NHS
Mid and South Essex
NHS Foundation Trust

RCPCH Royal College of Paediatrics and Child Health
Leading the way in Children's Health
National Children and Young People's Diabetes Quality Programme

Quality Improvement Project Southend Pediatric Diabetes Care
RCPCH Diabetes QI Collaborative

AIM: To determine whether intensified/additional inputs in the first 6 months improves HbA1c by a further 0.5% or 6 mmol/mol in Newly Diagnosed CYP with Type 1 Diabetes as compared to standard care(Best Practice Tariff).

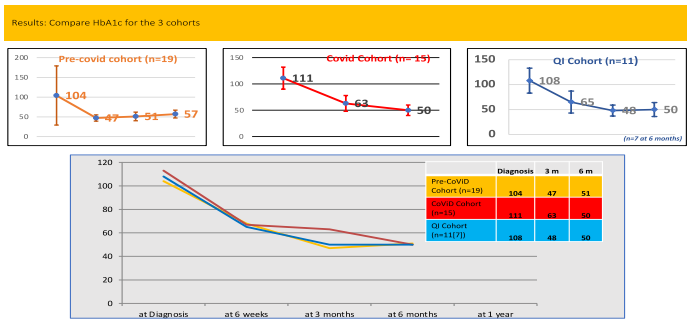
Team: Dr R Chetan, Dr FR Awadalla, S Williams, K Holmes, C Levine, M Thwaites, H Palmer, C Wood, Dr K Hutchin, Dr M Neville, Cathy Eve, Dr B Ramachandran

Background to QIP: Metabolic Memory

Does glycemic control have greater benefit when attained earlier than when attained later in the natural history of Diabetes ?

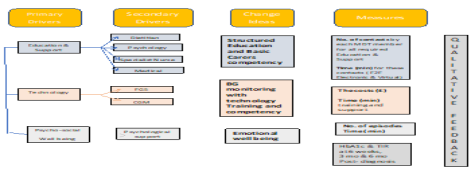
- Extended periods of exposure to high blood glucose (BG) levels persistently dysregulated fibrotic and inflammatory genes in endothelial and vascular smooth muscle cells.
- Epigenetic processes may contribute to metabolic memory, with evidence that post-translational histone methylation and changes in microRNA may persist after exposure to high glucose levels is terminated.

Outcome Measures Data



Driver Diagram

Aim

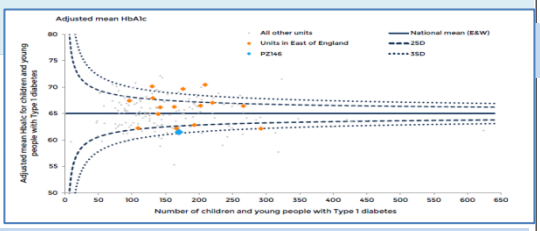


Qualitative Feedback from Families/Colleagues

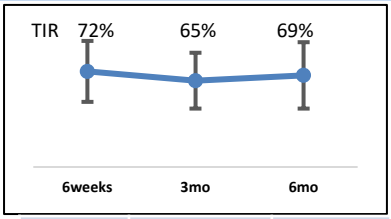
@ 3 months:
100% Strongly Agree (SA) that - Specialist Nurse, dietician, psychologist easy access
91% SA, 9% Agree (A) - doctor easy access
82% SA, 9% A and 9% don't know - if will get appropriate advise from hospital 24hrs
@ 6 months:
100% SA that fast access to all reliable health care professionals

Colleague feedback: >94% Strongly Agree(SA) that team's expectations and requirements were understood and effectively implemented, and information communicated timely and effective manner.

Background



Bright Spots in results



		High	TIR	Low
6wks	n=8	26%	72%	2%
3 mo	n=9	33%	65%	2%
6 mo	n=7	30%	69%	1%

	Diagnosis(n=11)	6wks(n=11)	3m(n=11)	6m(n=7)
HbA1c mean	108	65	48	50

Our Interventions

Individualised PDSA approach to enable Continuous Improvement

Can the effects of initial hyperglycaemia be dispelled with excellent glycaemic control in the initial months of treatment by

- Empowering people developing diabetes to participate in their care and focus on good glycaemic control (HbA1c; TIR, no disabling 'hypos') [PDSA cycles 1 and 2]
- Availability of better BG monitoring systems to help patients to keeping BG levels in target range while avoiding hypoglycaemia episodes [PDSA Cycle 2]
- Good psychosocial support and emotional well being will provide motivation to patients, parents/carers to focus on good glycaemic control [PDSA cycles 1 and 2]

Conclusions

- HbA1C similar (50mmol/mol) in the QI cohort as in the 2 benchmark cohorts at 6 months post diagnosis
- Feedback very positive
- Standard of care following BPT seems an optimal approach with provision to intensify/tailor support based on demand/ felt need.
- Early introduction to BG monitoring technology is good as it promotes tighter control and motivation.