

Models of care for children newly diagnosed with Type 1 Diabetes: A systematic review

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INTRODUCTION

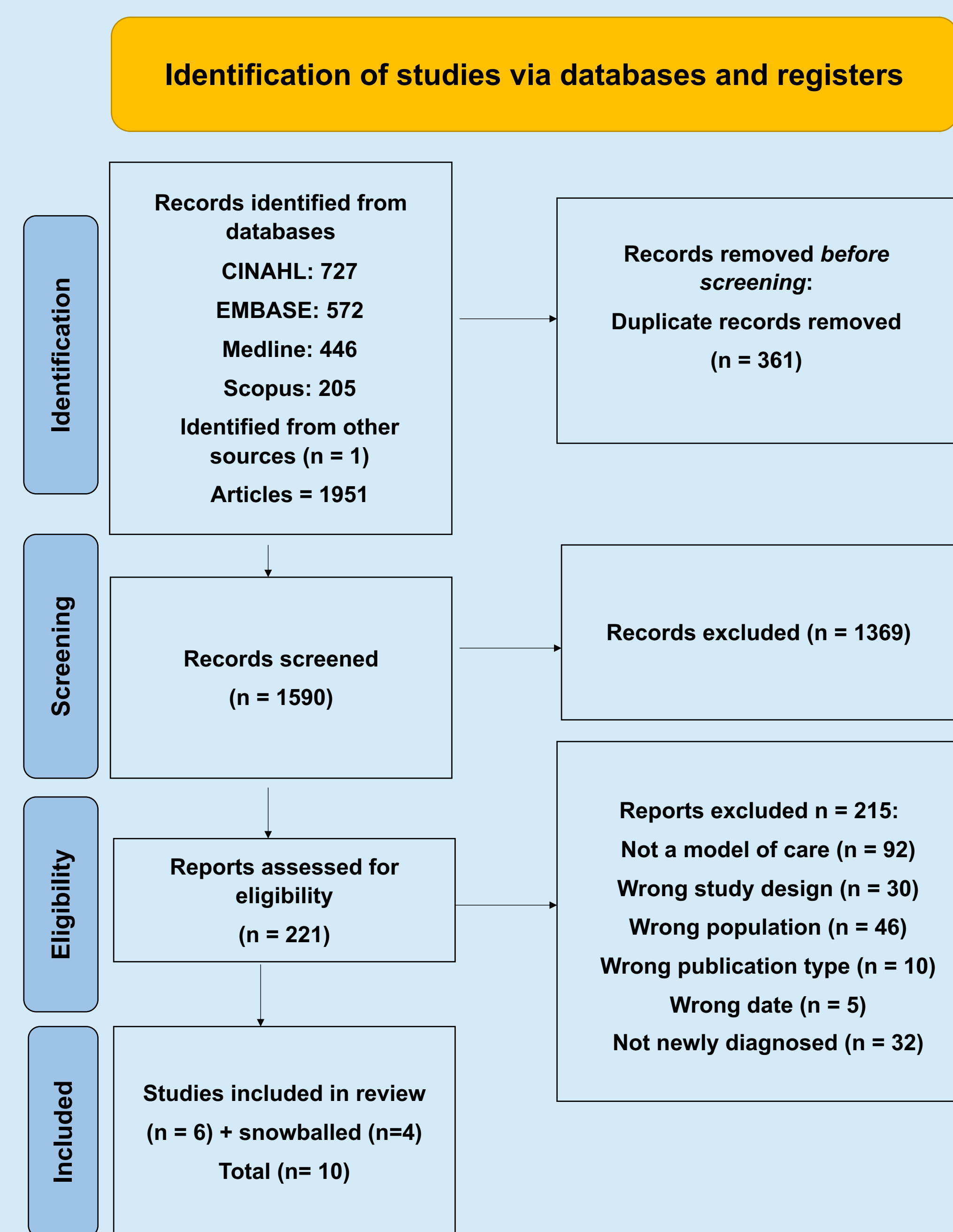
- Type 1 diabetes (T1D) is a chronic and incurable autoimmune disease that presents in childhood, traditionally leading to a stay in hospital for initial treatment and education about management of the disease.¹
- Some models of care in which less time is spent in hospital have proven effective, acceptable to patients and health professionals and more cost effective for newly diagnosed cases than traditional inpatient stays.¹

AIM

This review aims to conduct a systematic synthesis of the current evidence to address the above gaps in knowledge, to inform the wider adoption and sustainment of effective, acceptable and appropriate models of care in the future.

METHOD

Figure 1: PRISMA flow diagram of primary study Selection²

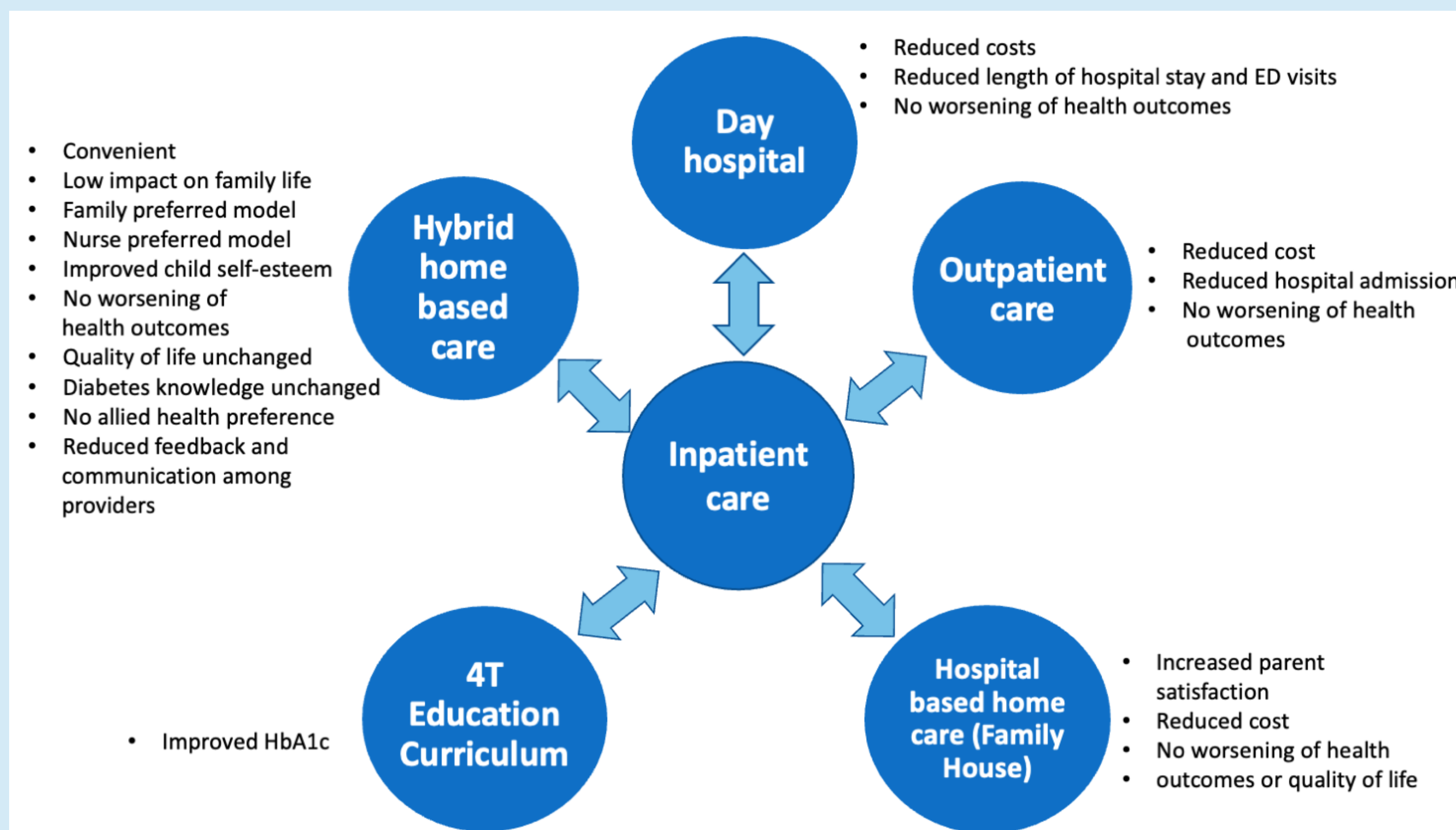


RESULTS

Table 1: Summary of included studies (n=10)

Study	Country	Model of care	Participants (n)	Age (years)	Outcome measured
Clapin et al. 2016 ³	Australia	Hybrid home care: 2 days inpatient and then home based care	49	3-16	HbA1c Insulin régime Patient satisfaction Diabetes knowledge Family impact Quality of life
Foulds et al. 2012 ⁴	Canada	Outpatient care	189	0-16	HbA1c
Gregory et al. ⁵	UK	DECIDE: Nurses deliver home management, education and support	84	8-17	HbA1c Cost
Jasinski et al. 2013 ⁶	USA	Outpatient care	84	1-18	Cost – Hospital admission
Lawson et al. 2020 ⁷	USA	Day hospital	288	5-20	Length of hospital stay Cost-patient charges
McCarroll et al. 2021 ⁸	UK	DECIDE: Nurses deliver home management, education and support	203	8-17	Cost
Morgan-Trimmer et al. 2016 ⁹	UK	DECIDE: Nurses deliver home management, education and support	11 pairs of parents and 7 children	Children 7-16	Family preferences
Prahalad et al. 2022 ¹⁰	USA	4T (teamwork, targets, technology, tight control)	135	7-13	HbA1c
Tiberg et al. 2016 ¹¹	Sweden	Hospital based home care – Family House	60	3-15	HbA1c Quality of life (parent) Satisfaction Healthcare cost Parental lost productivity
Townsen et al. 2020 ¹²	UK	Hybrid home care: 2 days inpatient and then home based care	22	NA	Provider views about the model

Figure 2: Models of care with their outcomes



CONCLUSIONS

- Outpatient, day patient, hospital-based home care and hybrid models for newly diagnosed T1D patients are acceptable and often preferable for patients and families, and have shown no detrimental health outcomes, based on the examined studies.
- 4T program improves HbA1c
- Models of care need to be co-designed with providers, patients and their families taking into consideration the implementation determinants.

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