Supporting Information

Supplementary methods and results
This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

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1. Pilot testing of the intervention

Prior to the main trial, the proposed intervention was tested in a pilot phase (about 6 months) to determine any improvements required.

Four general practices were recruited from sites previously involved in the Torpedo study. One practice subsequently withdrew because of factors unrelated to the intervention. Three practices were paired with three partner pharmacies for the pilot trial in July and August 2016.

All general practitioners were trained in use of the required software, including Topbar, HealthTracker and the Argus secure messaging software, as well as in how to refer a patient for the Pharmacy Adherence Support Service. Pharmacists were trained in the use of the PASS tool. Polypills were not provided during the pilot phase because of the limited time available for starting and ceasing medications.

After 6 months of trialling the system, we undertook qualitative interviews with GPs and pharmacists about their experience of the system.

Several problems were identified, most technology-related:

1. General practice:
   a. Technology components not fully set up prior to training, which affected training;
   b. Older version of HealthTracker installed (without polypill tab);
   c. Study technology use affected by practice technology problems unrelated to study components;
   d. HealthTracker did not always appear for eligible patients;
   e. Fidelity data not initially captured in data extracts;
   f. Practice forgetting to start Topbar at beginning of the day (not set up for automatic start-up).

2. Pharmacy:
   a. Initial tablet set-up difficulties with security key and Windows updates problems;
   b. Some doctors not listed on Argus, so that linking the PASS program to the doctor for sending letters was not possible;
   c. Bugs in the PASS program prevented progress to end of the program;
   d. Fidelity data could not initially be viewed.

Positive feedback was received from GPs in relation to the clinical usefulness of HealthTracker, mainly with respect to using it for patient communication. GPs recommended additional information that could be provided to patients, including posters for the waiting room and pamphlets about the PASS program. GPs also said that novel interventions required time for sustained uptake.

For pharmacists, in-person training with case studies was valued, but workflow was not clear in the app. Overall, pharmacists said that it could be a useful tool, but did not fully encompass all aspects of a full medication review (an alternative program subsidised by Medicare). Pharmacists predicted challenges that would affect delivery of the intervention, including time pressures in busy pharmacies, lack of private areas for consultations, and lack of patient follow-up because scheduling follow-up appointments is difficult (outside the usual workflow of community pharmacists).

Actions following the pilot phase:

Following the pilot phase, the technology aspects were amended as follows:

- PASS program upgraded to improve the workflow and interface;
- Pen Computing systems consulted regarding solutions for Topbar (and therefore HealthTracker) that facilitate automatic start-up when a practice opened their electronic medical record system;
- Improved checklists for technology set-up to ensure systems were installed and working prior to study staff training;
- Argus consulted to overcome problem of unregistered GPs, including pro-actively ensuring they were registered prior to technology set-up.

Training materials were also modified, and additional informational materials for patients developed.
Figure 1. Screenshots of the HealthTracker electronic decision support tool (fictitious patients)

A. Risk factor summary and absolute risk calculation
B. Risk communication tool

Risk estimate is high - around 1 in every 4 people with this risk score will have heart disease or a stroke in the next five years.
C. Tailored medication recommendations

**Mr. Terrance Costello  Male, 57 years**

**BP Lowering**  BP lowering therapy is recommended. If clinically indicated then start treatment with any of the following agents: • ACE inhibitor • Angiotensin receptor blocker • Calcium channel blocker • Long-acting thiazide or thiazide-like diuretic.

**Statin**  Statin therapy is recommended, but patient is not eligible for PBS subsidy under the current scheme.

**Fibrate**  There are no indications for fibrate therapy based on the available information.

**Anti-platelet**  There are no current indications for Anti-platelet therapy based on the available information.

**Oral anticoagulant**  Oral anticoagulant therapy is not indicated based on the available information.
D. Tailored recommendations about eligibility for polypills

Mr. David Charles Allen  Male, 55 years

**Polypill Transition**

Unless there are contraindications, this patient is recommended to take a combination of BP lowering, statin and antiplatelet therapy and therefore prescription of one of the following polyps (with adjustment of other therapy as needed [link to test below]) should be considered:

- **HydroNorb Asp**: Hydrochlorothiazide (12.5mg) + Irbesartan (150mg) + atorvastatin (40mg) + 100mg aspirin
- **AmlNorb Asp**: Amlodipine (5mg) + Irbesartan (150mg) + alirocumab (40mg) + aspirin (100mg)
- **Perindap Asp**: Perindopril (4mg) + indapamide (1.25mg) + atorvastatin (40mg) + aspirin (100mg)
- **Pemudol Asp**: Pemudolopril (20mg) + amlodipine (5mg) + atorvastatin (40mg) + aspirin (100mg)

Please print consent form and ensure patient signs prior to prescribing initial polypill therapy.

[Consent Form]

**Transitioning patients onto a Polypill**

The INTEGRATE study is using over-encapsulated pills. Commercially manufactured component medications are placed into capsules without crushing or division. No additional side effects are expected beyond those usually seen with the individual component medications. Patients may be on treatment regimens that do not convert straight into the polypill (different dosages, different drugs of the same class, different classes). Several options exist for transitioning patients onto the polypill:

- You may consider a 1 or 2 week period of using lower doses of the blood pressure lowering medicine(s) among those you think may not immediately tolerate the blood pressure combination in the polypill, but this is not mandatory. The patient can also be considered for initial treatment with 20 mg alirocumab, but the risk of adverse effects will statins are largely not related to dose.
- If the pre-existing doses are equivalent to those of the component in the polypill, no titration is needed.
- If the pre-existing doses of blood pressure lowering medicines or statins are greater than the polypill equivalent, start the polypill and consider adding extra doses of individual components at subsequent clinic visits.

**Transitioning patients off the Polypill**
Figure 2. Population health audit tool with re-identification facility for reminder systems

Note: Patient is fictitious.
Figure 3. Sample benchmarking report, provided at 3-monthly intervals to participating practices

Note: Multiple graphs were provided including Proportion of undertreated high risk patients with up to date screening of systolic blood pressure and lipids (including total, low-density lipoprotein [LDL] and high density lipoprotein cholesterol), proportion of high risk undertreated patients on guidelines recommended treatments including blood pressure-lowering medications, lipid-lowering medication ± aspirin, and proportion of undertreated patients at high CVD risk reaching their blood pressure and LDL cholesterol targets.
Table 1. Polypills available during the study

Polypills were manufactured specifically for the study at a local Therapeutic Goods Administration (TGA)-approved, Good Manufacturing Practice (GMP)-certified over-encapsulation company (PharmPackPro).

At the time of the study, the Pharmaceutical Benefits Scheme co-payment equivalent was between $6.10 and $6.30 for a patient with a concession card, and between $37.70 and $38.80 for other patients. Four pharmacies provided a discount to their general patients, as the cost of generic equivalent medications was lower than the co-payment amount of $37.70 – $38.80.

<table>
<thead>
<tr>
<th>Polypill</th>
<th>Statin</th>
<th>First blood-pressure-lowering</th>
<th>Second blood-pressure-lowering</th>
<th>Anti-platelet</th>
<th>Number prescribed</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>107</td>
</tr>
<tr>
<td>1</td>
<td>10 mg rosuvastatin</td>
<td>4 mg perindopril erbumine</td>
<td>5 mg amlodipine</td>
<td>100 mg aspirin</td>
<td>17 (16%)</td>
</tr>
<tr>
<td>2</td>
<td>10 mg rosuvastatin</td>
<td>4 mg perindopril erbumine</td>
<td>5 mg amlodipine</td>
<td>-</td>
<td>15 (14%)</td>
</tr>
<tr>
<td>3</td>
<td>10 mg rosuvastatin</td>
<td>4 mg perindopril erbumine</td>
<td>1.25 mg indapamide</td>
<td>100 mg aspirin</td>
<td>11 (10%)</td>
</tr>
<tr>
<td>4</td>
<td>10 mg rosuvastatin</td>
<td>4 mg perindopril erbumine</td>
<td>1.25 mg indapamide</td>
<td>-</td>
<td>10 (9%)</td>
</tr>
<tr>
<td>5</td>
<td>10 mg rosuvastatin</td>
<td>12.5 mg hydrochlorothiazide</td>
<td>40 mg telmisartan</td>
<td>100 mg aspirin</td>
<td>9 (8%)</td>
</tr>
<tr>
<td>6</td>
<td>10 mg rosuvastatin</td>
<td>12.5 mg hydrochlorothiazide</td>
<td>40 mg telmisartan</td>
<td>-</td>
<td>11 (10%)</td>
</tr>
<tr>
<td>7</td>
<td>10 mg rosuvastatin</td>
<td>5 mg amlodipine</td>
<td>40 mg telmisartan</td>
<td>100 mg aspirin</td>
<td>14 (13%)</td>
</tr>
<tr>
<td>8</td>
<td>10 mg rosuvastatin</td>
<td>5 mg amlodipine</td>
<td>40 mg telmisartan</td>
<td>-</td>
<td>20 (19%)</td>
</tr>
</tbody>
</table>
2. Pharmacy Adherence Support Service

Patients could be referred by trial doctors, or pharmacists could independently initiate the program among identified patients from the partner practice. Potential medication-related problems were communicated directly to the prescribing doctor’s EMR via an integrated secure messaging system.
Figure 4. Architecture of trial intervention

GP = general practice, HER = electronic health record, CAT 4 = Clinical Audit Tool 4, ARGUS = proprietary secure messaging system, TGI = The George Institute, PASS = Pharmacy Adherence Support Service.
**General practice:**

EHR is the general practices’ electronic health record system.

TopBar is a third party software owned by PenCS that provides access to data in the electronic health record to populate HealthTracker.

HealthTracker is the George Institute bespoke electronic decision support tool used in this study, and sat within Topbar.

CAT4 is a third party data extraction tool owned by PenCS, and provided data extracts from the electronic health record (outcomes data).

**Pharmacy:**

PASS is the pharmacy adherence support service, a digital tool incorporating the Adherence to Refills and Medications Scale (ARMS7) and the Brief Medication Questionnaire 1 (BMQ1).

Upon completion of a PASS visit, a doctor’s letter was generated and transmitted by the Argus Secure Messaging System to the doctor’s inbox in their electronic health record software.
3. Hierarchic matching strategy

Firstly, duplicate patient records with matching site ID, date of birth, and sex were removed.

Then patients were matched by patient ID at 49 of 70 sites. Patients without matching patient IDs at study end were removed.

Technical problems with patient IDs at 21 of 70 sites meant that patients were hierarchically matched by date of birth, sex, and at least one matching variable from a list of 20 unique variables with associated dates:

a. If CHD = Y and CHDdate = the same from baseline to EOS
b. If stroke = Y and strokedate = the same from baseline to EOS
c. If CHF = Y and CHFdate = the same from baseline to EOS
d. If CKD = Y and CKDdate = the same from baseline to EOS
e. If DM = Y and DMdate = the same from baseline to EOS
f. If GDM = Y and GDMdate = the same from baseline to EOS
g. If PVD = Y and PVDdate = the same from baseline to EOS
h. If AF = Y and AFdate = the same from baseline to EOS
i. If smokerquitdate is the same from baseline to EOS
j. If waist number and waist date are the same from baseline to EOS
k. If weight and weight date are the same from baseline to EOS
l. If ACR and ACRdate are the same from baseline to EOS
m. If height and heightdate are the same from baseline to EOS
n. If LDL and LDLdate are the same from baseline to EOS
o. AlbEx = Y and AlbExDate are the same from baseline to EOS
p. Creatinine number and Creatinine date are the same from baseline to EOS
q. FBG number and FBG date are the same from baseline to EOS
r. GTT number and GTT date are the same from baseline to EOS
s. HbA1c number and HbA1c date are the same from baseline to EOS
t. LVH = Y and LVHdate are the same from baseline to EOS

CHD = coronary heart disease, EOS = end of study, CHF = chronic heart failure, CKD = chronic kidney disease, DM = diabetes mellitus, GDM = gestational diabetes mellitus, PVD = peripheral vascular disease, AF = atrial fibrillation, ACR = albumin creatinine ratio, LDL = low density lipoprotein cholesterol, AlbEx = albumin excretion, FBG = fasting blood glucose, GTT = glucose tolerance test, HbA1c = glycated haemoglobin, LVH = left ventricular hypertrophy. The suffix ‘date’ indicates the date the variable was documented in the medical record.
4. Statistical analysis

We estimated that 70 practices (35 per arm) would provide 80% power ($2^{\alpha} = 0.05$) with a mean cluster size of 60 to detect a relative risk of $\geq 1.35$ in the proportion achieving blood pressure and low-density lipoprotein cholesterol targets (intervention v control). We assumed an intra-class correlation of 0.01 and that 10% of control group patients would achieve the blood pressure and low-density lipoprotein cholesterol targets by study end. Three groups of patients were available for analysis: all eligible patients; eligible patients who had high cardiovascular disease risk at baseline; and eligible patients who had high cardiovascular disease risk at baseline and were undertreated at baseline.

The association between the primary outcome and the use of HealthTracker (intervention arm only) has been assessed by the hierarchical log-binomial model described in the main text, adjusted for potential confounders.

The primary approach was complete case analysis, including only non-missing target outcome data. We performed two sensitivity analyses based on how missing outcomes were imputed. One was based on imputation of missing outcomes as “target not achieved”. The second used multiple imputation by chained equations with full conditional specification (employing linear regression models for continuous variables and logistic models for binary variables) and pooling the results of 20 imputed datasets.

For each subgroup, the primary analysis was repeated with the addition of the subgroup variable and its interaction with intervention. Assessment of heterogeneity was based on the statistical significance of the interaction term.

We made no formal adjustments for multiple testing, but findings have been interpreted in the light of the number of comparisons made.

All statistical analyses were performed in SAS Enterprise Guide 7.15.

A detailed statistical analysis plan has been published elsewhere.²
**Table 2. Characteristics of participating practices and pharmacies**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practices</strong></td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>State</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New South Wales</td>
<td>19 (54%)</td>
<td>21 (60%)</td>
</tr>
<tr>
<td>Queensland</td>
<td>3 (9%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>Victoria</td>
<td>8 (23%)</td>
<td>8 (23%)</td>
</tr>
<tr>
<td>Western Australia</td>
<td>5 (14%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td><strong>Practice size (under 500 patients)</strong></td>
<td>2 (6%)</td>
<td>2 (6%)</td>
</tr>
<tr>
<td><strong>GPs, median number (IQR)</strong></td>
<td>7 (4–10)</td>
<td>6 (3–9)</td>
</tr>
<tr>
<td><strong>GP, sex (women)</strong></td>
<td>127/238 (53%)</td>
<td>112/216 (52%)</td>
</tr>
<tr>
<td><strong>Practice nurse available</strong></td>
<td>33 (94%)</td>
<td>30 (86%)</td>
</tr>
<tr>
<td><strong>Registered training practice</strong></td>
<td>23 (66%)</td>
<td>24 (69%)</td>
</tr>
<tr>
<td><strong>Proportion of patients bulk-billed, median (IQR)</strong></td>
<td>95% (80–100%)</td>
<td>95% (80–100%)</td>
</tr>
<tr>
<td><strong>Sessions per week worked by GPs, median number (IQR)</strong></td>
<td>6.9 (4.7–7.8)</td>
<td>6.6 (5.0–8.0)</td>
</tr>
<tr>
<td><strong>Other allied health services</strong></td>
<td>15 (43%)</td>
<td>22 (63%)</td>
</tr>
<tr>
<td><strong>Ownership (MyHealth)</strong></td>
<td>13 (37%)</td>
<td>16 (46%)</td>
</tr>
<tr>
<td><strong>Pharmacies</strong></td>
<td>36*</td>
<td>—</td>
</tr>
<tr>
<td><strong>Type of ownership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Franchise</td>
<td>7 (19%)</td>
<td>—</td>
</tr>
<tr>
<td>Large chains</td>
<td>14 (39%)</td>
<td>—</td>
</tr>
<tr>
<td>Independent</td>
<td>15 (42%)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Pharmacists, median number (IQR)</strong></td>
<td>3 (2–4)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Sex (women)</strong></td>
<td>63/126 (50.0%)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Pharmacy assistants, median number (IQR)</strong></td>
<td>4 (2–8)</td>
<td>—</td>
</tr>
</tbody>
</table>

IQR = interquartile range.

* One GP site had two practices with a joint database (counted as one GP site), but each practice partnered with a separate pharmacy for geographic reasons (counted as two pharmacy sites).

Practice information is taken from final practice survey data.
Table 3. Baseline characteristics of all participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>72 880</td>
<td>70 374</td>
</tr>
<tr>
<td>Age (years), mean (SD)</td>
<td>45.8 (18.5)</td>
<td>46.8 (18.4)</td>
</tr>
<tr>
<td>Women</td>
<td>42 693 (58.6%)</td>
<td>41 516 (59.0%)</td>
</tr>
<tr>
<td>Current smoker</td>
<td>9085/63 722 (14.3%)</td>
<td>9189/61 336 (15.0%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body mass index (kg/m^2), mean (SD)</td>
<td>28.3 (6.6)</td>
<td>28.2 (6.4)</td>
</tr>
<tr>
<td></td>
<td>N=35836</td>
<td>N=34 871</td>
</tr>
<tr>
<td>Systolic BP (mmHg), mean (SD)</td>
<td>124.0 (16.7)</td>
<td>124.7 (16.4)</td>
</tr>
<tr>
<td></td>
<td>N=58 307</td>
<td>N=57 122</td>
</tr>
<tr>
<td>Diastolic BP (mmHg), mean (SD)</td>
<td>77.2 (10.7)</td>
<td>77.8 (10.4)</td>
</tr>
<tr>
<td></td>
<td>N=58 263</td>
<td>N=57 058</td>
</tr>
<tr>
<td>Total cholesterol (mmol/L), mean (SD)</td>
<td>5.0 (1.1)</td>
<td>5.0 (1.1)</td>
</tr>
<tr>
<td></td>
<td>N=42 101</td>
<td>N=42 150</td>
</tr>
<tr>
<td>HDL cholesterol (mmol/L), mean (SD)</td>
<td>1.4 (0.4)</td>
<td>1.4 (0.4)</td>
</tr>
<tr>
<td></td>
<td>N=37 120</td>
<td>N=37 681</td>
</tr>
<tr>
<td>LDL cholesterol (mmol/L), mean (SD)</td>
<td>2.9 (0.9)</td>
<td>3.0 (1.0)</td>
</tr>
<tr>
<td></td>
<td>N=36 398</td>
<td>N=37 173</td>
</tr>
<tr>
<td>Triglycerides (mmol/L), mean (SD)</td>
<td>1.5 (1.0)</td>
<td>1.5 (1.0)</td>
</tr>
<tr>
<td></td>
<td>N=41 128</td>
<td>N=41 015</td>
</tr>
<tr>
<td>Creatinine (µmol/L), mean (SD)</td>
<td>74.6 (29.9)</td>
<td>73.9 (26.3)</td>
</tr>
<tr>
<td></td>
<td>N=49 492</td>
<td>N=48 068</td>
</tr>
<tr>
<td>HbA1c (%), mean (SD)</td>
<td>6.1 (1.3)</td>
<td>6.1 (1.3)</td>
</tr>
<tr>
<td></td>
<td>N=15 258</td>
<td>N=14 877</td>
</tr>
<tr>
<td>Risk unable to be calculated</td>
<td>39 035 (53.6%)</td>
<td>36 021 (51.2%)</td>
</tr>
<tr>
<td>High CVD risk</td>
<td>9253 (12.7%)</td>
<td>9240 (13.1%)</td>
</tr>
<tr>
<td>History of CVD</td>
<td>3695 (5.1%)</td>
<td>3673 (5.2%)</td>
</tr>
<tr>
<td>High-risk condition</td>
<td>4619 (6.3%)</td>
<td>4692 (6.7%)</td>
</tr>
<tr>
<td>High calculated risk</td>
<td>939 (1.3%)</td>
<td>875 (1.2%)</td>
</tr>
</tbody>
</table>

SD = standard deviation; BP = blood pressure; CVD = cardiovascular disease; HDL = high-density lipoprotein; LDL = low-density lipoprotein.
Table 4. Baseline characteristics for undertreated patients with high baseline risk of cardiovascular disease, by availability of follow-up data for the primary outcome

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With follow-up data</td>
<td>Without follow-up data</td>
</tr>
<tr>
<td>Total number of patients</td>
<td>2156</td>
<td>1432</td>
</tr>
<tr>
<td>Age (years), mean (SD)</td>
<td>67.9 (12.3)</td>
<td>67.9 (16.4)</td>
</tr>
<tr>
<td>Sex (women)</td>
<td>931 (43.2%)</td>
<td>657 (45.9%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>970 (45.0%)</td>
<td>443 (30.9%)</td>
</tr>
<tr>
<td>Current smoker/quit within past 12 months</td>
<td>337/2015 (16.7%)</td>
<td>245/1263 (19.4%)</td>
</tr>
<tr>
<td>Body mass index (kg/m²), mean (SD)</td>
<td>29.9 (6.5)</td>
<td>29.0 (6.6)</td>
</tr>
<tr>
<td></td>
<td>N=1733</td>
<td>N=963</td>
</tr>
<tr>
<td>Systolic blood pressure (mmHg), mean (SD)</td>
<td>133.9 (18.4)</td>
<td>134.8 (19.8)</td>
</tr>
<tr>
<td></td>
<td>N=2102</td>
<td>N=1341</td>
</tr>
<tr>
<td>Diastolic blood pressure (mmHg), mean (SD)</td>
<td>78.0 (12.3)</td>
<td>79.0 (12.9)</td>
</tr>
<tr>
<td></td>
<td>N=2105</td>
<td>N=1337</td>
</tr>
<tr>
<td>Total cholesterol (mmol/L), mean (SD)</td>
<td>5.1 (1.4)</td>
<td>5.4 (1.6)</td>
</tr>
<tr>
<td></td>
<td>N=2076</td>
<td>N=1240</td>
</tr>
<tr>
<td>HDL cholesterol (mmol/L), mean (SD)</td>
<td>1.3 (0.4)</td>
<td>1.3 (0.4)</td>
</tr>
<tr>
<td></td>
<td>N=2030</td>
<td>N=1136</td>
</tr>
<tr>
<td>LDL cholesterol (mmol/L), mean (SD)</td>
<td>2.9 (1.2)</td>
<td>3.1 (1.2)</td>
</tr>
<tr>
<td></td>
<td>N=2006</td>
<td>N=1091</td>
</tr>
<tr>
<td>Triglycerides (mmol/L), mean (SD)</td>
<td>1.8 (1.2)</td>
<td>1.9 (1.7)</td>
</tr>
<tr>
<td></td>
<td>N=2069</td>
<td>N=1221</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Intervention</td>
<td>Control</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td></td>
<td>With follow-up data</td>
<td>Without follow-up data</td>
</tr>
<tr>
<td></td>
<td>$N=2100$</td>
<td>$N=1296$</td>
</tr>
<tr>
<td>Creatinine ($\mu$mol/L), mean (SD)</td>
<td>86.6 (51.7)</td>
<td>93.6 (72.9)</td>
</tr>
<tr>
<td></td>
<td>$N=1349$</td>
<td>$N=626$</td>
</tr>
<tr>
<td>HbA$_{1c}$ (%), mean (SD)</td>
<td>6.6 (1.4)</td>
<td>6.6 (1.6)</td>
</tr>
<tr>
<td></td>
<td>$N=1044$</td>
<td>$N=701$</td>
</tr>
<tr>
<td>High CVD risk</td>
<td>788 (36.5%)</td>
<td>518 (36.2%)</td>
</tr>
<tr>
<td>History of CVD</td>
<td>1044 (48.4%)</td>
<td>701 (49.0%)</td>
</tr>
<tr>
<td>High risk condition</td>
<td>324 (15.0%)</td>
<td>213 (14.9%)</td>
</tr>
<tr>
<td>High calculated risk</td>
<td>324 (15.0%)</td>
<td>213 (14.9%)</td>
</tr>
</tbody>
</table>

CVD = cardiovascular disease; HbA$_{1c}$ = glycated haemoglobin; HDL = high-density lipoprotein; LDL low-density lipoprotein; SD = standard deviation.
**Table 5. Additional secondary outcomes**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intervention</th>
<th>Control</th>
<th>Outcome: intervention v control (95% CI)</th>
<th>Intra-class correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients at high CVD risk and undertreated at baseline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic blood pressure: change from baseline (mmHg), mean (SD)</td>
<td>–1.9 (18.9)</td>
<td>–1.4 (18.8)</td>
<td>MD, –0.33 (–1.44 to 0.78)</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>N=3064</td>
<td>N=3080</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diastolic blood pressure: change from baseline (mmHg), mean (SD)</td>
<td>–1.3 (12.2)</td>
<td>–1.1 (11.6)</td>
<td>MD, –0.08 (–0.84 to 0.69)</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>N=3065</td>
<td>N=3069</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL cholesterol: change from baseline (mmol/L), mean (SD)</td>
<td>–0.3 (0.91)</td>
<td>–0.3 (0.93)</td>
<td>MD, 0.00 (–0.07 to 0.08)</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>N=2102</td>
<td>N=2250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All patients with high baseline CVD risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieved blood pressure and LDL cholesterol targets and taking</td>
<td>1227 (27.1%)</td>
<td>1151 (25.0%)</td>
<td>1.09 (0.95–1.25)</td>
<td>0.02</td>
</tr>
<tr>
<td>antiplatelet (if CVD diagnosis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low and medium CVD risk at both baseline and end of study</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received new prescription or escalation of blood pressure-lowering, statin, or antiplatelet therapy</td>
<td>1330 (8.8%)</td>
<td>1249 (8.2%)</td>
<td>1.05 (0.80–1.39)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

CVD = cardiovascular disease; CI = confidence interval; LDL = low-density lipoprotein cholesterol.
### Table 6. Outcomes: sensitivity analyses

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intervention</th>
<th>Control</th>
<th>Outcome: intervention v control (95% CI)</th>
<th>Intervention</th>
<th>Control</th>
<th>Outcome: intervention v control (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Undertreated patients with high baseline CVD risk</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion achieving blood pressure and LDL cholesterol targets (primary outcome)</td>
<td>423/3588 (11.8%)</td>
<td>466/3577 (13.0%)</td>
<td>1.00 (0.76–1.31)</td>
<td>668/3588 (18.6%)</td>
<td>676/3577 (18.9%)</td>
<td>1.06 (0.87–1.28)</td>
</tr>
<tr>
<td>Achieved blood pressure target</td>
<td>2185/3588 (60.9%)</td>
<td>2153/3577 (60.2%)</td>
<td>1.02 (0.93–1.12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieved LDL cholesterol target</td>
<td>599/3588 (16.7%)</td>
<td>650/3577 (18.2%)</td>
<td>0.98 (0.78–1.24)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieved blood pressure or LDL cholesterol targets</td>
<td>2361/3588 (65.8%)</td>
<td>2337/3577 (65.3%)</td>
<td>1.01 (0.93–1.10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>All patients with high baseline CVD risk</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieved blood pressure and LDL cholesterol targets</td>
<td>1420/6757 (21.0%)</td>
<td>1368/6507 (21.0%)</td>
<td>1.02 (0.84–1.24)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieved blood pressure and LDL cholesterol targets (for all patients) and taking antiplatelet (if patient had established CVD)</td>
<td>1227/6757 (18.2%)</td>
<td>1151/6507 (17.7%)</td>
<td>1.05 (0.86–1.28)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CVD = cardiovascular disease; LDL = low density lipoprotein cholesterol.
Table 7. Associations between undertreated patients with high baseline CVD risk achieving the primary outcome and HealthTracker use, by approach to handling missing data*

<table>
<thead>
<tr>
<th>Adjustment for missing data</th>
<th>HealthTracker used</th>
<th>Relative risk (95% CI)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>Unadjusted</td>
<td>Adjusted</td>
<td></td>
</tr>
<tr>
<td>Patients excluded from analysis</td>
<td>59/266 (22%)</td>
<td>1.14 (0.88–1.49)</td>
<td>1.06 (0.79–1.42)</td>
<td></td>
</tr>
<tr>
<td>Patients deemed to have not met targets (imputed as negative)</td>
<td>59/347 (17%)</td>
<td>1.44 (1.09–1.90)</td>
<td>1.29 (0.94–1.76)</td>
<td></td>
</tr>
<tr>
<td>Multiple imputation</td>
<td>77/347 (22%)</td>
<td>1.20 (0.94–1.54)</td>
<td>1.18 (0.94–1.49)</td>
<td></td>
</tr>
</tbody>
</table>

CI = confidence interval; LDL = low density lipoprotein.
* Follow-up data for blood pressure or LDL-cholesterol not available.
† Baseline age, sex, body mass index, estimated glomerular filtration rate (pre-specified).
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  Katie Goddard, Project Officer
  Pravin Siriwardena, Project Assistant

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  Wong, Leighton
  Ibrahim, Hanaa
  Emmerson, Stuart
  Ling, Grace
  Ewert, Cameron
  Cardwell, Lewis
  Cervelli, Melanie
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  Hayward, Kulbir
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  O'Brien, Russell
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  Kelly, Andrea
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  Hong, Henry
Site GP057: MyHealth Enfield
  Lau, Mary-Ann
Site GP059: MyHealth Burleigh Waters
  Lim, Phin
Site GP060: MyHealth Helensvale
  Moshtagh, Hamid
Site GP061: MyHealth Corio
  Odeleye, Olugbenga
Site GP062: MyHealth Box Hill
  Ng, Frank
  Tan, Irene
  Louey, Janice
  Teng, Tina
  Wang, Lynn
  Mok, Chee Ken
Site GP064: Aveley Medical Centre
  Afikaka, Olugbenga
  Weerasekera, Kanchana
  Akter, Murshida
  Sithole, Nqobile
  Shaw, Daytinee
  Poni, Lynda
  Pindoria, Alpa
  Kamran, Anam
  Lee, Mei
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  Bittar, Hani
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  Saba, Therese
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  Sharma, Vivienne
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  Krzyszton, Andrew
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  Pham, Tuyet
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  Dandenong (previously Pharmasave Moore’s the Chemist)
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  Do, Jennifer
  Wu, John
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  Ghaly, Joshua
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  Sok, Jennifer
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  Ayad, Michael
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  Weber, Rainer
  Ho, Agnes
  Wong, Nicole
  Weber, Elisabeth
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  Benn, Sol
  Webb, Christina
  Barve, Priyanka
  Chong, Michelle
  Benn, Jack
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  Armellin, Lara
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  Demarte, Joe
  Wong, Lawrence
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  Fretten, Ben
  Elliott, Amica
  Fretten, Alicia Helen

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  Xiao, Harris
  Wong, Mae
  Lam, Grace
  Yeung, Wan
Site P064: Friendlies Pharmacy Aveley
  Pindoria, Alpa
  Dodhia, Shilan
Site P067: Medicines Rx Chemist
  Hanna, Bishoy
  Saleeb, Ibram
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References
