



Association of British Clinical Diabetologists



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# ABCD nationwide audit of FreeStyle Libre (FSL)

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## ABCD nationwide audit of FreeStyle Libre

### Disclosures

- EW has received personal fees from Abbott Diabetes Care, Dexcom, Diasend, Eli Lilly, Medtronic, Novo Nordisk, Sanofi Aventis
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- HD TS and CW have no relevant disclosures

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## ABCD nationwide audit of FreeStyle Libre

- **FreeStyle Libre is a flash glucose monitoring system which monitors interstitial glucose levels**
- **Consists of a sensor with a microfilament, worn on the back of the arm and a hand-held reader**
- **When the reader unit is passed over the sensor, it shows the interstitial glucose levels**
- **The sensor lasts for 14 days, then needs to be replaced**

## ABCD nationwide audit of FreeStyle Libre

The ABCD FSL Audit aims to explore the impact of the FSL on the following:

- HbA1c
- Hypoglycaemia awareness
- Resource utilisation: hospital admissions
- Diabetes related distress

### Methods

Audit conducted in 114 centres in the UK

A secure IT tool was developed on the NHS computer network, N3, to make this process as easy and user friendly as possible

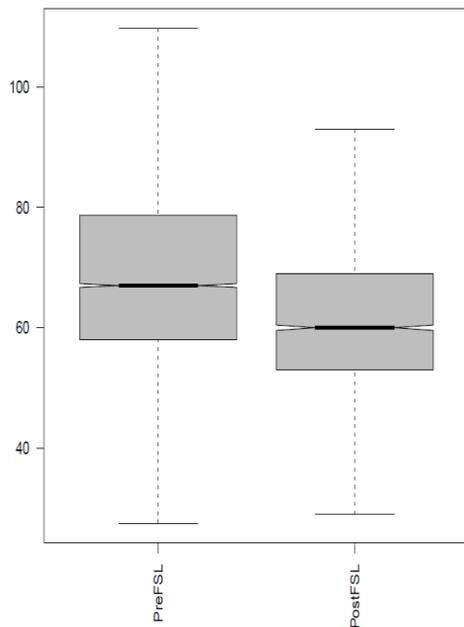
# ABCD nationwide audit of FreeStyle Libre

## Demographics and audit characteristics (n=**10,370**)

	Baseline data in all study participants (n=10,370)	Baseline data in patients with follow-up (n=3,182)
Age (years)	38.0 (±18.8)	39.5(±19.6)
Gender (% Females)	5322 (51%)	1688 (53%)
Baseline BMI	25.2 (±6.4)	25.1 (±6.2)
Duration of Diabetes (years)	16.0 (±49.9)	17 .1(±15.5)
Type 1 Diabetes (%)	10058 (97%)	3126 (98%)
Insulin Pump	2428 (23%)	862 (27%)
British citizens(%)	8524 (82%)	2713 (88%)
NHS funded	7602 (73%)	2354 (74%)
Number of tests strips used per day	7.7 (±9.8)	8.1(±10.1)
Mean Pre-FSL HbA1c	69.8 (±18.2)	67.5 (±20.9)
Baseline Gold score	2.7(±1.8)	2.7(±1.9)
Completion of Structured Education	6764 (65%)	2002 (65%)

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HbA1c Pre and Post FSL



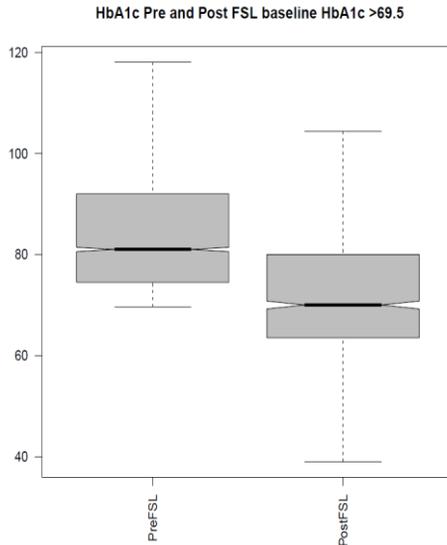
Median pre-FSL HbA1c (IQR)	67.5(18)
Median post FSL HbA1c (IQR)	62.3 (17)
P-value*	<0.0001



5.2 mmol/mol of HbA1c

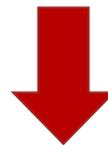
\*P-value from Mann-Whitney U Test

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Baseline HbA1c >69.5

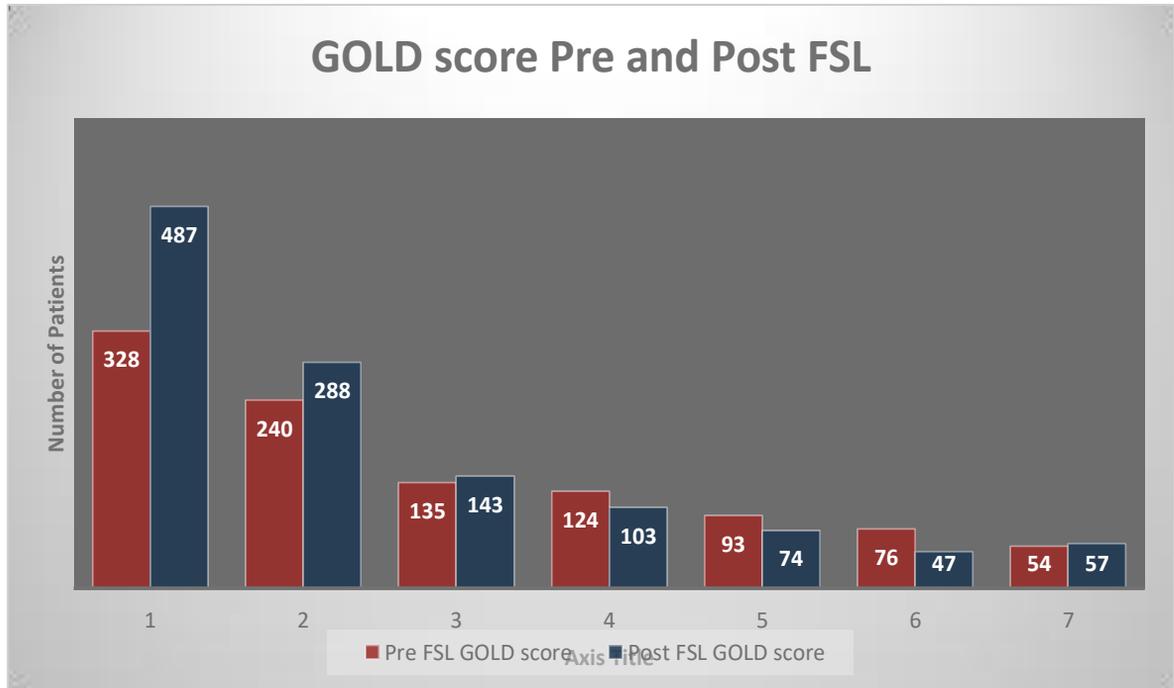
Median pre-FSL HbA1c (IQR)	85.5 (15)
Median post FSL HbA1c (IQR)	73.1 (10)
P-value*	<0.0001



12.4 mmol/mol of HbA1c

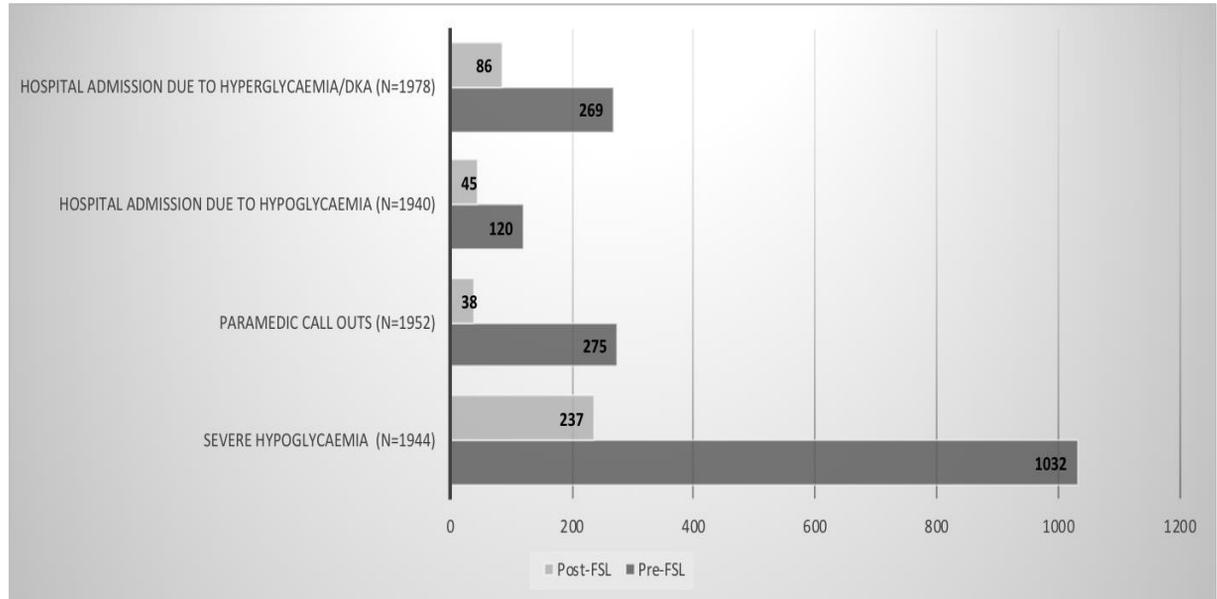
\*P-value from Mann-Whitney U Test

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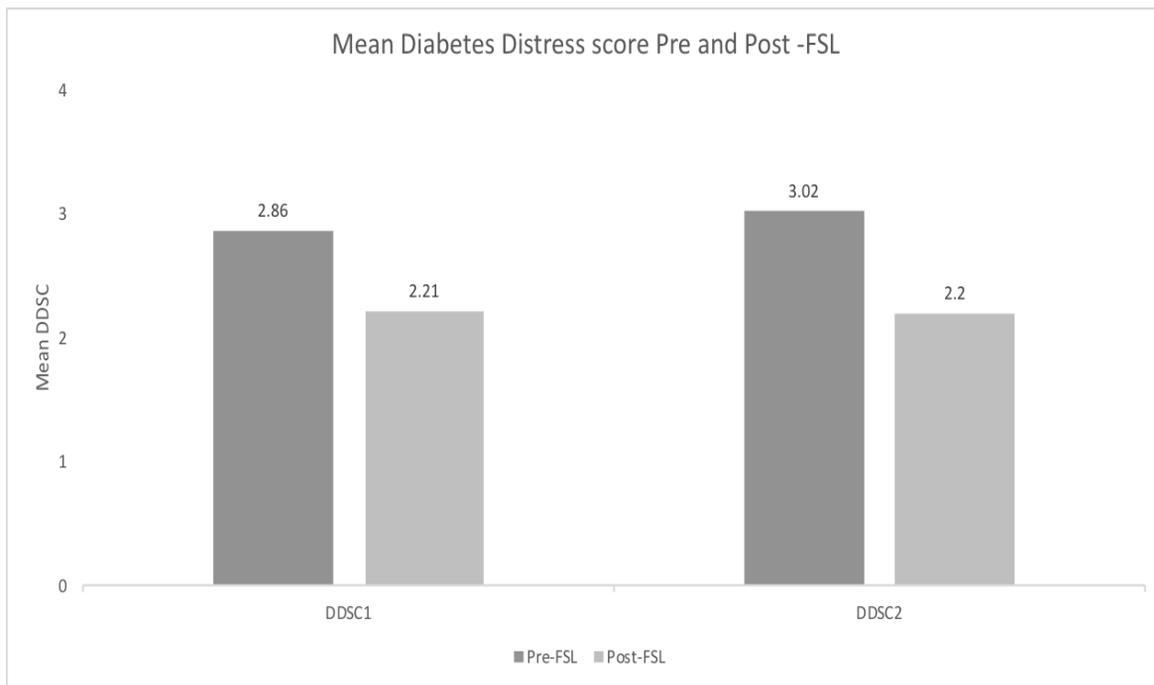


9% patients reported had reversal of hypoglycaemic unawareness (GOLD score dropped below 4)

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### Conclusions

FSL use associated with

- ✓ Significant improvement in HbA1c
- ✓ Significant improvement in Gold Score
- ✓ Possible reduction in hospital admissions due to DKA/Hypo and Hyperglycaemia (1 year f/u data awaited)
- ✓ Improved diabetes related distress

**Need for more follow-up data to see if beneficial effects are sustained**

## **ABCD nationwide audit of FreeStyle Libre**

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University Hospitals Birmingham NHS Foundation Trust, Queen Elizabeth Hospital: Grandy L, Morrison J, Narendran P, Ross L. University Hospitals of Leicester NHS Trust, Leicester General Hospital: Gregory R, Mistry I, Wilson C. University Hospitals of Leicester NHS Trust, Leicester Royal Infirmary: Sundaram P. University Hospitals of Morecambe Bay NHS Foundation Trust, Royal Lancaster Infirmary: Begum N M, Dampella S, Dring H, Jackson S, Mustafa E, Shanahan T. University Hospitals of Morecambe Bay NHS Foundation Trust, Furness General Hospital: Dring H, Hay C, Hodson K, Shanahan T. Warrington And Halton Hospitals NHS Foundation Trust, Warrington Hospital: Gopalakrishna A, Saunders S. West Hertfordshire Hospitals NHS Trust, Watford General Hospital: Fullerton S, Mitchell H. West Suffolk NHS Foundation Trust, West Suffolk Hospital: Cockerill H, Harding J, Hunt M. Western Sussex Hospitals NHS Trust, St Richard's Hospital: Cranfield L, Lacey A, Mackie C, Smith Z, Worstfold J. 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