Appendix 2:
Uptake and outcomes of identified pharmacist remuneration programs

General Motors Smoking Cessation Program[25]

Design: Analysis of prescription claims data and self-reported quit rates by participating pharmacies.

Objectives: To determine smoking cessation quit rates and the mean duration of therapy for nicotine patches.

Uptake: Of 217 pharmacies eligible to participate, 47 provided services. Between November 4, 2006 and December 17, 2006, 80 patients received the service. 23 were lost to follow-up.

Clinical Outcomes: 30 patients (37.5%) smoke-free after 6 months, with men having a higher quit rate than women (42.6% versus 21.2%, p = 0.034).

Economic Outcomes: Mean duration of therapy for those using the nicotine patch was 61.2 days.

Barriers: A high loss to follow-up rate was observed (28%).

Iowa Priority Prescription Program[41-42,141]

Design: Retrospective cohort study using enrollment, claims, and provider data41

Objectives: To assess whether member characteristics and their provider access affected the probability of the member to obtain the service.

Uptake: Of the 24,044 eligible members of the Iowa Priority program as of June 30, 2002, 3071 (12.76%) received a brown bag review. Among the members with prescription claims for that same time period (14,051), 2434 (17.32%) received brown bag reviews.

Objectives: To characterize the number and types of patient safety issues identified among patients receiving a Brown Bag medication review.141

Uptake: 2,780 Brown Bag medication review claims were filed through mid-2002.

Clinical Outcomes: 33% of patients receiving a Brown Bag medication review had at least one patient safety issue identified (16.2% of patients had a drug interaction issue, 6.6% had a duplication of therapy issue, and 17.1% had other issues). Requiring a medication not currently taken was the most commonly-identified 'other' issue.

Uptake: Of ~800 Iowa retail pharmacies, 748 (93.5%) have joined Iowa Priority. As of July 17, 2002, 3,675 enrollees had taken advantage of the free Brown Bag Assessments. While either the patient's physician or pharmacist can complete assessments, over 95% of assessments have been done by pharmacists.42

Barriers: Some pharmacists have reported that the low dispensing fee offered to Iowa Priority enrollees ($2.50 for brand-name drugs and $3.25 for generic drugs) when combined with the discount given to enrollees makes the cost of doing business too high.

Maryland – Maryland Patients Pharmacists Partnerships (P3) Program[45]

Design: Retrospective chart review (January 2009 – December 2010).

Objectives: To examine HbA1c control rate (measured as the percentage of participating employees achieving the target HbA1c levels), LDL cholesterol levels, and blood pressure among 449 patients with two or more HbA1c values during the study period.

Uptake: Currently >300 pharmacist providers participating. During the evaluation period, the program had served ~500 employees and engaged six self-insured employers.

Appendix to: Houle SKD, Grindrod KA, Chatterley T, Tsuyuki RT. Paying pharmacists for patient care: a systematic review of remunerated pharmacy clinical care. *Can Pharm J* (Ott) 2014:147(4). DOI: 10.1177/1715163514536678.

Clinical Outcomes: On average, the HbA1C was reduced by over 0.5% for all participants during the study interval. Proportion of participants at LDL <100 mg/dL increased from 53% to 65%, and the proportion at LDL <70 mg/dL also increased from 22% to 29.1%. BP was also reported to have improved, but actual data not provided.

Economic Outcomes: Actual cost savings of $495 and $3,281 per patient in 2008 were reported by two participating employers. The authors reported modest, but positive cost savings by the end of 2008 for employers when compared to baseline costs (actual data not provided). Per employee out-of-pocket costs decreased for participants in the sites where economic data were available.

Minnesota Medication Therapy Management Program[50-51,149]

Design: Retrospective analysis of administrative data over the 10-year period from September 1998 to September 2008 in 1 health system with 48 primary care clinics.50

Objectives: To present the clinical, economic, and humanistic outcomes of the program.

Uptake: 33,706 documented encounters with 9,068 patients in 10 years, averaging 3.72 visits per patient.

Clinical Outcomes: 38,631 drug therapy problems identified and addressed, with 7,708 (85%) of patients having 1 or more drug therapy problem at the first visit, and 2,630 (29%) having 5 or more. Among 110 patients with diabetes, 47 (42.7% reached all 5 goals of therapy set out (HbA1c <7%, blood pressure <130/80 mm Hg, LDL cholesterol <100 mg/dL, no tobacco use, and daily aspirin use) compared to only 19 (17.3%) at baseline.

Economic Outcomes: Estimated direct savings were $2,913,850 ($86.45 per encounter for 33,706 encounters). The average cost of an MTM visit was $67.00 for a total program cost of $2,258,302 and an estimated return on investment of $1.29 per $1 spent.

Patient Satisfaction: Patient satisfaction was very high, with >95% of 317 survey respondents agreeing or strongly agreeing that the pharmacist provided education helpful in achieving goals of therapy, that their health and well-being had improved as a result of the program, they would recommend the service to their family and friends, and that the pharmacist helped them understand how to take their medication(s) safely and correctly. 98% of patients agreed or strongly agreed that health care benefits should include the program.

Uptake: 34 pharmacists billed the state for providing MTM services to 259 patients from April 1, 2006, to March 31, 2007.51

Clinical Outcomes: Pharmacists resolved an average of 3.1 drug therapy problems per patient, most commonly issues of inadequate therapy. Of patients with diabetes, 36% met all five of the state's standards for diabetes care after starting to receive the service compared to 6% of patients meeting these standards statewide in 2004.

Economic Outcomes: The pharmacists received an average of $92.50 per patient visit, with the payment based on the complexity of care for the given patient.

Design: Retrospective medical chart review and administrative data analysis.149

Objectives: To evaluate patient care, quality of care and health expenditure outcomes of the program in the first year of the program (April 2006 to March 2007).

Uptake: 34 pharmacists provided medication therapy management services to 259 recipients across 431 encounters.

Clinical Outcomes: A total of 789 drug therapy problems were identified and resolved, with dosage too low, non-compliance, and need for additional therapy representing 73% of problems identified. 82% of problems did not require the direct involvement of a physician while 18% were resolved through collaboration with a physician or other primary care professional. Goals of therapy achieved improved from 76% to 87% in the first year of the program.

Economic Outcomes: $39,866 was paid to pharmacists (average $92.50 per encounter). Total health care claims (including payments for MTMS) were $3,027 per person per month in the pre-intervention period compared to $3,271 per person per month in the post-intervention period for an 8.0% difference in expenditures. Additionally,

expenditures increased for prescriptions (+24.3%), inpatient care (+11.2%), home and community-based services (+4.9%), and extended and residential care services (+12.7%). A decrease in expenditures was observed among prescribing providers (-9.3%), non-prescribing providers (-36.5%), ambulatory care (-20.6%), other care and services (-24.3%), and lab and diagnostic procedures (-69.7%).

Missouri Medicaid Disease State Management Program[150]

Uptake: 175 claims for services were submitted by 15 pharmacists for 148 patients in 6 months.

Clinical Outcomes: Pharmacists resolved the most health recommendations for hypertension (n=69), followed by dyslipidemia (n=51), and smoking cessation (n=36)

North Carolina Medicaid Medication Therapy Management Program[66]

Design: Retrospective analysis of pharmacy documentation

Objectives: To determine the prescriber acceptance rate of pharmacists' recommendations and implementation rate of accepted recommendations, and to estimate the cost-effectiveness of MTM activities at Kerr Drug pharmacies in North Carolina.

Clinical Outcomes: Of 352 quarterly reviews performed for 88 randomly sampled beneficiaries, the most common recommendations were for prescription to over-the-counter changes or brand to generic drug changes. From a clinical perspective, 11.4% of recommendations pertained to medication monitoring, 11.4% were to discontinue unnecessary medications, 5% were regarding adherence concerns, and 4.8% were to initiate new medications. The prescriber acceptance rate of recommendations averaged 52.8%. Of the 88 patients included in the analysis, 56 had recommendations that were both accepted and implemented by the pharmacist.

Economic Outcomes: Of the 56 patients with accepted and implemented recommendations, pharmacists were paid $6,720, and their recommendations led to $9,444 in savings. Net savings is therefore $2,724. However, when considering savings for these 56 patients versus the costs of providing medication therapy management for all 88 patients, the program resulted in a net loss of $1,116. Pharmacists were found to make cost-saving recommendations for 96% of beneficiaries, including switching from prescription to non-prescription drugs, or the use of generic drugs in place of brand name products.

Ohio – Lucas County Prescription Drug Use Review Program and Diabetes Case Management Program[69-71]

Design: A retrospective-prospective study of a cohort receiving pharmacist provided MTM services in Northwest Ohio.69

Objectives: Impact of pharmacist intervention on A1c, systolic blood pressure (SBP), diastolic blood pressure (DBP), body mass index (BMI). self-monitored blood glucose (SMBG) and caffeine intake per day among patients with diabetes and hypertension and an A1c >7.

Clinical Outcomes: Within one year of starting the MTM program, patients' mean A1c values decreased from 8.21 to 7.41 ($p=0.000$), SBP decreased from 130.72 to 127.84 ($p=0.006$) and DBP decreased from 81.75 to 80.03 ($p=0.004$). Caffeine consumption and SMBG decreased significantly ($p<0.05$ for each), while BMI decreased non-significantly.

Design: Longitudinal study using medical claims.70

Objectives: To determine costs and utilization incurred by employees following enrollment in the program, and to assess the impact of attrition from the program on health expenditures.

Economic Outcomes: Among 361 enrollees between January 2005 and July 2010, office visit expenses decreased 22.4% ($71,442), emergency room visits increased by $12,597.16, and total expenditure on inpatient visits went up by approximately $7600 but the amount spent on each visit went down from $7,746. The number of employees who had an inpatient visit increased from 3 to 7. A decrease in total health care expenditures by

over 14% was observed. On average, employees spent $407 per patient per year more when they dropped out of the program than if they stayed enrolled.

Design: Prospective pre-post longitudinal study.71

Objectives: To determine health care utilization and potential cost savings among patients with diabetes, hypertension, hyperlipidemia, or a combination of the three.

Clinical Outcomes: Over 70% of employees received a flu shot at least once over the 24 months. Alcohol and tobacco consumption decreased by 50% and 55%, respectively. Caffeine use decreased by 26.47%. Patient-reported exercise increased by 39%.

Economic Outcomes: Visits to specialty physicians increased (podiatrist by 24%, ophthalmologist by 41%, and dentist by 26%). Average cost-savings for employees who improved or maintained appropriate utilization of health resources ranged from $932-$1438 per employee over two years. Approximately 90% of employees either took less or had the same amount of sick days, and those with fewer sick days saved $1231 per employee while those who took more sick days spent $2147 per employee.

Texas – Scott & White Health Plan[80-81]

Uptake: 12 pharmacists saw 500 diabetic patients in 2011.80

Clinical Outcomes: Patients receiving pharmacist care experienced an improvement in medication adherence and a trend toward lower glycosylated hemoglobin (HbA1c) values (actual results not provided).

Economic Outcomes: The plan saved $1,800 per patient in the diabetes program compared with a control group. Given that 500 health plan members participated, the annual savings to the Scott & White plan was $900,000.

Objectives: To compare medication adherence, diabetes control, and healthcare costs between patients enrolled in the program and matched control patients.81

Uptake: 144 patients were enrolled in the program for at least 2 years and included in the analysis.

Clinical Outcomes: Average HbA1c decreased by 0.8 in controls and 1.5 in program patients ($p<0.01$). However, both groups declined in adherence to oral antidiabetic drugs (program patients by 10%, control patients by 19%, $p=0.009$).

Economic Outcomes: After two years, the average per member per month costs increased by 16% and 36% in program and control groups, respectively, with the increase mainly attributable to growth in diabetes-related drug and outpatient claims in the program group. Inpatient costs decreased by 38% in program patients versus an increase of 159% in the control group.

Wisconsin Medicaid Pharmaceutical Care Program[87-89]

Design: Retrospective, longitudinal analysis of paid claims from the Wisconsin Medicaid program

Objectives: To characterize claims from July 1996 to June 2007

Uptake: There were 51,543 paid claims to 601 pharmacies, ranging from a low of 806 in 1999 to 9,742 in 2004. An average of 87.7 claims were paid per pharmacy. There was a 12-fold increase in claims between 1999-2005, and after 2005 claims dropped by 22.6% in 2006 and 30.6% in 2007. 334 pharmacies were paid for 10 or fewer claims, with 111 paid for only one claim. Over one-third (37%) of pharmacies participated in the program for 1 year only.

Clinical Outcomes: Since 2002, prescription adjustments trended upward in frequency while providing patient information remained flat (actual data not reported).

Economic Outcomes: The majority of claims were paid at the 31-60 minutes level, with 55% of claims falling in the time categories of 0-5 minutes and 6-15 minutes. For more than 86% of paid claims, the actual dollar amount paid per claim to the pharmacy was paid at the maximum allowable reimbursement amount (actual data not reported).

Barriers: Potential explanations cited for low participation include low reimbursement rates, billing difficulties, time constraints, and the loss of dual-eligible patients to enrollment in Medicare Part D plans.

Wyoming PharmAssist[146]

Uptake: The program enrolled 15-20 state residents annually during the program's last two years (2007-2009), after the introduction of Medicare Part D pharmacy benefits.

Economic Outcomes: The program saved participants approximately $1,100 in medication costs per year, on average.

Barriers: Patient participation in the program declined significantly following introduction of Medicare Part D pharmacy benefits.

Medicare Part D Medication Therapy Management[94-95,142-144]

Design: Retrospective observational study conducted at 20 pharmacies from January 1 to December 31, 2010.94

Objectives: Primary objective was to determine the net financial impact on patient out-of-pocket prescription medication expense as a result of pharmacist interventions. The secondary objective was to evaluate the patient and physician acceptance rates of the pharmacists' recommendations.

Uptake: 284 patients were eligible for the service, of which 128 (45%) participated.

Clinical Outcomes: Pharmacists attempted 732 interventions, of which 53% were approved by both the patient and physician.

Economic Outcomes: 87 patients (68%) did not see a direct financial impact from the program, while 34 (27%) saw a decrease in medication expenses and 7 (5%) saw an increase in expenses. Net financial impact for all patients was a savings of $102.83 (SD $269.18) per patient per year.

Design: Retrospective quasi-experimental study using administrative data95

Objectives: To study the impact of the program on LDL cholesterol levels and achievement of LDL treatment goal.

Clinical Outcomes: Following intervention, mean LDL-C levels among control patients were significantly higher than those receiving MTM (90.8 ± 31.0 mg/dL among non-participants versus 83.4 ± 31.1 mg/dL among participants. 69% of MTM participants had an LDL-C <100 mg/dL versus 50% of control group patients ($p<0.001$).

Economic Outcomes: Pharmacists spent an estimated 1-3 hours for each patient served during the course of the intervention. The average savings in one year was $49 per member per month in those not receiving the service, but $77 in program participants. The amount spent out of pocket for copayments was $11.28 per member per month lower in program non-participants versus $7.36 lower among participants.

Design: Case-control study143

Objectives: To determine per member per month medication savings in the first year of a medication therapy management program.

Uptake: 4,259 case interventions were performed

Economic Outcomes: Projected medication costs for the control group assuming no intervention was $665 whereas actual costs were $613, representing a savings of $52 per member per month. Average monthly drug savings of $221,468 minus average monthly pharmacist fees for the intervention of $89,336 resulted in a return on investment of $2.50 per $1 spent.

Design: Analysis of administrative data.144

Objectives: To evaluate Medicare Part D drug costs, use, and generic dispensing ratio between pre- and post-medication therapy management (MTM) periods (service provided from May to December 2007).

Uptake: Of 73,793 patients eligible and analyzed, 21,336 (29%) received MTM services from a community pharmacist.

Economic Outcomes: Patients who received MTM services from a community pharmacist had a decline in mean monthly drug costs of $35 (from $669 to $634). Those patients who had a face-to-face session had a decline in mean monthly drug costs of $29 (from $658 to $629), while drug costs decreased by $40 (from $677 to $637) when the community pharmacist provided the services over the telephone. The mean number of prescriptions used per month decreased by 5% (from 9.79 to 9.29). The proportion of generic drugs dispensed per patient per month also increased by 9.4% (from 60.1% to 65.7%).

Design: Retrospective case-control study of patients receiving MTM versus those declining the service.142

Objectives: To compare clinical and economic outcomes among recipients and non-recipients of MTM.

Uptake: In 2006, 1388 patients were eligible and offered enrollment in the program, of which 307 (22%) accepted enrollment. In 2007, 1308 were eligible and 228 (17%) accepted enrollment.

Clinical Outcomes: 60% relative reduction was seen in gastrointestinal bleeds for patients with arthritis 6 months post-enrollment compared to 6 months pre-enrollment (p=0.007). An even greater reduction was seen among those enrolled in the program versus those declining enrollment (p=0.001). The proportion of patients receiving MTM with coronary artery disease with LDL cholesterol <100 mg/dL decreased by 5% over 6 months versus an increase of 7% in those declining MTM. Adherence to ACE inhibitor or angiotensin receptor blocker therapy increased by 10% in patients receiving MTM versus a decrease of 1% in those declining. Beta-blocker adherence decreased 2% in those receiving MTM versus decreasing by 8% in those declining. The proportion of patients with diabetes and HbA1c <7% increased by 3% among those receiving MTM versus increasing by 7% in those declining. The use of insulin among diabetic patients increased by 4% in those receiving MTM versus decreasing by 1% in those declining.

Economic Outcomes: Each pharmacist spent between 2-2.5 hours per patient case (included researching medication therapy, contacting physicians for additional data, collaboration, development of the care plan, and patient education). Rate of decline in per member per month drug costs was significantly steeper in the accepted group versus the declined group (p = 0.001), while the rate of decline in medical costs was not significantly different between groups. Patients enrolling in 2006 saw a sustained positive effect in lowered drug costs in 2007, while medical cost savings realized in 2006 were not sustained in 2007. For enrollees, the overall use of generic drugs increased by 6%, versus only 3% among those declining the service.

Patient Satisfaction: Over 95% of the enrollees responding to a survey found the program helpful, and over 90% of the 2006 enrollees and nearly 90% of the 2007 enrollees agreed that the telephone discussion with their pharmacist was convenient and provided the necessary education.

New Zealand National Pharmacist Services Framework[103]

Uptake: Of 66 pharmacists accredited to perform medication use reviews surveyed in May 2008, 39 (57%) were undertaking these reviews while the remainder were not.

Economic Outcomes: Initial interview takes a median of 57 minutes (range 30-120), and follow-up interviews take a median of 15 minutes (range 5-90). Pharmacists report that payment for the service ranged from $101-150 for three interviews, to $181-200 for four interviews, plus subsequent documentation.

Barriers: Pharmacists not performing reviews reported the following barriers: no current contract agreed upon with funders (contracts must be negotiated with individual district health boards), insufficient time, personal circumstances (unemployment, family leave), GPs and/or patients were not interested, and the claims process is too complex.

Scotland – Starting Fresh and Smoke Free Pharmacy Services[104-105,108]

Design: Observational study of administrative information linked with survey data.104-105

Objectives: To compare smoking cessation outcomes of users accessing pharmacy-based versus group smoking cessation treatment.

Uptake: At the time of the study, >200 pharmacists were participating and treating more than 12,000 smokers each year.

Clinical Outcomes: 18.6% of patients receiving pharmacy-based care were carbon monoxide-validated non-smokers after 4 weeks, versus 35.5% of patients receiving group counseling outside of the pharmacy. After 1 year, group service participants retained an abstinence rate of 6.3% versus 2.8% among pharmacy program participants (p=0.001).

Economic Outcomes: Economic model assumed cost per client of £79 for pharmacy clients and £368 for group clients. In comparison to self-quit attempts, economic modeling estimated that the pharmacy service resulted in a cost per quality-adjusted life-year (QALY) of £2,600 for pharmacy care, versus £4,800 for group services.

Barriers: Patients could obtain orders for bupropion or varenicline from a physician as part of the group counseling service, but could only receive nicotine replacement therapy through the pharmacy program at the time of the study. However, when group service clients receiving pharmacotherapy were excluded, 5.7% of group participants were quitters after 1 year (p=0.015 versus pharmacy program participants).

Design: Economic analysis of observational study data and information from National Health Service (NHS) Greater Glasgow and Clyde smoking cessation services.108

Objectives: To estimate short-term cost-effectiveness (cost per quitter) among a sample of 1374 pharmacy and 411 group service participants.

Economic Outcomes: 4-week cost of £53.31 per patient and £772 among quitters for those receiving pharmacy-based care, versus £338.54 per patient and £1612 per successful quitter in the group program.

Scotland, England, and Wales – Medication Use Reviews[112]

Design: Telephone interview of 30 community pharmacists.

Objectives: To assess community pharmacists' experiences and opinions of medication review services in England, Wales and Scotland.

Uptake: One-third of interviewees reported currently providing medication review services.

Professional Outcomes/Satisfaction: Perception that providing medication reviews enhanced relationships between patients and their pharmacist, and improved the image of the profession. Job satisfaction was also reported to be increased.

Barriers: Unnecessary bureaucracy, lack of sufficient privacy in the work environment, and an inappropriate link between medication reviews and remuneration rather than patient needs.

England and Northern Ireland – Pharmacy Minor Ailments Scheme[116,145,147-148,154]

Design: Analysis of claims data between August 2008 and January 2009.116

Objectives: To examine the uptake and cost of the minor ailments scheme in Cheshire.

Uptake: The Central and Eastern Cheshire Primary Care Trist (CECPT) provided 6,933 consultations across 92 pharmacies, and the Western Cheshire Primary Care Trust (WCPCT) provided 2,261 consultations across 29 pharmacies. 80% of service recipients said they would have visited a GP clinic if the minor ailments service were unavailable, and 15% said they would have self-selected a non-prescription product without advice.

Clinical Outcomes: 1% of CECPT and 0.7% of WCPCT consultations were referred to a physician.

Economic Outcomes: The average cost per consultation was less than £7, which is reported to compare favorably to the cost of GP consultations (GP fee not provided).

Uptake: In June 2007, almost one-quarter of patients presenting to community pharmacies with minor ailments received treatment through the minor ailments service. In the Heart of Birmingham Primary Care Trust (PCT), the scheme is offered by 82 of 84 pharmacies and 140,000 consultations were conducted in 2007. By comparison, the Sheffield PCT has 101 of 114 pharmacies participating, with 38,000 consultations provided in 2007-2008.154

Patient Satisfaction: 9 out of 10 Heart of Birmingham PCT patients reported the scheme saved them a visit to the GP. In Sheffield PCT, 8 out of 10 patients reported they would have otherwise visited their GP if the service wasn't available, and patient and GP satisfaction with the service is high.

Design: Semi-structured interviews with 26 pharmacists within Nottingham City Primary Care Trust148

Objectives: To investigate pharmacists' perspectives about the acceptability of the scheme, barriers to the use of the scheme, and potential improvements.

Uptake: 6 respondents reported performing ≤200 consultations between December 2003 and September 2006, 9 reported performing 201-800 consultations, and 10 reported performing >800 consultations.

Professional Satisfaction: Most respondents reported that the scheme had not affected their relationships with physicians. Patient benefits such as improved access to medicines, greater choice of where to receive care, and convenience were cited.

Barriers: Patient restriction to accessing the service from the pharmacy where they first registered with the scheme, insufficient remuneration for the increased work involved, time consuming and overly bureaucratic paperwork, lack of privacy, formulary restrictions, the need to provide a specimen louse for head lice treatment according to protocol, insufficient publicity of the scheme to promote greater use, abuse and overuse of the scheme by patients to obtain free non-prescription drugs.

Design: A mixed-methods study was conducted, including semi-structured interviews with key stakeholders, a patient survey, and an analysis of the Nottingham City Primary Care Trust data.147

Objectives: To evaluate whether the scheme achieved its objectives in terms of improving access to medicines and reducing doctor workload for minor ailments

Uptake: More than 40,000 consultations were carried out through the scheme during the first 3 years of the operation (December 2003–November 2006), with a steady increase in the volume of consultations over time.

Clinical Outcomes: Only a very small proportion of consultations (0.4%) were referred to GPs.

Patient Satisfaction: All parents interviewed who accessed the service for their child were satisfied with the scheme in terms of gaining access to the service, the medicine supplied and advice given as well as the conduct of providers. The convenience of the service was a benefit highlighted. Mean satisfaction scores for the 24 items of opinion ranged from 3.0 to 4.8 (where 1 indicated the most negative level of satisfaction and 5 indicated the most positive level of satisfaction). The highest satisfaction was reported for access/convenience and the lowest satisfaction for the physical environment.

Design: Prospective study145

Objectives: To assess the cost effectiveness of minor ailments schemes in 5 primary care organizations.

Uptake: 1044 patients attended pharmacies with a minor ailment over a 1-month period.

Economic Outcomes: The total cost of running the scheme for the 1044 patients was £4,100. Using standard GP (£36 per consultation) and emergency department (£111) costs, it is estimated that the scheme saved £14,602 over one month.

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