

# “PEER LEARNING ULTRASOUND”: THE EXPERIENCE IN A TWO-MILLION EXAMS PER YEAR SERVICE

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# PURPOSE

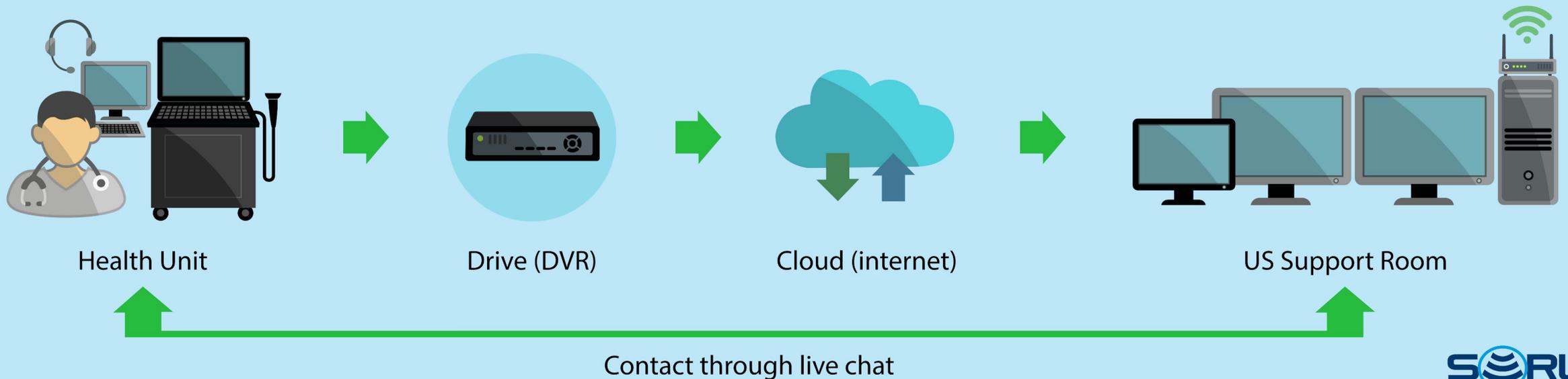
- The concept of Peer Review in radiology is a well-established practice for medical quality control.
- The concept's adaptation to ultrasonography practice has been the object of multiple previous papers, however, the use of tele-ultrasonography in real time has never been applied to this purpose.

**The aim of our work is to evaluate the use of "Peer Learning" in real time to improve medical performance in a large-scale service.**

# 2

## METHODS

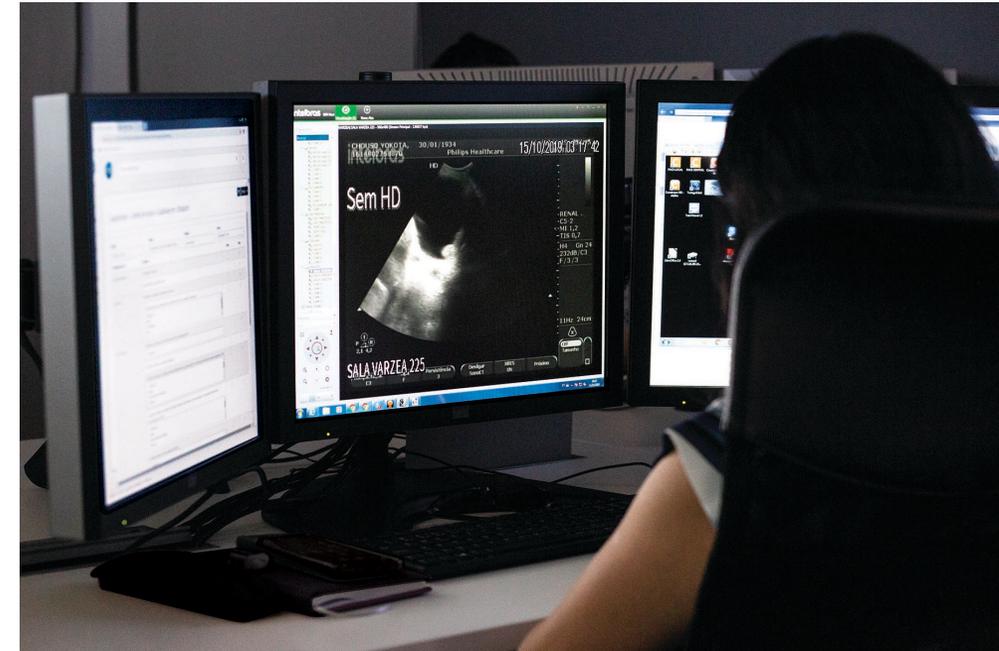
- Expert physicians are physically present at an Ultrasound Support Room, where they monitor the execution of both imaging study and its medical report, which are being performed remotely by local physicians in health units.



# 2

## METHODS

- The imaging studies and the medical reports are transmitted in real time from the local health unit to the practitioners based at the Support Room.
- The contact between local and remote physicians is done by live chat, at any time and in real time.



**It is a two-way mechanism, through which the evaluator uses communication tools to intervene when an error that could compromise clinical conduct is detected, and the evaluated physician requests support at any time if doubts arise.**

# 2

## METHODS

- A comprehensive **quality evaluation form** was developed, addressing every kind of ultrasound examination, which the evaluator must fill out during the monitored study.
- According to the questions marked in the evaluation form, an automated score is provided, which **classifies the imaging study into five categories**:  
1- Excellent; 2- Appropriate; 3- Satisfactory; 4- Unsatisfactory; 5- Unsuitable



- The data are **automatically loaded into a Business Intelligence dashboard** that we review in a regular basis, in order to give support and to evaluate the main errors performed in each type of ultrasound study, by doctor and by location, over time.

# 2

## METHODS

- We established a **quality goal set at 80%** in the sum of the percentage of imaging studies evaluated as **excellent, appropriate and satisfactory**.
- In September 2019, **10 out of the 197 evaluated practitioners** in this period performed **below the 80% goal**.
- We produced **14 short videos** (“pills of knowledge”), containing lessons based on frequent errors observed, and made them available to the whole medical team.
- We also introduced **medical mentoring**, with **longitudinal monitoring of these ten physicians, for three months**.

# 3 RESULTS

## SEPTEMBER 2019

## OCTOBER 2019

## NOVEMBER 2019

## DECEMBER 2019

Total of evaluated US studies: 527

Σ Satisfactory,  
Appropriate, Excellent

**61,29%**

Unsatisfactory

**20,87%**

Unsuitable

**17,84%**

Excellent

**85**

Appropriate

**80**

Satisfactory

**158**

Unsatisfactory

**110**

Unsuitable

**94**

Total of evaluated US studies: 703

Σ Satisfactory,  
Appropriate, Excellent

**78,24%**

Unsatisfactory

**13,80%**

Unsuitable

**7,97%**

Excellent

**227**

Appropriate

**65**

Satisfactory

**258**

Unsatisfactory

**97**

Unsuitable

**56**

Total of evaluated US studies: 514

Σ Satisfactory,  
Appropriate, Excellent

**72,37%**

Unsatisfactory

**22,37%**

Unsuitable

**5,25%**

Excellent

**155**

Appropriate

**43**

Satisfactory

**174**

Unsatisfactory

**115**

Unsuitable

**27**

Total of evaluated US studies: 465

Σ Satisfactory,  
Appropriate, Excellent

**76,56%**

Unsatisfactory

**19,35%**

Unsuitable

**4,09%**

Excellent

**166**

Appropriate

**33**

Satisfactory

**157**

Unsatisfactory

**90**

Unsuitable

**19**

Total of US studies performed by the  
health units monitored by the service

**5.444**

% of evaluated US studies from the  
total performed

**9,68%**

Total of US studies performed by the  
health units monitored by the service

**5.593**

% of evaluated US studies from the  
total performed

**12,57%**

Total of US studies performed by the  
health units monitored by the service

**4.545**

% of evaluated US studies from the  
total performed

**11,31%**

Total of US studies performed by the  
health units monitored by the service

**3.251**

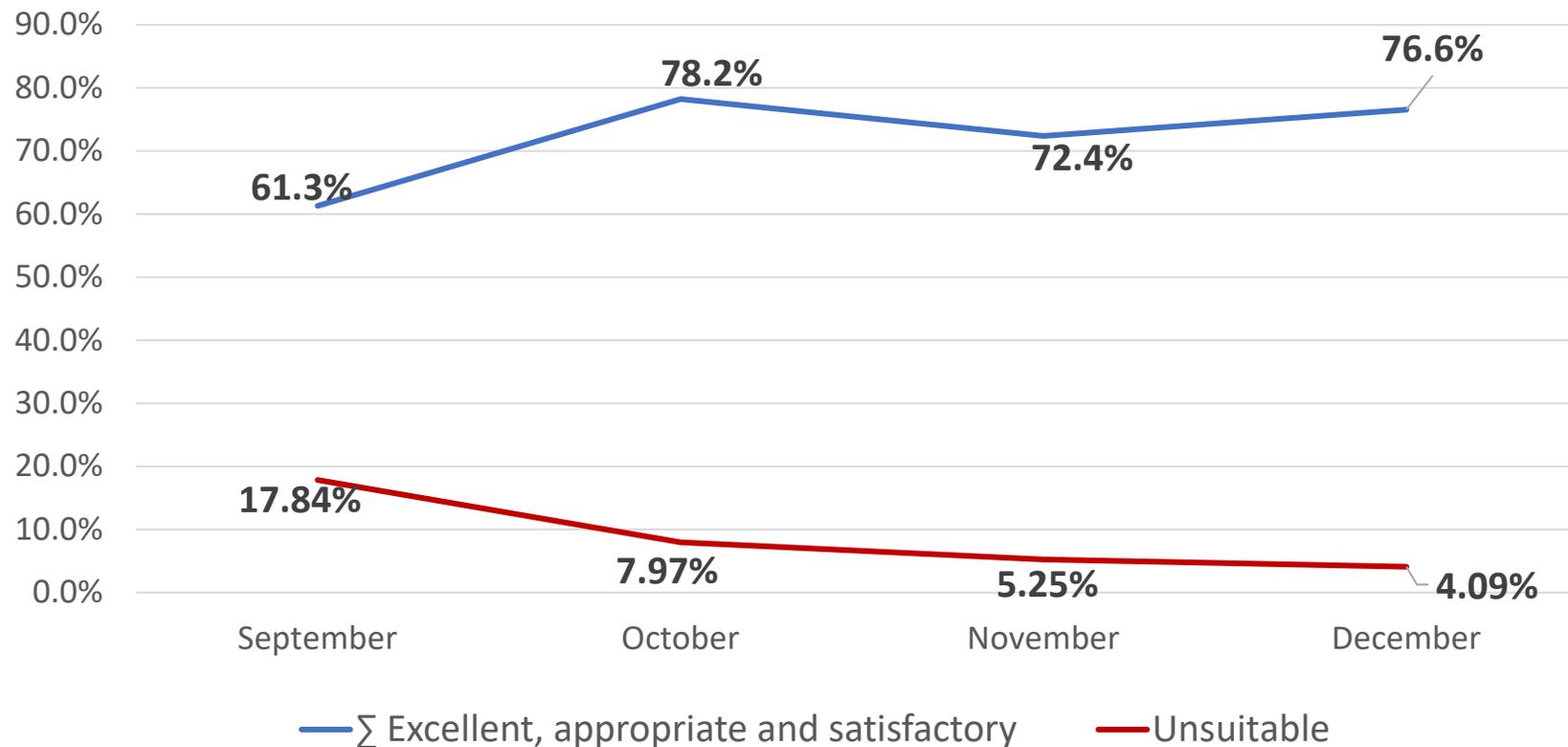
% of evaluated US studies from the  
total performed

**14,30%**

*Average performance of the 10 physicians evaluated below the goal of 80% in the sum of the percentage of excellent, appropriate and satisfactory imaging studies (total of 10 physicians)*

# 3 RESULTS

- There was a **significant progressive reduction** in the indicator of **unsuitable studies**, from **17.84%** in **September** to **4.09%** in **December 2019**:



# 4 CONCLUSION

The evolution of “**Peer Learning Ultrasound**” in real time, with the adoption of **medical mentoring** to discuss the main reasons for errors, associated with the production of **short video content**, proved to be an effective methodology to **improve medical performance with consequent improvement in the quality of ultrasound reports.**



**THANK YOU!**

**For questions or comments, please contact:  
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