Figure 1: Criteria for subsidy of empagliflozin by special authority. Obtained from the New Zealand Formulary website.[11]

Initial Application

Applications from any relevant practitioner. Approvals valid without further renewal unless notified.

Pre-requisites

Patient has type 2 diabetes

and

Patient is Māori or any Pacific ethnicity **or**

Patient has pre-existing cardiovascular or risk equivalent (see note a) **or**

Patient has an absolute 5-year cardiovascular disease risk of 15% or greater according to a validated cardiovascular risk assessment calculator **or**

Patient has a high lifetime cardiovascular risk due to being diagnosed with type 2 diabetes during childhood or as a young adult **or**

Patient has diabetic kidney disease (see note b) **

and

Target HbA_{1c} (of 53mmol/mol or less) has not been achieved despite the regular use of at least one blood-glucose lowering agent (e.g. metformin, vildagliptin or insulin) for at least 3 months

Figure 2: Study flowchart.

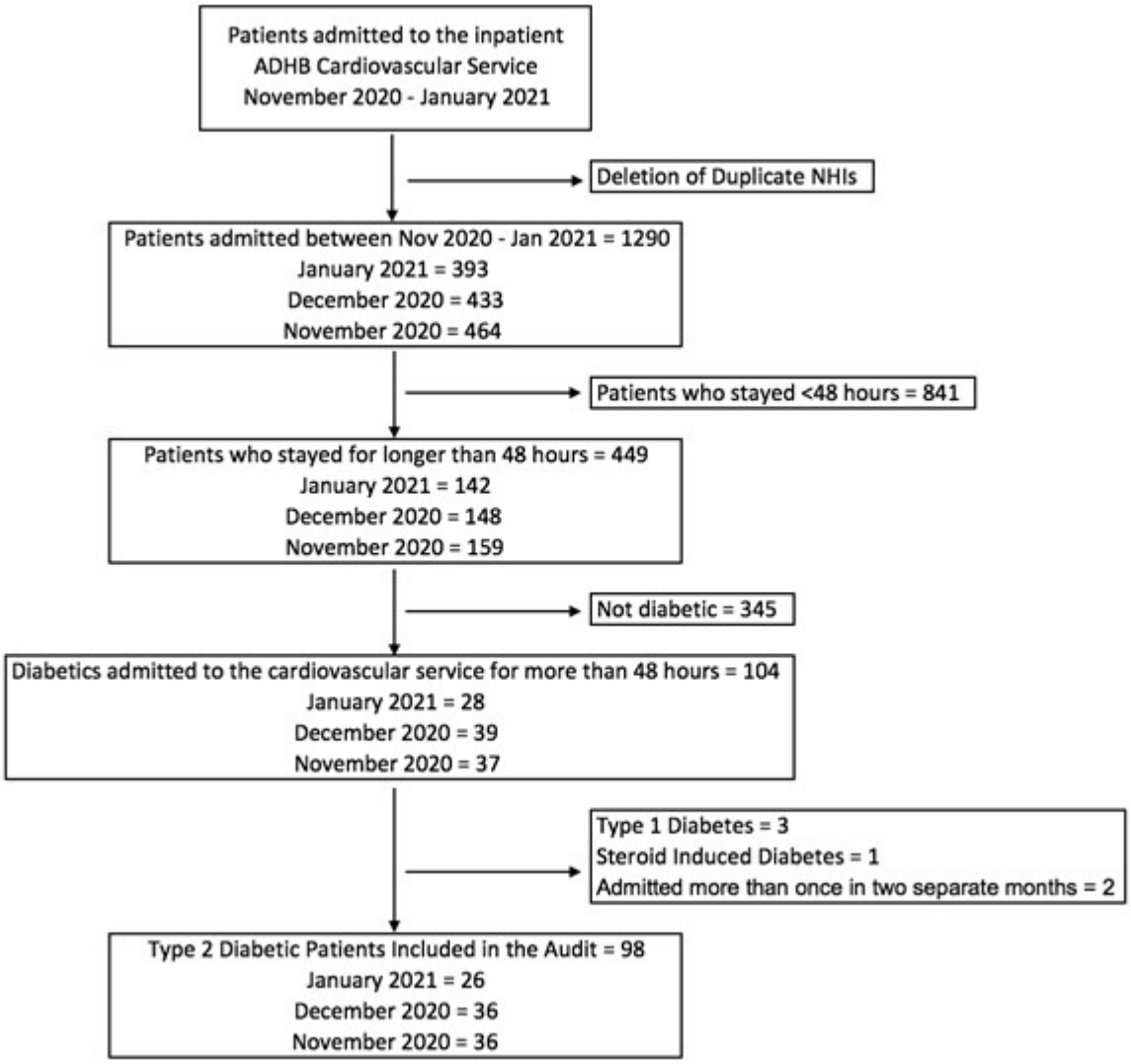

Table 1: Baseline characteristics.

	Mean ± SD	Median (IQR)	N=98 (%)
Age [years]	65±13	64 (56–76)	
Male			65 (66)
Ethnicity			
European			29 (30)
Māori			15 (15)
Asian			24 (24)
Pasifika			29 (30)
Middle Eastern			1 (1.0)
Length of stay [hours]	153±131	102 (74–181)	
Presentation			
ST-elevation myocardial infarction			12 (12)
Non-ST-elevation myocardial infarction			16 (16)
Unstable angina			3 (3.1)
Heart failure			22 (22)
Arrhythmia			18 (18)
Aortic valve intervention			3 (3.1)
Non-cardiac chest pain			3 (3.1)
Other cardiac			6 (6.1)
Other non-cardiac			6 (6.1)
Body mass index [kg/m^2]	32±8.4	30 (25–37)	
Cardiovascular comorbidities			
Hypertension			77 (79)
Heart failure			48 (49)
Atrial arrhythmias			30 (31)
Coronary heart disease			68 (69)
Dyslipidaemia			61 (62)
Stroke			13 (13)
Peripheral vascular disease			5 (5.1)
Smoking status			
Never smoked			45 (46)

Table 1 continued: Baseline characteristics.

Ex-smoker			40 (41)
Current smoker			13 (13)
Cardiac medications			
Statins and/or ezetimibe			76 (78)
Alpha-blockers			11 (11)
Calcium channel blockers			25 (26)
ACEi or ARB			80 (82)
Beta-blockers			71 (72)
Diuretics			52 (53)
Left ventricular ejection fraction [%]	45±16	46 (33–58)	
NT-proBNP [pmol/L]	412±593	151 (42–551)	

Abbreviations: ACEi = angiotensin-converting enzyme inhibitor; ARB = angiotensin II receptor blocker; IQR = interquartile range.

Table 2: Baseline diabetes characteristics.

	Mean (SD)	Median (IQR)	N=98 (%)
HbA_{1c} (mmol/mol)	64±18	59.5 (52–71)	
<60			48 (50)
≥60			48 (50)
Blood pressure			
SBP ≥140mmHg or DBP ≥90mmHg			25 (26)
SBP<140mmHg or DBP <90mmHg			73 (74)
eGFR [mL/min/1.73m^2]			
≥90			13 (13)
60 to <90			41 (42)
30 to <60			31 (32)
<30			13 (13)
Chronic kidney disease stage			
1			13 (13)
2			41 (42)
3A			20 (20)
3B			11 (11)
4			7 (7.1)
5			6 (6.1)
Urine albumin:creatinine ratio (mg/g)			
<3			34 (35)
≥3 to <30			43 (44)
≥30 to 300			11 (11)
>300			6 (6.1)
Nil			4 (4.1)
Glycaemic medications on admission			
Metformin			49 (50)
Vildagliptin			5 (5.0)
Vildagliptin/metformin combination			16 (16)
Sulphonylurea			18 (18)
Insulin			34 (35)
None			16 (16)

Abbreviations: DBP = diastolic blood pressure; eGFR = estimated glomerular filtration rate; IQR = interquartile range; NTproBNP = N-terminal pro-brain natriuretic peptide; SBP = systolic blood pressure.

Table 3: Changes to glycaemic medications during admission.

All patients (n=98)	
Changed	36 (37%)
No change	51 (52%)
No treatment at discharge	11 (11%)
HbA_{1c}>60 mmol/mol (n=48)	
Changed	24 (50%)
No change	21 (44%)
No treatment at discharge	3 (6.0%)
HbA_{1c}≤60 mmol/mol (n=48)	
Changed	12 (25%)
No change	8 (17%)
No treatment at discharge	28 (58%)

NB: Two patients had type 2 diabetes as part of their medical history, however, their primary residence was not Auckland, so no HbA1c was recorded on their electronic medical records, thus they were not included in the sub-group analysis of HbA1c control.

Table 4: Eligibility for subsidisation of SGLT-2 trials.

Eligible for subsidisation of empagliflozin under special authority	
Yes	49 (50%)
No due to <3 months glycaemic therapy prior to admission	11 (11%)
No due to HbA_{1c}≤53mmol/mol	23 (23%)
Insufficient information	2 (2.0%)
Excluded as eGFR<30 mL/min/1.73 m2	13 (13%)
Eligible for inclusion in EMPA-REG OUTCOME and/or EMPEROR-Reduced	
Yes	34 (35%)
No	64 (65%)

Abbreviations: eGFR = estimated glomerular filtration rate; EMPA-REG OUTCOME = Empagliflozin, Cardiovascular Outcomes, and Mortality in Type 2 Diabetes; EMPEROR-Reduced = Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure.