

Effect of drug subsidy policy on empagliflozin utilisation in Singapore: An interrupted time series analysis

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BACKGROUND

- The Medication Assistance Fund (MAF) provides financial assistance to eligible patients at public healthcare institutions (PHIs)
- On 1 October 2018, empagliflozin was included on the MAF as a second-line therapy for managing type 2 diabetes mellitus (T2DM)

AIM

- To assess the effect of MAF listing on empagliflozin utilisation

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METHODS

- Interrupted time series analysis
- Aggregated drug dispensing data in PHIs from January 2017 to December 2020
- Segmented regression models to assess level change (LC) and trend change (TC) in utilisation volume by WHO defined daily doses (DDDs), before and after subsidy implementation
- Autocorrelation was tested and corrected
- Performed subgroup analyses by patients' subsidy status (subsidised and private) and care setting (hospitals and polyclinics) as well as sensitivity analyses using volume per T2DM patient as the outcome measure

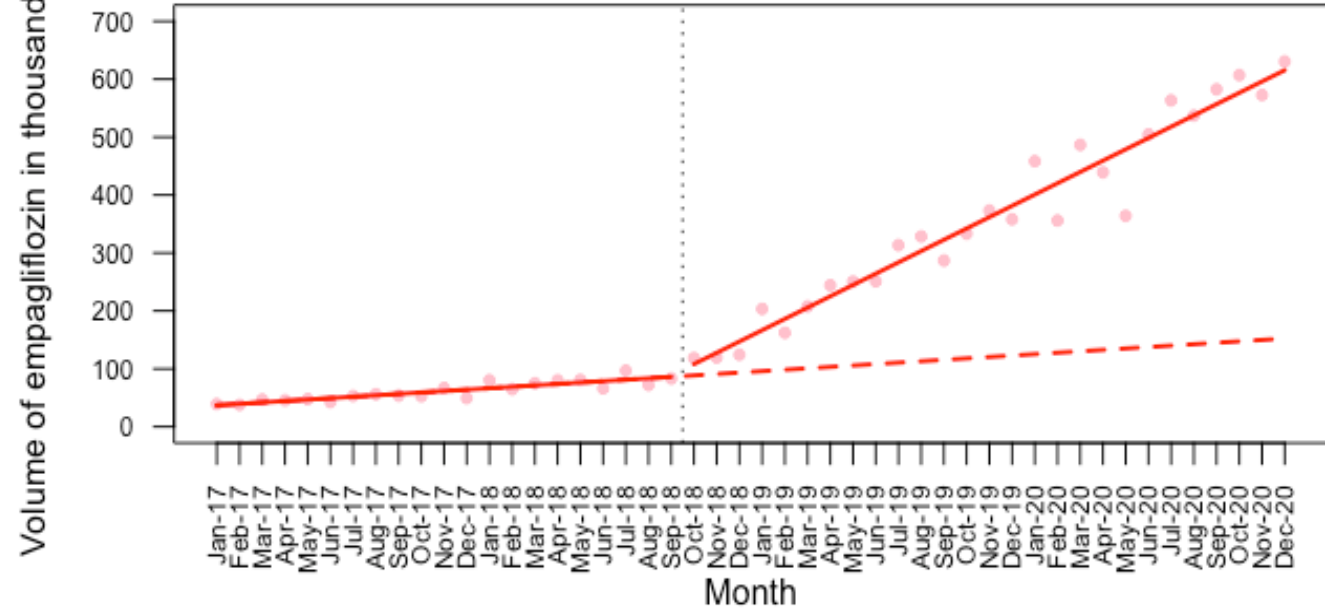
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RESULTS

- Overall utilisation trend (in thousand DDDs per month) increased from 2.5 to 19.5 after subsidy, with a significant TC of 17.1 (95% CI 15.7,18.4)

Figure 1. Monthly trend of overall empagliflozin utilisation from Jan 2017 to Dec 2020, with 1 Oct 2018 as point of intervention



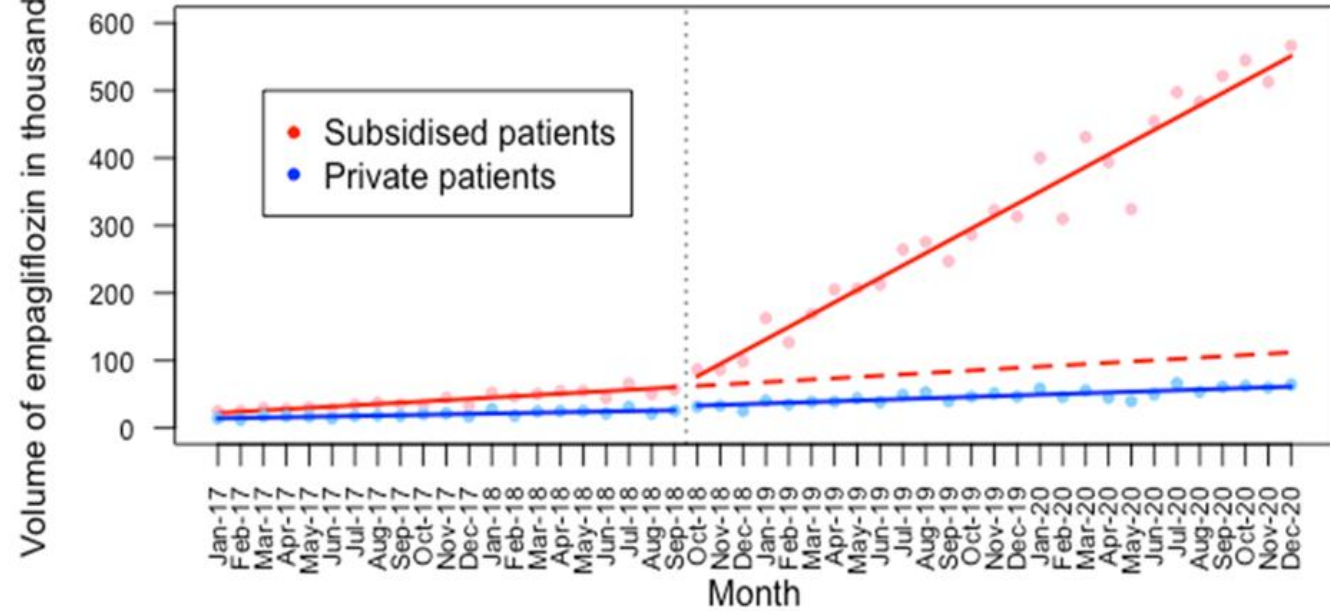
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- Significant TC was observed in subsidised patients [16.3 (95% CI 15.1,17.6)], but not in private patients [0.5 (95% CI -0.04,1.0)]
- Proportion of empagliflozin utilisation in subsidised patients grew from 70% to 90% after subsidy listing

Figure 2. Monthly trend of empagliflozin utilisation in subsidised and private patients from Jan 2017 to Dec 2020, with 1 Oct 2018 as point of intervention



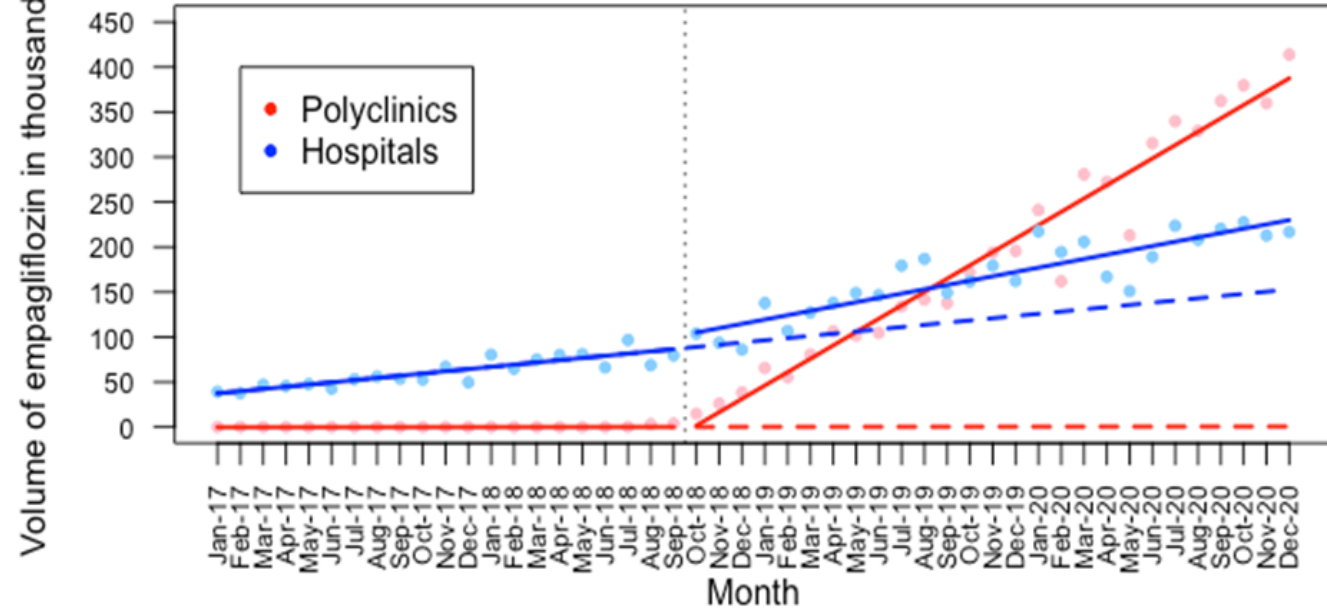
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- Proportion of empagliflozin utilisation in subsidised patients grew from 70% to 90% after subsidy listing
- Significant TC was observed in both polyclinics [14.8 (95% CI 10.9,18.7)] and hospitals [2.3 (95% CI 0.7, 4.0)]
- Proportion of empagliflozin utilisation in polyclinics increased from 0.2% to 63% after subsidy listing
- No significant LC was observed in all the models and similar results were found using volume per T2DM patient in the sensitivity analyses

Figure 3. Monthly trend of empagliflozin utilisation in polyclinics and hospitals from Jan 2017 to Dec 2020, with 1 Oct 2018 as point of intervention



The drug subsidy policy had a significant positive impact on the utilisation trend of empagliflozin, particularly, in subsidised patients and in the polyclinics