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Quality improvement project: Increasing video consultation utilization for paediatric respiratory patients post pandemic

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Introduction

It is an internationally observed trend that video consultations (VC) peaked during the COVID pandemic in 2020 [1] before decreasing in 2021. A similar trend was observed for the VC service initiated in April 2020 for outpatient respiratory patients at a tertiary paediatric hospital in Singapore. As pandemic restrictions eased in 2021, VC utilization rate declined. However, overall post pandemic outpatient load and demand had increased [2]. There was a need to increase VC utilization to pivot towards a sustainable hybrid patient care model [3].

Method

Data on VCs conducted between April 2020 and March 2024, for children with respiratory conditions such as asthma, obstructive sleep apnea and allergic rhinitis was collected. Analysis of the human, environmental and process factors inhibiting the take up of VCs by both patients and providers were addressed (Figure 1). Issues arising from appointment booking, medication delivery, payment, network connectivity, screen sharing of test results and patient eligibility were addressed amongst stakeholders to enhance healthcare provision. Service improvements were relayed to healthcare providers via focused group meetings. Measures (detailed in orange ovals of Figure 1) were implemented after conducting systematic Plan, Do, Study, Act (PDSA) cycles.

The measures instrumental in building the momentum for VC utilization are grouped into 4 **"E"**s as follows:

i) **E**ducating healthcare practitioners on tele-care provision
ii) **E**mpowering patients and families towards hybrid care
iii) **E**mbedding VCs into routine care
iv) Digital **E**cosystem enhancements

Results

595 video consultation visits were actualized from the time respiratory VC services were initiated in April 2020 to March 2024. The annual median % VC utilization rate over each year from April 2021 to March 2024 was obtained to measure the effect of improvements made to enhance VC utilization. The monthly % VC utilization rate was calculated from actualized VC visits over total number of available VC slots per month. A run chart showing monthly VC utilization rates demonstrated a steady increase in annual median VC utilization from 33.2% to 54.2% over 3 years (Figure 2). There was sustained improvement in VC utilization above the annual median rate from December 2023 to March 2024.

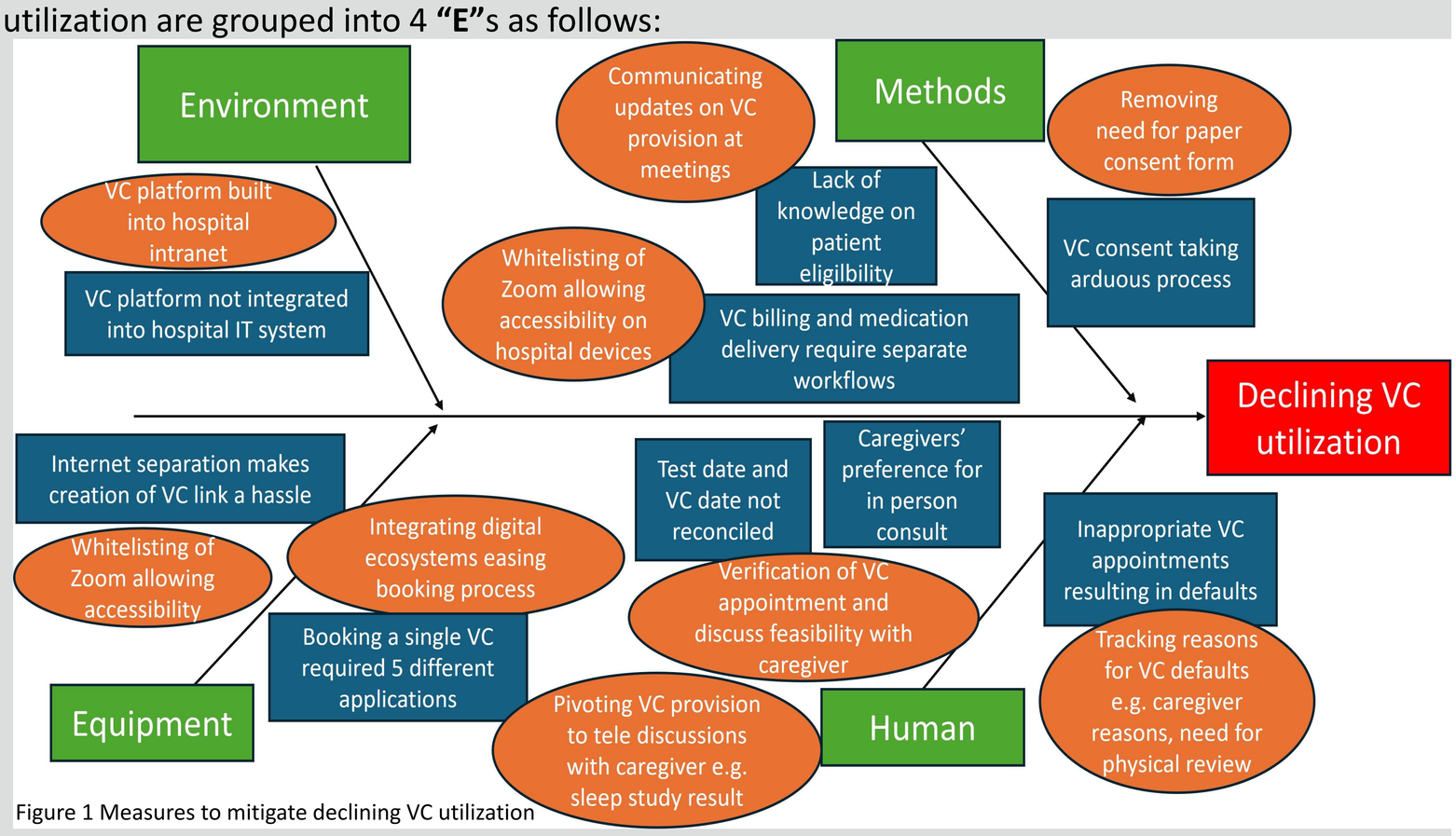

Figure 1 Measures to mitigate declining VC utilization

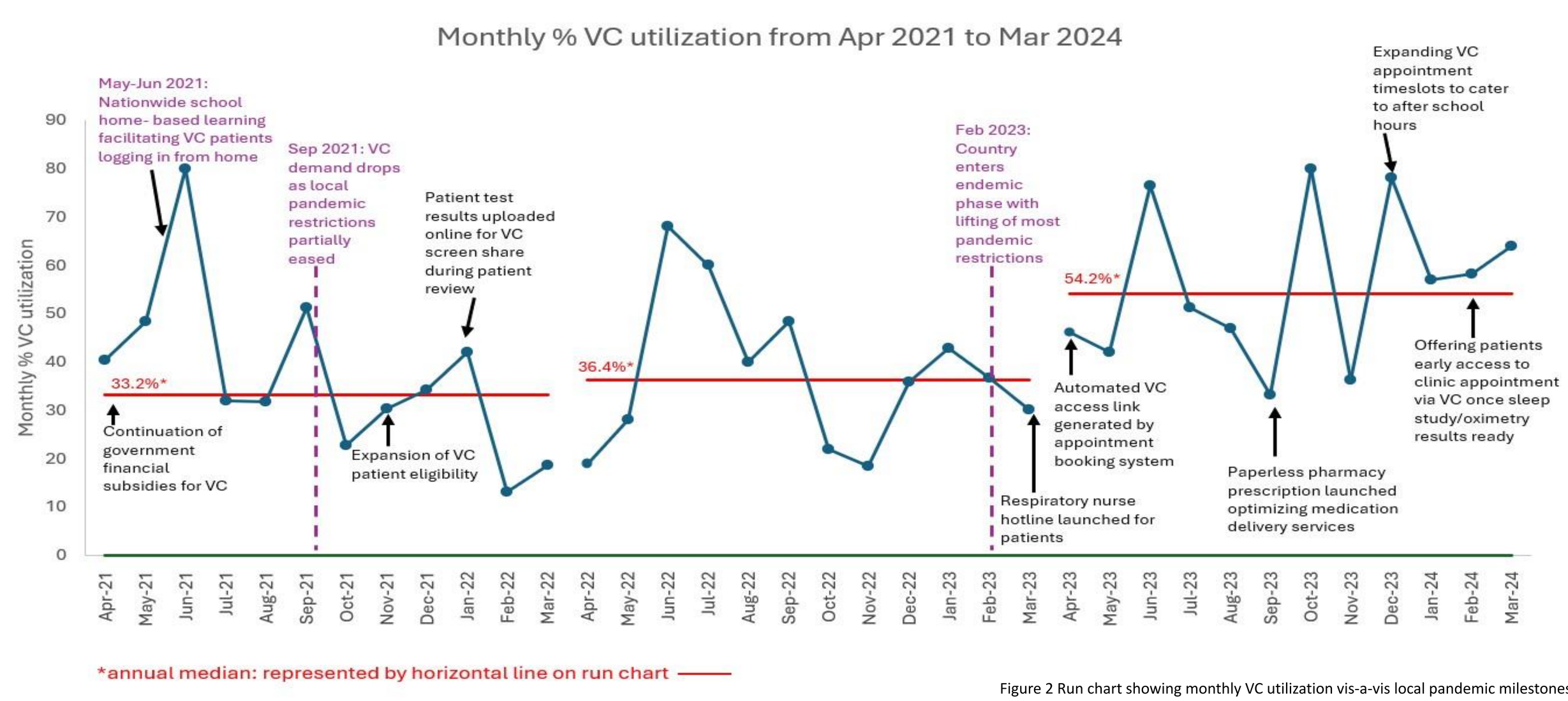

Figure 2 Run chart showing monthly VC utilization vis-a-vis local pandemic milestones

Conclusion

The continued increase in annual median VC utilization progresses in tandem with medication delivery services, remote monitoring of chronic diseases and enhancing patient access to healthcare tele-providers and systems. The improved VC utilization post pandemic through the 4 "E"s demonstrate how patient and provider collaboration can provide the momentum for continued expansion of paediatric respiratory teleconsultation services.

References

[1] Thomas E, Haydon H, Smith A, et al. (2020) Building on the momentum: Sustaining telehealth beyond Covid-19. Journal of Telemedicine and Telecare
[2] Bongiorno D, Ravicz M, Nadeau N, et al. (2024) Pediatric capacity crisis: A framework and strategies to prepare for a pediatric surge. Journal of the American College of Emergency Physicians Open
[3] Morrison C, Beattie M, Wherton J, et al. (2021) Testing and implementing video consulting for outpatient appointments using quality improvement system thinking and codesign principles. BMJ Open Quality