

Self-Reported Confidence in Cytokine Release Syndrome (CRS) at Cabrini Hospital

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INTRODUCTION

- Cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS) are potentially life-threatening complications** of bispecific T-cell engagers and are characterised by fever, hypotension, hypoxia and cognitive impairment with potential for multiorgan dysfunction. (1)
- Early recognition and treatment are critical.** American Society for Transplantation and Cellular Therapy (ASTCT) criteria standardise CRS and ICANS grading. Timely tocilizumab ± corticosteroids may prevent progression to severe toxicity. (1,2)
- CRS may present across multiple clinical settings**, requiring consistent recognition, grading and escalation across multidisciplinary teams.
- Education should be targeted and role-specific.** Tailored, competency-focused training may better support staff managing bispecific toxicities than generic one-off education (3-5)
- Staff confidence in managing CRS has not been established at Cabrini. A local CRS management protocol was released in May 2025 to support staff in recognising, grading and managing CRS

AIM

- To evaluate healthcare professionals' confidence in recognising, grading and managing cytokine release syndrome (CRS), and to identify knowledge gaps and preferred educational strategies.

METHODS

Figure 1. Method flow diagram outlining survey development, participant recruitment, responses received and data analysis.

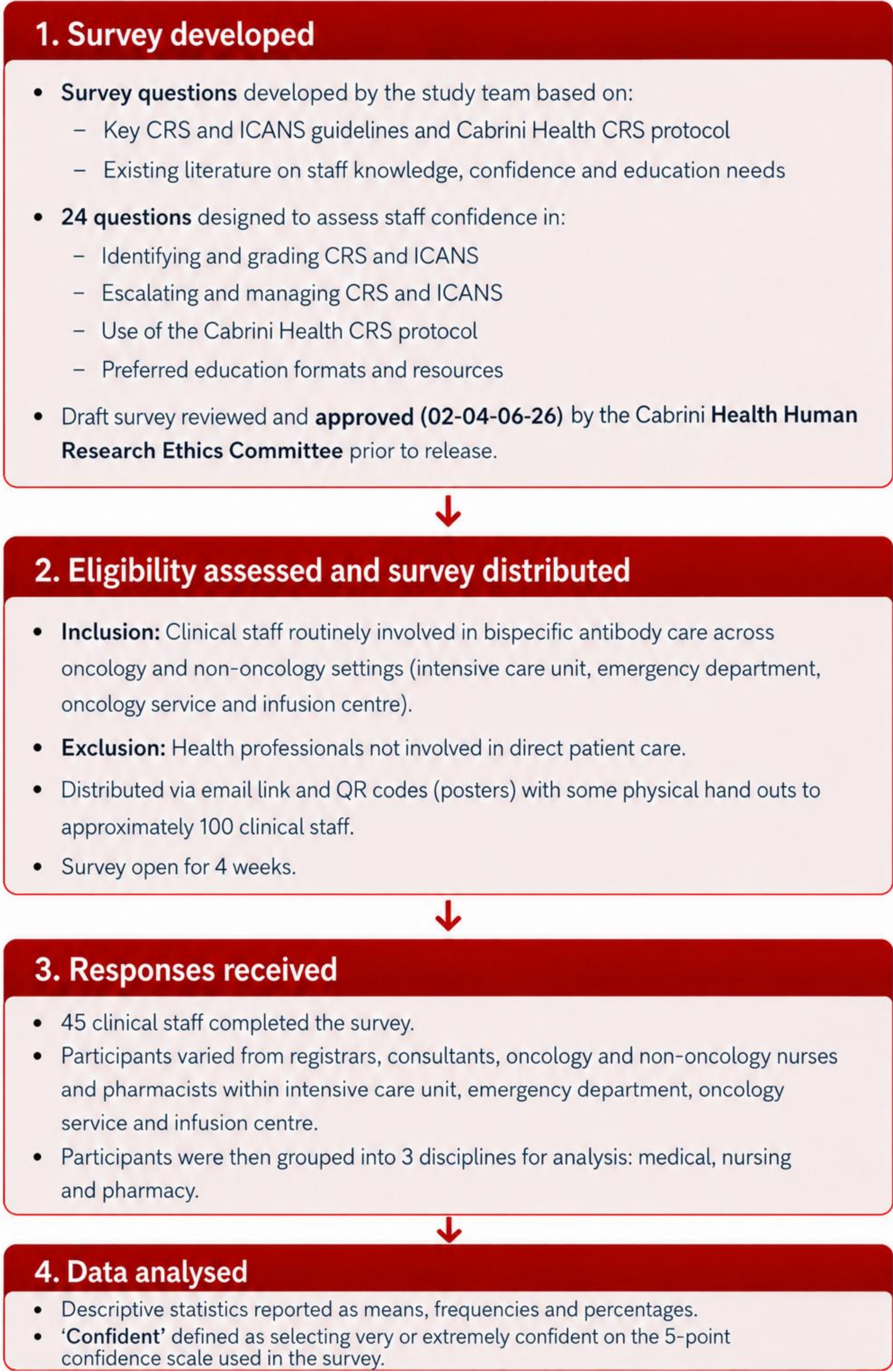


Figure 3. Self-efficacy in the recognition, grading and management of CRS

Percentage of health professionals who are very or extremely confident (%)

RECOGNITION OF CRS

Confident in:		
Understanding how bispecific antibodies contribute to CRS	36%	64%
Identifying bispecific antibodies	31%	69%
Recognising CRS	33%	67%
Recognising ICANS	22%	78%
Grading early signs of evolving CRS	27%	73%

MANAGEMENT OF CRS

Confident in:		
Escalating care when CRS is suspected	53%	47%
Arranging the initial investigations and monitoring for suspected CRS	38%	62%
Knowing when to initiate tocilizumab and/or corticosteroids according to protocol	33%	67%
Documenting CRS/ICANS grade and treatment in the medical record	22%	78%
Preparing tocilizumab during a CRS emergency	31%	69%

Very or extremely confident Slightly confident, moderately confident or not at all confident

Figure 4. Cabrini protocol awareness and use

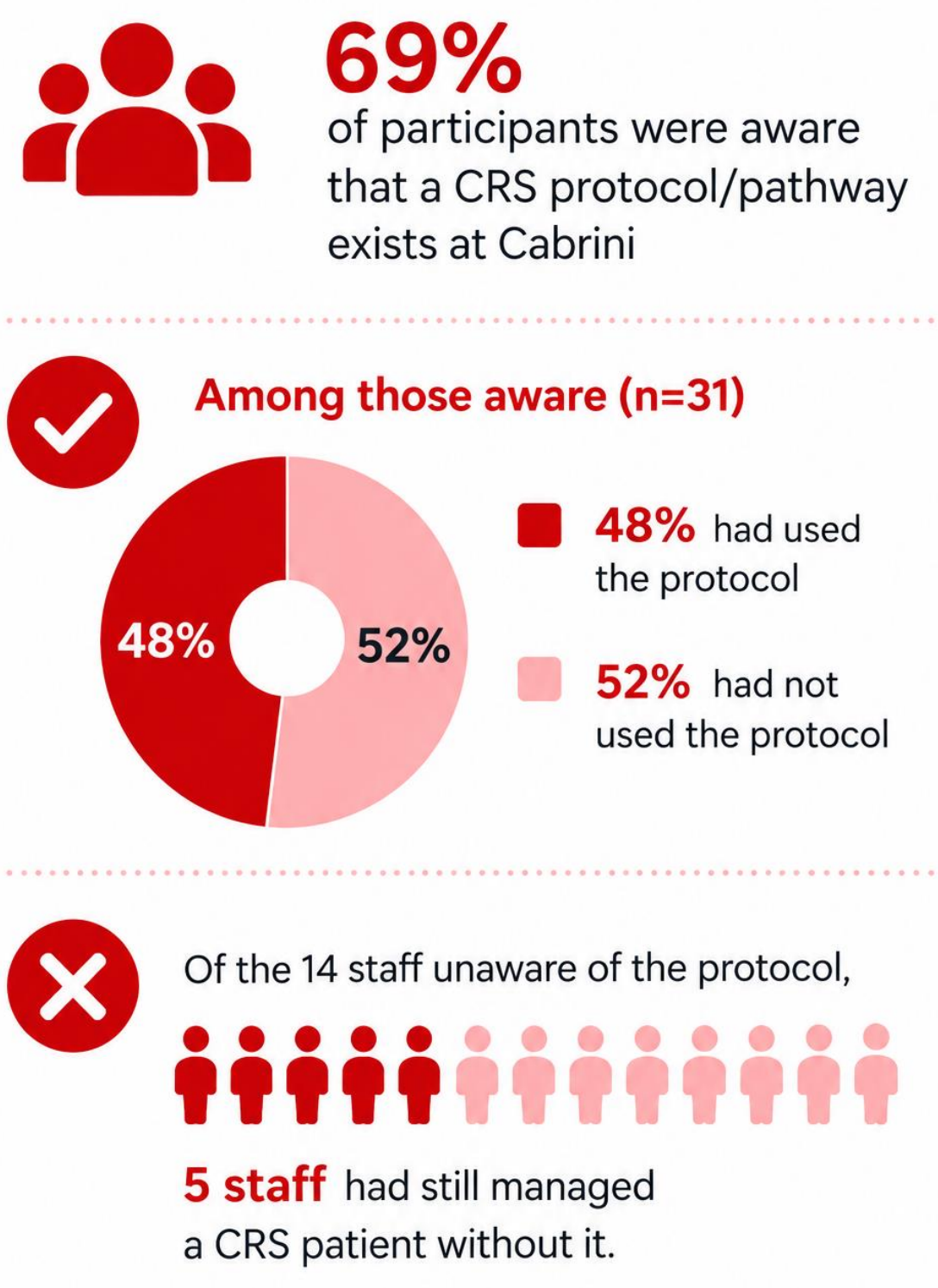
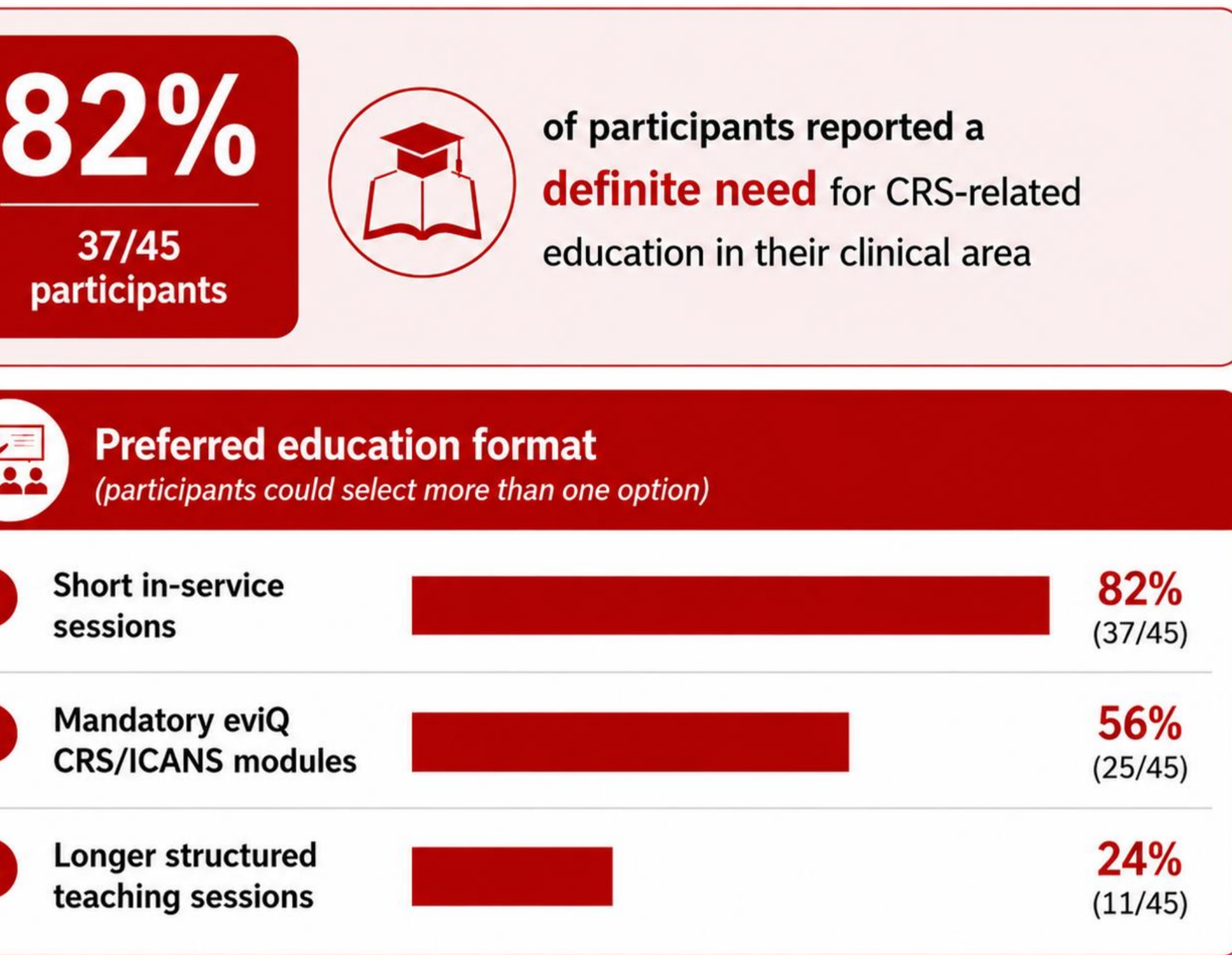


Figure 5. CRS Education needs and preferred format



DISCUSSION

- The survey identified gaps in confidence across CRS recognition, grading and management, particularly in documentation of CRS/ICANS care. Confidence was broadly similar across professions, except pharmacists who reported greater confidence in preparing tocilizumab, consistent with this being a pharmacy-specific practice. [2]
- Awareness of the CRS protocol did not consistently translate into its use. Less than 50% of staff who were aware of the protocol reported using it, while some staff who had managed a CRS patient were unaware of the protocol. This suggests there is an opportunity to improve the visibility and integration of the protocol into clinical practice.
- The study consistently demonstrated that participants desire further CRS education. Practical, relevant and readily applicable education may facilitate translation of learning into clinical practice. [5]

Implications

- Targeted, practical in-service education may address identified confidence gaps and reinforce use of the CRS protocol in clinical practice. Education should focus on recognition, grading, escalation, documentation and application of the existing protocol.

Limitations

- The small sample size, unequal representation across professional groups and single-site design limit the generalisability of the findings. The study was not powered to detect differences between professional groups and the use of non-validated survey questions and self-reported confidence may be subject to recall and response bias.

CONCLUSION

Healthcare professionals demonstrated low self-reported confidence in recognising, grading and managing CRS, highlighting important knowledge and education gaps across clinical disciplines. Short, frequent in-services were identified as a preferred educational strategy and may support ongoing reinforcement of CRS knowledge and preparedness across Cabrini.

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RESULTS

Figure 2. Participant demographics by profession, years of practice and primary practice setting

Characteristic	Number (N=45)	%
Profession		
Medical	9	20%
Nursing	23	51%
Pharmacist	13	29%
Years of practice		
< 5 years	18	40%
5 to 10 years	11	24%
> 10 years	16	36%
Primary practice setting		
Oncology/haematology	28	62%
Non-oncology	17	38%