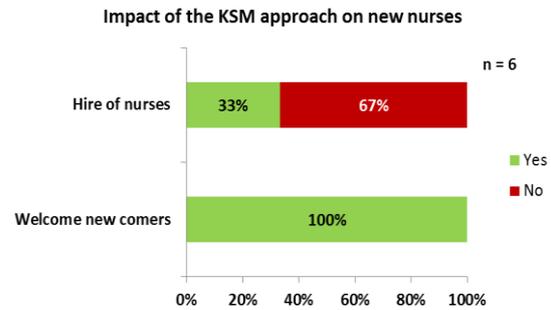


Figure 3 : impact of the KSM approach on new nurses

The KSM approach tools are relevant regarding three aspects (figure 5) and therefore useful for skills management:

- 86% of hospitals use the tools to adapt competences to a surgery if an operating room nurse is absent;
- 70 % of hospitals use the tools to adapt competences to emergency surgeries;
- 71% of hospitals use the tools to make operating room nurses's provisional schedules.

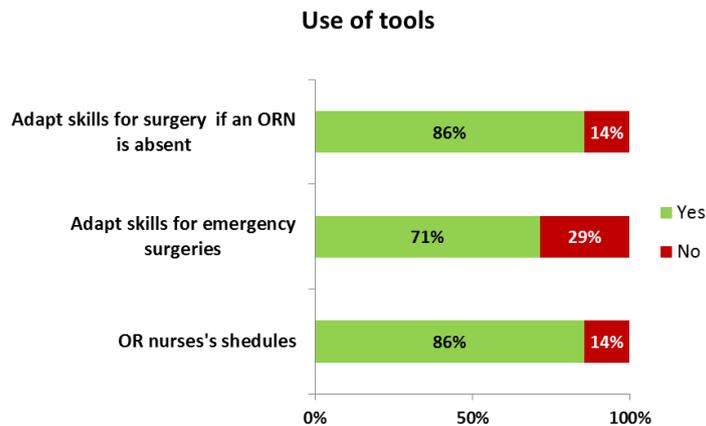


Figure 4 : use of tools

### Satisfaction

### Implementation meetings



Co-funded by the Erasmus+ Programme of the European Union

KSMOR – Key Skill Management in Operating Room | Programme: Erasmus+ (2016-1-FR01-KA202-023948). This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



The global satisfaction has been assessed throughout the implementation for all hospitals. From the implementation's beginning (2017) to February 2019, there were 44 implementations meeting in 8 hospitals (7 since April 2018). After each implementation meeting each participant received an online satisfaction surveys (141 respondents, average of response rate = 42 %).

On the whole there was good satisfaction level as to the implementation meetings. The majority of respondents was satisfied or very satisfied with the general organization of the training. Similarly, the clearness of the method's presentation was satisfactory or very satisfactory for nearly all respondents. Participants graded their global satisfaction (n=139) with an average of 7,9/10 with 4/10 as minimum and 10/10 as maximum.

## IV. Discussion

### Feasibility

These results are promising regarding the applicability of the approach in operating rooms. Also, some hospitals would like to extend the KSM approach to other fields like human resource or anesthetist nurses. Nevertheless, according to respondents and project leaders, it's important to provide an external support in order for the KSM approach implementation to be successful.

The management must be invested and involved to make the project live.

### Impact

We can observe a positive impact of the KSM approach on the integration of new nurses, on training time and on the development of a training plan. So, these results suggest the experimentation responds to the main goals of hospitals included which were integration of new nurses and skills' improvement.

Usefulness of tools for skills management could be highlighted at three levels, to adapt skills for surgery if an ORN is absent, to adapt skills for emergency surgeries and to make the provisional schedules of ORN.

### Operating room indicators

It can be assumed that it is too early to observe an impact and to draw a conclusion with indicators collected (overflow rate, turnover rate, absenteeism rate and temporary worker rate). Firstly, we had partial indicator data because some hospitals transmitted incomplete data. Secondly, other parameters can also have an impact on these indicators. It would be interesting to include them into the analysis. Thirdly the KSM approach has been gradually implemented since 2017 and the level of implementation can be different depending on hospitals. Fourthly, we lack time perspective.



Co-funded by the  
Erasmus+ Programme  
of the European Union

KSMOR – Key Skill Management in Operating Room | Programme:  
Erasmus+ (2016-1-FR01-KA202-023948). This project has been funded with  
support from the European Commission. This publication reflects the views  
only of the author, and the Commission cannot be held responsible for any  
use which may be made of the information contained therein.



Nevertheless, we think these indicators can be interesting but it is too early to see an impact of the KSM approach on them and to draw a conclusion with these indicators. They require time perspective to observe their evolution.

### Limitations

We recognize several limitations to our study. Firstly, the number of hospitals which contributed to the experimentation forms a limited sample. Consequently, our results are not representative. Moreover, there were several types of hospitals: university, local and private which can have different organizations. Nevertheless, similar observations suggesting that the KSM approach is promising despite the type of hospital. Each hospital could adapt the approach at his organization. Secondly, each hospital spread out the key skill management approach at its own pace so time perspective could better measure and evaluate impacts.

### V. Conclusion

In conclusion, the hospitals included in the experimentation have reached their goals in terms of integration of new nurses and skills' improvement. They are pleased with the KSM approach. Optimizing the organization in OR and optimizing the individual and collective skills management could bring two sorts of benefits which are reducing the adverse events and improving the quality of life at work.

It is very essential to have dedicated time to implement the KSM approach. The implementation is gradual and could require adaptation of tools according to its own organization.

Adopt the KSM approach is a significant investment (time) for the implementation but this leads to positive impacts in operating room and a substantial benefit for staff and OR organization.

Although results need to be sustained to be meaningful, early observations and perceptions have been very positive.



Co-funded by the  
Erasmus+ Programme  
of the European Union

KSMOR – Key Skill Management in Operating Room | Programme:  
Erasmus+ (2016-1-FR01-KA202-023948). This project has been funded with  
support from the European Commission. This publication reflects the views  
only of the author, and the Commission cannot be held responsible for any  
use which may be made of the information contained therein.