

# The incorporation of available technologies for diabetes care among different worldwide centers: the ESPE/ISPAD Working Group on Diabetes Technology Survey

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## Aims

International Societies for paediatric diabetes care are aiming to facilitate and improve the uptake of diabetes technologies. This project aimed to investigate healthcare professional (HCP) evaluation of the current role of technology in diabetes care within their centres.

## Methods

The ESPE/ISPAD Working Group on Diabetes Technology created an online survey which was emailed to all ESPE and ISPAD members who treat diabetes and was also available on both group websites. The survey comprised 15 questions assessing the number of patients with diabetes and the number of healthcare professionals in the centre, in addition to the proportion of patients treated with diabetes technology in the centre. Survey responses were collected between April and November 2017. Data are median (IQR), unless stated otherwise.

## Results

### Survey respondents

- 215 HCPs from six continents (132 Europe, 36 Asia, 23 North and 7 South America, 9 Africa and 8 Australasia) replied to the online survey
- Median number of people with diabetes within each service was 325 (300–430), mean was 702, range from 10 to 10,000.
- The median number of visits to clinic by patients was 4 (4–5), mean was 4.4/year.
- 24/7 support for patients was provided by 80% of centres.

### Technology uptake

- Insulin pumps were used by 35% (30–40) of patients per centre and glucose sensors by 15% (15–20) of patients per centre.
- The proportion of technology users varied greatly between continents; highest usage of technology in Australia, North America and Europe and relatively lower use in Asia, Africa and South America (Figure 1).
- There was no correlation between the number of patients in the centre and the percentage of pump or CGM users (data not shown).

### Reimbursement

- Insulin pumps were reimbursed by 75.3% of responding centres.
- Glucose sensors were reimbursed by 59.5% of responding centres.
- There was no significant difference in technology uptake between centres providing reimbursement (Figure 3).

### Healthcare professionals

- Each centres' multidisciplinary diabetes team consisted of a median 2.7 (2.3–3.1) of HCPs/100 patients (1.0 consultant physicians, 0.7 nurses, 0.4 dietitians and 0.3 psychologists/social workers).
- The lowest median number of HCPs/100 patient ratio was reported in Africa (0.7), followed by Asia (1.4), North America (1.4), Australia (2.0), South America (3.1), and Europe (3.5).
- There was a trend towards increased CGM use in centres with more HCPs/100 patients (Figure 2).
- There was no correlation between the number of visits and the percentage of patients using technology in each centre (data not shown).

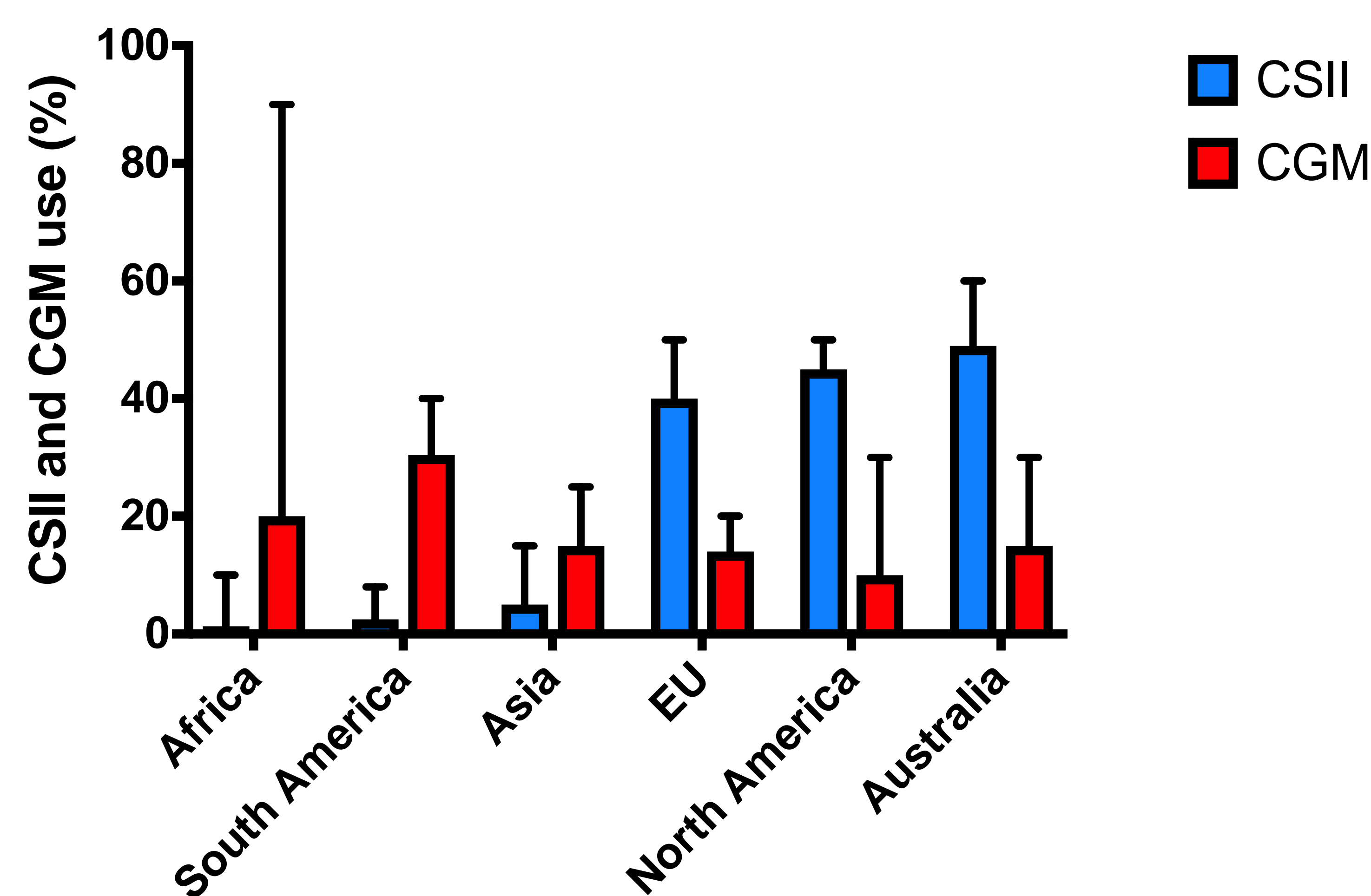


Figure 1. Median (IQR) percentage of CSII (blue) and CGM (red) use by continent.

## Conclusions

Despite increased availability, the incorporation of technology within diabetes care remains a challenge, especially in lower income regions. Ensuring that individuals with diabetes have access to both technology and sufficient trained personnel to educate and support appropriate usage is paramount to broaden uptake and to allow safe achievement of optimal glycaemic control.

CSII – Continuous Subcutaneous Insulin Infusions  
CGM – Continuous Glucose Monitoring

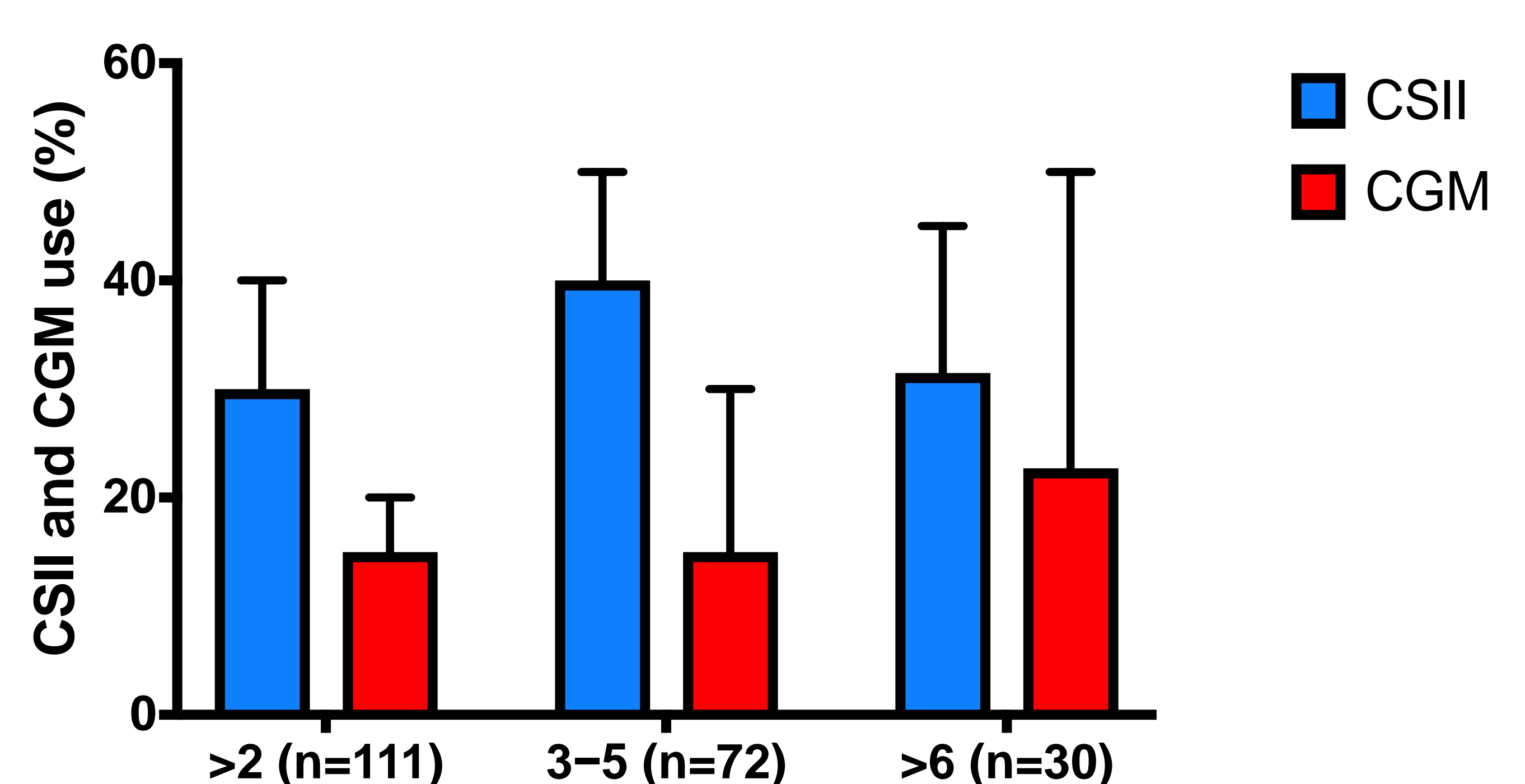


Figure 2. Median (IQR) percentage of CSII (blue) and CGM (red) use by number of HCPs/100 patients

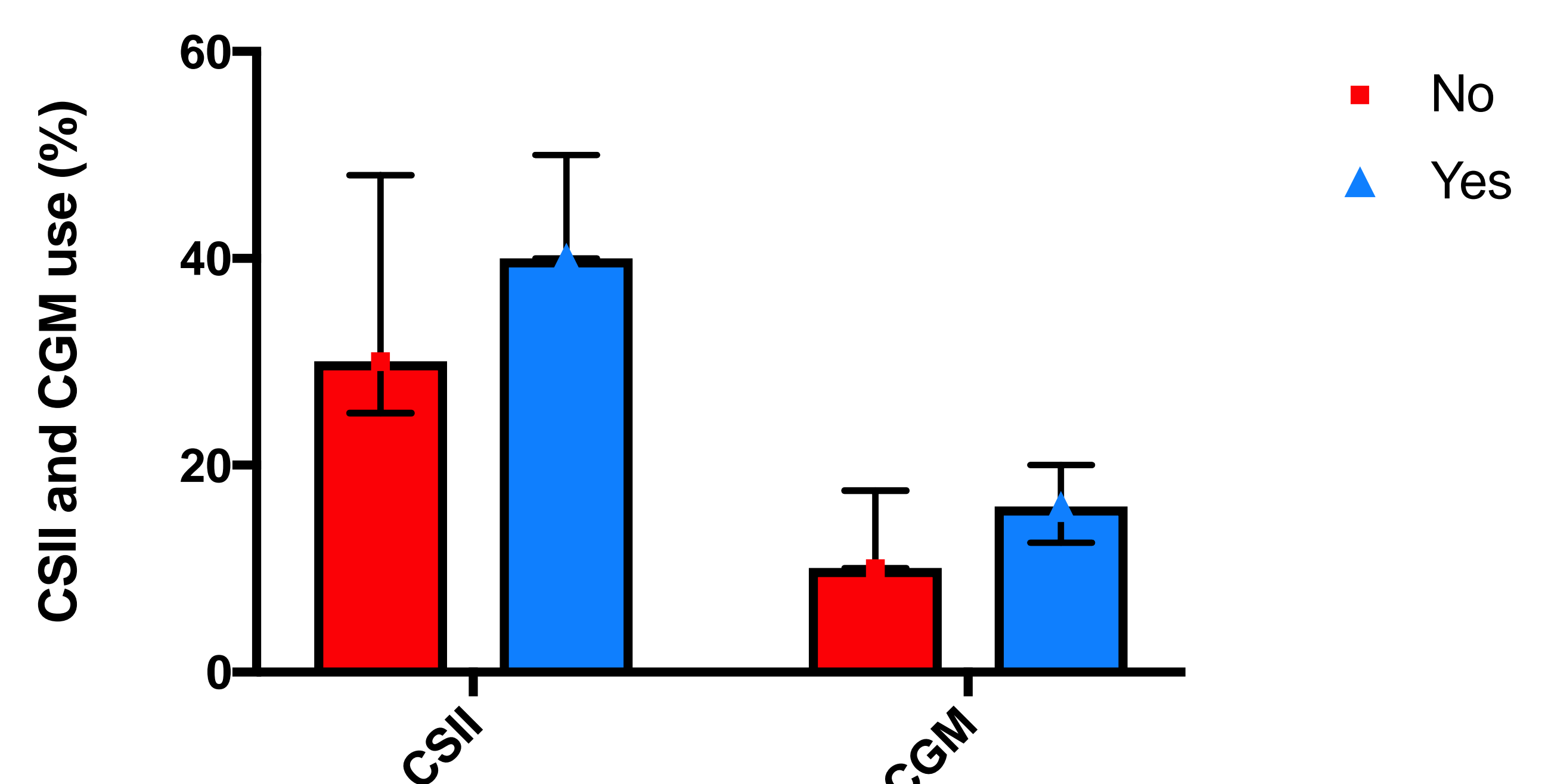


Figure 3. Median (IQR) percentage of CSII and CGM use in centres with (blue) and without (red) reimbursement