

▶ The Impact of LEAN in a PET Department

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One of the particularly meaningful missions of our department is to provide and maintain optimal care for our patients and give them an excellent experience of PET/CT scanning. We strive to not analyze this process, thus ensuring the wellbeing of the patient and the staff. The demands on our clinical department have, however, been increasing over the last few years and we have chosen to evaluate our busy department practices by using LEAN principles. LEAN is a very valuable and widespread tool within our department. The process consists of, first, identifying and second, changing inefficient or ineffective working practices. The implementation of LEAN benefits both our patients and the staff by creating a positive environment, where we still maintain a high quality standard of care for the patient, satisfying workplace for the staff, and general cost reductions due to more efficient workflows. LEAN principles are a simple matter of cultural changes and our department has easily adopted this new way of thinking, acting and working. These positive changes continually motivate the staff to appreciate the value of *working smarter*. By saving time and energy we can improve turnaround, where less efficient routines are changed into better workflows. Going LEAN has at least two beneficial aspects: the effect of maximizing cost reduction but also a better and smarter way of performing routine procedures. The concept of LEAN is definitely not only applicable for the automotive industry, but also for the improvement of any modern healthcare facility. It's power and impact have already been proven by Nuclear Medicine departments in

Denmark and other Scandinavian countries. The ultimate purpose of introducing LEAN in our department was to maximize the clinical value of the examination for the patient and at the same time to reduce waste of resources by ineffective time management. In standard LEAN practice every minute is utilized, but in Nuclear Medicine we do not consider that to be a realistic goal since our customer/product is the patient, and the patient is often very unpredictable. In many cases, interactions with patients lead to unexpected time consuming situations and here following LEAN principles become a challenge that leads to improvisation and replanning of routines.

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The introduction of LEAN:

Our department established a team consisting of employees from every professional group in order to make a realistic map of the workflows. Furthermore, a LEAN consultant participated as an observer analyzing our work routines and following us throughout our daily tasks. The staff was afterwards interviewed and asked to answer questionnaires which all together led to an implementation plan for our department.

- a- Some of the most remarkable outcomes:
- b- Secretaries book patients to arrive 15 min earlier than previously.
- c- First booking of the day is a "double booking" which means a whole body and brain examination patients arrive at the same time.
- d- Patients receive a questionnaire with their information letter by mail.
- e- FDG is prepared and loaded into a fully automatic injector prior to release so it is ready for infusion.
- f- Oral contrast is placed next to the patients before giving FDG injection. The patient is asked to drink the contrast while resting.

Furthermore, we introduced a weekly LEAN board meeting where everyone is standing. At this meeting all professionals have the opportunity and possibility to present any kind of clinical proposals and solutions related to daily practice. We have for instance been given synchronized tablets for each scanner in order to save time when searching for examination protocols, tracer release time, mutual appointments or patient transport follow-up. Many new actions have been established since LEAN was introduced to our department. It took some time changing old behaviors and some ideas appeared to be silly in the beginning, but eventually many of the ideas turned out to be very useful and efficient. The adoption of LEAN is the adoption of a new work culture and this has resulted in an improved workflow and a better experience for the patient. We are a group of professionals, who have become even more creative and better to support each other. We appreciate the value of LEAN and we have mutually made it to become a success. We have changed our mindset in many ways, even though it was not easy in the beginning.

References:

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