SELF-OPERATED HOME ULTRASOUND AND REMOTE EXPERTS REVIEW – REALLIFE DATA RESULTS

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OBJECTIVE

Self-operated remote ultrasound is an innovative unmet need. Recently, Israel's Clalit Health Services launched a service for remote fetal ultrasound (Pulsenmore, Israel) enabling pregnant women to perform a home self-scan reviewed, in real-time or asynchronously, for 3 variables: fetal pulse, movements and amniotic fluid volume. We evaluated the service's performance, adequacy of scans and the offline remote interpretation.

METHODS

Retrospective review of all self-performed scans between 4/2020 to 3/2022. Ultrasound scanning and interpretation variables were analyzed, including scan adequacy, types of results and recommendations provided following scan review.

RESULTS

Of 20,153 scans, 98.4% were classified as "adequate" - i.e., ultrasound professional was able to identify all 3 designated parameters. Adequate scans considered either "normal" (all 3 parameters were normal) or "abnormal" (if one parameter was abnormal). Following a first adequate scan, 95.3% were normal and 3.1% abnormal. For all abnormal or inadequate scans, women were guided to either repeat the scan (2.47%) or refer to an in-clinic scan (2.23%). This resulted in additional 1.78% normal scans, leading to a total of 97.08% scans considered normal.

CONCLUSION

This novel tele-ultrasound solution reliably enables pregnant women to self-perform fetal ultrasound. Scans are of sufficient quality to enable remote interpretation and provide feedback that potentially reduces maternal anxiety, provides clinical reassurance and in the future may enable remote antenatal care.
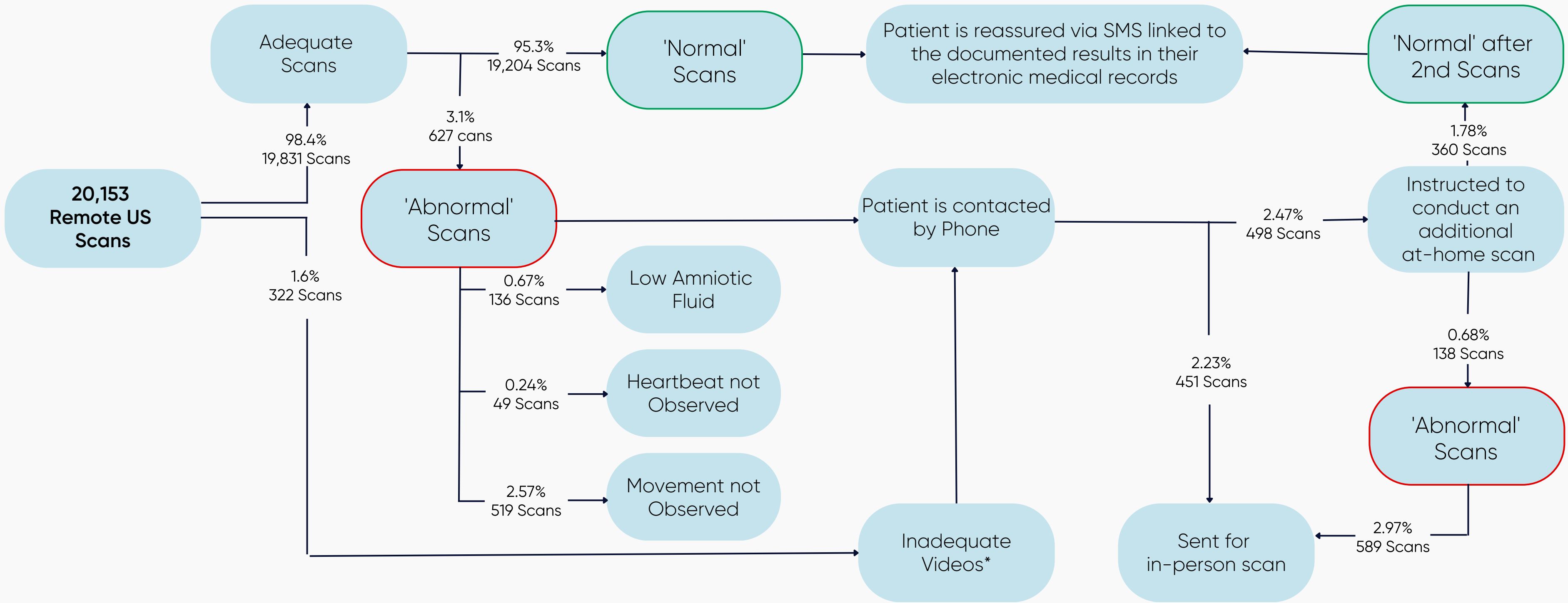
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REAL LIFE DATA , APRIL 2021–MARCH 2022

97.08% 19,564 Scans

20,153 Remote US Scans

98.4% 19,831 Scans → Adequate Scans

1.6% 322 Scans

Adequate Scans → 95.3% 19,204 Scans → 'Normal' Scans

3.1% 627 cans → 'Abnormal' Scans

'Normal' Scans → Patient is reassured via SMS linked to the documented results in their electronic medical records

'Normal' after 2nd Scans → Patient is reassured via SMS linked to the documented results in their electronic medical records

1.78% 360 Scans

'Abnormal' Scans → Patient is contacted by Phone

0.67% 136 Scans → Low Amniotic Fluid

0.24% 49 Scans → Heartbeat not Observed

2.57% 519 Scans → Movement not Observed

Patient is contacted by Phone → 2.47% 498 Scans → Instructed to conduct an additional at-home scan

Patient is contacted by Phone → 2.23% 451 Scans → Sent for in-person scan

Instructed to conduct an additional at-home scan → 1.78% 360 Scans → 'Normal' after 2nd Scans

Instructed to conduct an additional at-home scan → 0.68% 138 Scans → 'Abnormal' Scans

'Abnormal' Scans → 2.97% 589 Scans → Sent for in-person scan

Inadequate Videos*

* Not possible to review the results