# Article information:

Use of Lean Six Sigma methodology shows reduction of inpatient waiting time for peripherally inserted central catheter placement - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S0009926019302193>

# Article summary:

1. Lean Six Sigma methodology was used to analyze the workflow process for inpatient PICC placement and reduce unnecessary steps and variation.

2. The mean TAT for PICC line placement was reduced from 3.74 days to 1.89 days six months after implementation of changes, and this reduction was sustained at the two-year follow-up point.

3. The reduction in TAT was achieved without additional resources and despite a 13.8% increase in overall interventional radiological activity.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "Use of Lean Six Sigma methodology shows reduction of inpatient waiting time for peripherally inserted central catheter placement" presents a study that aimed to assess the impact of Lean Six Sigma application on waiting times for inpatient PICC placement in a tertiary referral hospital. The study used value stream mapping to analyze the workflow process for inpatient PICC placement and to divide it into its component parts. Unnecessary steps were eliminated, and variation minimized in the remaining processes.

The article provides a detailed account of the study's methodology, results, and conclusions. The authors report that prior to implementing changes, the mean TAT for PICC line placement was 3.74±3.28 days, which was reduced to 1.89±1.82 days six months after implementation and sustained at 1.88±1.87 days two years post-implementation despite a 13.8% increase in overall interventional radiological activity.

While the study's findings are significant, there are some potential biases and limitations that need to be considered when interpreting the results. Firstly, the study was conducted in a single hospital setting, which may limit its generalizability to other healthcare settings with different patient populations and resource constraints.

Secondly, while the authors report a significant reduction in TAT following implementation of Lean Six Sigma methodology, they do not provide any information on whether this improvement translated into better patient outcomes or cost savings for the hospital.

Thirdly, while the authors state that no additional resources were utilized during implementation of Lean Six Sigma methodology, they do not provide any information on whether there were any costs associated with training staff or implementing new processes.

Finally, while the authors acknowledge that Lean Six Sigma has its origins in industry and has been applied successfully to several aspects of healthcare delivery, they do not explore any potential criticisms or limitations of this approach.

In conclusion, while this study provides evidence that Lean Six Sigma methodology can be effective in reducing waiting times for inpatient PICC placement, it is important to consider the potential biases and limitations of the study when interpreting its findings. Further research is needed to determine whether this approach can be applied successfully in other healthcare settings and whether it translates into better patient outcomes or cost savings for hospitals.

# Topics for further research:

* Criticisms of Lean Six Sigma methodology in healthcare
* Patient outcomes and cost savings associated with reduced waiting times for PICC placement
* Implementation costs of Lean Six Sigma methodology in healthcare settings
* Generalizability of Lean Six Sigma methodology to different healthcare settings
* Impact of Lean Six Sigma methodology on other aspects of healthcare delivery
* Comparison of Lean Six Sigma methodology to other quality improvement approaches in healthcare

# Report location:

<https://www.fullpicture.app/item/32f3709f69d4eb38520a06c171d3df3b>