



Evidence of primary care pharmacists' impact on health

Executive Summary

Primary care is basic or general health care focused on the point at which a patient ideally first seeks assistance from the health care system. The quality of health care is affected by primary care in two ways: it defines access to health care for those who need it, and the quality of care provided at this point determines whether health will improve or not.

Pharmacists are an important component of a primary care system for two reasons. Pharmacists are often an easily accessible source of primary care because of the widespread distribution of pharmacies. After access to the health care system, primary care requires recommending treatment or referral to another health care provider with the expertise that is needed. By accessing a pharmacist, expert advice can be provided to the patient by a health care professional about the use of health care supplies including those that do not require a prescription. The pharmacist also has the expertise and professional network to refer a patient if there is a need for diagnosis and treatment with medicines that do require a prescription or other treatments besides medicines.

In writing the World Health Report for 2008 on the topic of Primary Care, the International Pharmaceutical Federation (FIP) encourages the World Health Organisation (WHO) to consider and include pharmacy services as an essential component. To justify and support this recommendation, FIP is providing this summary of evidence of the impact of primary care pharmacists on health.

This report consists of three parts:

1. This executive summary,
2. A five-page summary of the evidence organized by six positive outcomes,
3. An overview of the studies cited in the summary.

The studies included in this report are summarized according to five positive outcomes of the impact of primary care pharmacists that have been demonstrated. These outcomes include:

- Providing a convenient and cost effective place to access the health care system
- Health promotion and management of health risks to improve patient health and welfare and reduce the need to use medicines and other more expensive health care services.
- Identifying, preventing, and managing problems with the use of medicines and minimizing adverse drug events.
- Improving health care outcomes from the use of medicines including better adherence to treatment regimens.
- Reducing health care costs by improving outcome, improving medication safety and reducing the use of unnecessary medicines.

One of the hallmarks of improving health is the use of evidence to make informed treatment decisions. It should also be used in the design of health care systems. The evidence provided in this report supports including pharmacists in the Report on Primary Care in the World Health Report.



Providing a convenient and cost effective place to access the health care system

- [1] Pharmacists offer accessible means of care for the general public, through pharmacies as these are kept opened considerably longer than health centres and clinics. They see and treat a substantial caseload of Sexually Transmitted Infections (STI) clients
- [2] Assess the patient's problem and refer to other health professionals.
- [30] There is ample evidence that community pharmacies can refer patients to general practitioners and other health care professionals.
- [16] Immunisation can be safely provided through community pharmacies.
- [17] Emergency hormonal contraception (EHC): pharmacy supplies of EHC enable most women to receive it within 24 hours of unprotected sexual intercourse and this service was highly rated by women.

Health promotion and management of health risks to improve patient health and welfare and reduce the need to use medicines and other more expensive health care services.

- [32] Change in behaviour in people following screening for risk factors for developing cardiovascular diseases, osteoporosis or breast cancer. Evidence that pharmacists can influence smokers to stop smoking and overweight people to lose weight via counselling, education and support.
- [25] For both smoking cessation and lipid management, evidence showed that pharmacists' interventions significantly led to positive outcomes. [23]
- [28] The interventions in smoking cessation therapy are highly effective.
- [2] Educate consumers (Sexually Transmitted Diseases (STDs), diet).
- [3] Provision of information
- [16] Evidence that pharmacists can influence smokers to stop smoking
- [16] An educational intervention by pharmacists enhances asthma knowledge of primary care teachers.
- [17] Community pharmacists were found to have generally positive attitudes towards involvement in prevention of transmission of infection.
- [16] Identifying pharmacy users with risk factors for coronary heart disease.
- [16] Drug misuse: Community pharmacy-based supervised methadone administration services can achieve high attendance rates and are acceptable to clients
- [17] Pharmacy patient medication records were found to be effective in identifying 'at risk' patients to prompt and enable pharmacist intervention for influenza vaccination.

Identifying, preventing, and managing problems with the use of medicines and minimizing adverse drug events.

Prevention or detection of Adverse Drug Reactions (ADRs) through pharmaceutical care

- [19] Clinical pharmacy intervention decreased the number of Drug-Related Problems (DRPs) in the elderly but there was limited evidence that these interventions reduced morbidity, mortality or healthcare costs.
- [5] With the services of a consultant pharmacist, the rate of residents receiving drug therapy who would have an optimal therapeutic outcome, would increase from 42,3% to 60,4%
- [6] 4.0 problems per hundred prescriptions were detected by pharmacists.



[31] Evidence that pharmaceutical care programmes can contribute to solving drug-related problems and adverse events.

[35] The pharmacy intervenes in 1-4% of prescription handlings that have a clinical relevance.

[29] There is ample evidence that pharmacists can, in connection with prescription handling, identify and solve technical and drug-related problems of clinical significance. [43]

[34] There is evidence that pharmacy staff can identify drug-related problems among users of prescription Over-The-Counter (OTC) medicines.

[4] Evidence of prevention of adverse drug reactions

[18] Reduction in adverse drug events

Detection of ADRs and reporting

[13] In some countries (Japan, Portugal, and the Netherlands) community pharmacists submit the bulk of the ADR reports.

Education / improvement of other health care professionals

[2] Feed back to prescribers and other healthcare professionals: frequently contact with other healthcare professionals

[10] 0,6 interventions per 100 prescriptions: 83,2% contact with the prescribers.

Information centre

[18] Education outreach visits to medical practitioners in the community setting targeting specific drug classes for which there are recognised prescribing problems, have been found to improve medication use.

Improving health care outcomes from the use of medicines including better adherence to treatment regimens.

[23] Considerable high quality evidence that pharmacy services in the community settings have positive clinical outcomes.

[24] Intervention: significant decreased of Glycosylated haemoglobin (HbA1c)

[2] Council patients about prescribed drugs and OTC drugs (more than 94%)

[9] Consultant pharmacists make an impact on drug use.

[11] Reducing by 20 times the probability for a patient to experience an event (major hemorrhagic events or thromboembolic events).

[21] Pharmacists can contribute to the optimisation of the use of medication through medication reviews, for mental illness in the community setting.

[22] Demonstrated improvements in outcomes and resources use in mental health.

Improving use of medicine for an optimal efficacy of treatment.

[33] Reinforced evidence that medication reviews at nursing homes by a team consisting of pharmacists, nursing home manager, geriatric psychiatrist and general practitioners can bring about a significant reduction in drug costs and total costs for the health care system.

[15] Pharmacists interventions to patients decrease hospital admissions and the number and costs of drugs used. Also decrease the undesirable drugs. Appropriateness of the medication improved. When pharmacists' intervention to other healthcare professionals: decrease in prescribing and costs of drugs, or improvement of the appropriateness of the medication.

[31] Strong evidence that pharmaceutical care can influence positively the clinical parameters (blood pressure, blood sugar and cholesterol). + improved health-related quality of life (for diabetes, asthma, cholesterol, hypertension).

[31] Evidence of increased adherence, although not among the elderly. More rational use of medicines in patients with high cholesterol or asthma.



[30] Evidence that individual advice given by community pharmacies can improve patient compliance. There is varying evidence on the effect of written information on compliance. Ample evidence that patient information provided by community pharmacies can impact drug use by individuals or groups of patients.

[16] Community pharmacy-based monitoring and information providing in diabetes show promise in improving diabetic control but further research is needed.

[37] Community pharmacy based diabetes disease management service improves outcomes. Two trials showed statistically and clinically significant reductions in HbA1c and were cost effective with fewer General Practitioners (GP) referrals.

[15] Increase compliance in patients when there were interventions by pharmacists.

[4] Impact on compliance.

[4] Impact on management of hypertensive and diabetic patients.

[18] Improvements in signs, symptoms for people with asthma, in non-fatal heart-failure related events and improvement for surrogate end-points such as blood pressure, glycosated haemoglobin and cholesterol.

[18] Improved compliance in patients with hypertension and adherence for renal transplant patients.

[27] Pharmacists intervention showed a significant decrease in systolic blood pressure.

[18] Improvement of the appropriateness.

[40] Significant increase in the prescribing of antiplatelet and lipid lowering treatments and of smoking cessation treatments for high risk cardiac patients.

[36- 42] prescribing pharmacists are now in charge of the management treatment to reach therapeutic objectives.

Reducing health care costs by improving outcome, improving medication safety and reducing the use of unnecessary medicines.

[4] Reduction in the use of inappropriate or unnecessary drugs

[7] Upon pharmaceutical care implementation in the USA, negative outcomes can be reduced by 53-63% and which can avoid \$45.6 billion in direct health care costs.

[12] Reduction of the cost of drug-related problems treatment by 54%.

[8]Disease management in community pharmacy: increased cost of medicines but saving on total monthly medical costs from 143,95\$ and 293,39\$ per patient

[9] Pharmacist services impact on lowering death rate and admissions rates.

[22] Demonstrated improvements in outcomes and resources use in mental health.

[31] There is evidence that Pharmaceutical care is cost effective

[29] Evidence that interventions in connection to prescription handling can save medication costs and costs incurred from contacting health services.

[34] Drug related problems have a major impact on healthcare costs, when hospital admissions are purely due to adverse drug reactions such as 3-5% and duration of drug-related hospital admissions exceeds normal.

[33] Promoting rational pharmacotherapy to other healthcare professionals: ample evidence that pharmacists' interventions have a positive economic impact.



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