

PRACTICE ENHANCEMENT EXAMPLES

Blood Glucose Record

A. Enhancement Objective

A blood glucose record provides a log of patients' blood glucose readings to guide adjustments in pharmacotherapy for diabetes.

B. Tool or Enhancement Description

A blood glucose record is a form filled in by the patient. The record can be modified to be as many pages as deemed necessary by the physician and/or other health care professionals.

The record can also be placed on the practice site's shared drive, and can be easily translated into any language desired by a patient. The font size and width of the columns can also be easily adjusted for visually impaired patients or those with motor coordination difficulties whose handwriting is larger.

Please see the end of this chapter for two examples of a blood glucose record.

C. Medication Management Improvements

A blood glucose record completed by a patient can lead to improved medication management. As the Canadian Diabetes Association Guidelines state:

... recent evidence indicates benefits of testing on glycemic control, especially, when this information is used to make appropriate, timely treatment adjustments. In people with type 2 diabetes treated with medications, testing at least once daily is associated with a 0.6% lower A1C than less frequent monitoring. In those managed by lifestyle alone, any frequency of testing is associated with a lower A1C. In people with type 2 diabetes, postprandial plasma glucose (PG) results are generally better correlated to A1C than tests taken at other time of the day. In people with very poor glycemic control, however, fasting plasma glucose (FPG) may more strongly impact overall glycemia.¹²

Enhancement Author: Lisa McCarthy
Acknowledgement: Stonechurch Family Health Centre, Hamilton, ON

A blood glucose record can help patients and practitioners monitor **pharmacotherapy** for diabetes. These readings can be used to adjust the doses and timing of medication administration as appropriate.

The record can also include an area to record diabetes-related medications and doses (including dose changes) to improve **efficiency** for the clinician when determining if medication changes or dose adjustments are needed.

A blood glucose record can help **empower** patients to become more involved in monitoring their therapy as they become active participants in controlling the condition.

In doing so, the monitoring of their blood glucose may also lead to improvements in the patients' **adherence** to their medications because they can see improvements as they use their medication.

Patients benefit because practitioners who use the patient's record can highlight the times of day to perform readings; consistent readings allow the practitioner to monitor the patient's blood glucose **patterns** over time.

For example, a record can help identify trends and identify episodes of hypoglycemia or hyperglycemia, which allows the physician and/or other health care professionals to change the timing and dosing of certain medications ensuring the patients achieve the **full benefit** of the medications they are prescribed.

In addition, a blood glucose record can be modified to fit the needs of each patient specifically, which increases the likelihood that the patient will use it. A record can help patients **organize** their blood glucose readings and

¹² Canadian Diabetes Association. 2003 Clinic Practice Guidelines: Frequency of SMGB. Available at: <http://www.diabetes.ca/cpj2003/chapters.aspx>, then Monitoring Glycemic Central, then Self-monitoring of Blood Glucose, then Frequency of SMBG.

PRACTICE ENHANCEMENT EXAMPLES

Blood Glucose Record

medication changes, which can then benefit the clinicians who require this important information when they are adjusting any medications that can have an effect on a patient's blood glucose levels.

The practice can benefit because a **greater proportion** of their patients may reach their targets for diabetes.

D. Development Process

A pharmacist may be referred a patient with challenging medication needs who requires a blood glucose record. If the practice site does not have a record template, the pharmacist can create one that will meet patient needs.

If the practice site offers a diabetes clinic, work with the other health care professionals at the clinic (or with those who work closely with the patients with diabetes at the practice site) to draft a record that can be easily tailored to specific patient populations, as these health care professionals are familiar with the diabetic population who attend the clinic/practice site.

For example, the practice site may service a large proportion of patients who share the same cultural background and a primary language that is not English.

After the patient population needs and challenges have been discussed, create a draft highlighting the glucose readings the patients should take. Give the draft to the health care professionals who work with diabetic population at the practice site for review and feedback. Usually two drafts are needed to finalize the record.

If any languages other than English have been identified for a specific patient or the patient population at the practice site, the blood glucose record can be translated using Babel Fish (available at <http://www.babelfish.altavista.com>), an online tool that translates words and simple sentences.

E. Implementation Process

Ask another health care professional who works closely with patients with diabetes to test the record to ensure

no other changes are needed. Seek feedback from practice site staff or patients fluent in the appropriate languages to ensure the translated record is correct before distributing it to patients.

When a draft is finalized, discuss the best way to implement the record with the clinic/office manager. Place the blood glucose record on the shared drive and inform other team members that a new tool is available. If the practice site does not have an electronic medical record (EMR) system, the record can be introduced and distributed (in hard copy format) at meetings. Also send an email or memo to clinic staff to inform them of the new tool.

The record can be modified to meet the needs for specific patients, such as different languages or different font sizes.

Follow up after a few months to determine how the record is being used.

F. Overcoming Challenges

It may be difficult for patients to remember to bring their record with them to their scheduled appointments. This challenge can be overcome by contacting the patient (either via the telephone or email) between visits to remind them.

G. Facilitating Factors

If a practice site uses an EMR system, this can facilitate the introduction of a blood glucose record because it can allow wide access to the record by the practice site staff.

In addition, by having an electronic version of the record available to the practice site staff, the record can be easily modified to tailor the record to meet the needs of a specific patient.

H. Evaluation Results

No strategy to evaluate this enhancement was undertaken.

PRACTICE ENHANCEMENT EXAMPLES

Blood Glucose Record

English Blood Glucose Record Example

Blood Glucose Record															
Name:		Date:													
Prepared by:		Breakfast				Lunch				Dinner				Bedtime	
		Before		After		Before		After		Before		After		Time	Value
		Time	Value	Time	Value	Time	Value	Time	Value	Time	Value				
Sunday															
Monday															
Tuesday															
Wednesday															
Thursday															
Friday															
Saturday															

PRACTICE ENHANCEMENT EXAMPLES

Blood Glucose Record

Spanish Blood Glucose Record Example

Azúcar en Sangre													
Nombre:		Fecha:											
Preparado por:		Desayuno				Almuerzo				Cena			
		Antes		Después		Antes		Después		Antes		Después	
		Hora	Número	Hora	Número	Hora	Número	Hora	Número	Hora	Número	Hora	Número
		Hora de acostarse											
		Hora	Número										
Domingo													
Lunes													
Martes													
Miércoles													
Jueves													
Viernes													
Sábado													


The IMPACT Program

*Pharmacists in Family Practice:
A Resource*

PRACTICE ENHANCEMENT GUIDE

Optimizing Medication Use in Family Practice: Medication-focused Practice Enhancements

Get the most out of your IMPACT Pharmacist



The IMPACT Program
*Pharmacists in Family Practice:
A Resource*

REFER IF YOUR PATIENT:

- Needs help with optimal control of a **chronic condition** (such as diabetes, blood pressure, cholesterol, pain, arthritis)
- Is taking **multiple medications** (to simplify, ensure appropriate dosing times, manage or prevent drug related problems)
- Might be having an **adverse drug event**.
- Has **recently been hospitalized** (for counselling on medication changes)

Most Common Inhaled Bronchodilators

Agent	Short-Acting B ₂ -Agonists		Long-Acting B ₂ -Agonists		Anticholinergics		Combination
	Salbutamol	Terbutaline	Salmeterol	Formoterol	Ipratropium	Tiotropium	Salbutamol/Ipratropium
Brand Name	Ventolin® Generics	Bricanyl®	Serevent®	Oxeze®	Atrovent®	Spiriva®	Combivent®
System	MDI Diskus® Inhalation	Turbuhaler®	MDI Diskus®	Turbuhaler®	MDI Inhalation	HandiHaler®	MDI Inhalation
Colour	Blue	Blue bottom					
Onset	5-15 min	5-15 min					
Duration	4-6 h	4-8 h					
Adult Dose	1-2 pfs TID-QID PRN	1-2 pfs TID-QID PRN					

Table 1: How Medication-focused Practice Enhancements Improve Medication Management

Medication Management Process	Problems in Family Practice	Example of Enhancement Developed
Provide group education regarding medications	Patients need additional information on their condition; physician unable to provide all that is needed	Cholesterol Clinic Day (Chapter 5) — provides information that would benefit the patients and physicians of the practice site, and that is often not
Completing Section 8 forms	Forms are neither available nor easily completed	
Reporting adverse drug reactions (ADR)	Rarely done; voluntary system; forms not readily available or easily	

DIABETES PATIENT CARE FLOWSHEET

Practice Site Letterhead

Name: _____ D.O.B.: _____ Chart # _____ Diagnosis Date: _____ Type of DM: _____

Risk factors: Obesity Fam Hx Smoker CVD BP Lipids Gest DM

Complications/Comorbidities: Retinopathy Nephropathy Neuropathy Foot Disorders Other

Past Medical/Surgical Health: _____

Medications	Date				
Diabetic medications: Oral Insulin					
BP medications: ACEI/ARB Diuretic Beta blocker CA++ channel blocker					

Chart Audit for Prevalence of Drug and Disease Indicators

Patient sex: M F

Patient age: _____ or DOB (yy.mm.dd): _____

Date of last visit (yy.mm.dd): _____

Physician name: _____

Chart #: _____

Site #: _____

Date: ____/____/____
D M Y

Excluded patients

Less than one visit to the family physician in the last 12 months Yes No Don't Know

More than 20 visits to the family physician in the last 12 months Yes No Don't Know

Awaiting placement to a nursing home or long-term care Yes No Don't Know

Alcoholism Yes No Don't Know

Palliative care patient Yes No Don't Know

Family physician only sees as a home visit (i.e., patient cannot come to the clinic) Yes No Don't Know

If you chose Yes for any of the above criteria, DO NOT collect any further information on this form.



The goal of the IMPACT program, as the acronym suggests, is to Integrate family Medicine and Pharmacy to Advance primary Care Therapeutics. A growing body of research supports our belief that having pharmacists working in family practice settings enhances patient care.¹ This guide is the product of more than 10 years of planning and collaboration between investigators, government and community leaders.

ACKNOWLEDGEMENTS AND KEY CONTACTS

IMPACT Principal Investigators:

Lisa Dolovich, BScPhm PharmD MSc
Kevin Pottie, MD MCISc CCFP

IMPACT Co-Principal Investigators:

Janusz Kaczorowski, PhD
Barbara Farrell, BScPhm PharmD

IMPACT Practice Enhancement Guide Editors:

Lisa Dolovich, BScPhm PharmD MSc
Connie Sellors, BScPhm

IMPACT Practice Enhancement Guide Staff:

Christine Rodriguez, IMPACT Research Assistant

Christine LeBlanc, Dossier Communications

Marilyn Birtwistle, CPhA Graphic Communications

Collaborating Universities:

McMaster University, University of Ottawa,
University of Toronto

Collaborating Institutions:

Centre for the Evaluation of Medicines,
St. Joseph's Healthcare, Hamilton, ON

Élisabeth Bruyère Research Institute,
a SCO Health Service and University
of Ottawa partnership, Ottawa, ON

IMPACT Co-investigators:

Zubin Austin, BScPhm PhD

Kelly Babcock, BSP

Robert Bernstein, MD PhD

Ron Goeree, MA

Bill Hogg, MD MCISc CCFP

Gary Hollingworth, MD

Michelle Howard, MSc

Natalie Kennie, BScPharm PharmD

Elaine Lau, PharmD

Lesley Lavack, BScPhm

Carmel Martin, MD PhD

Connie Sellors, BScPhm

John Sellors, MD MSc FCFP

Gary Viner, MD

Kirsten Woodend, PhD

Christel Woodward, PhD

Intersectoral Advisory Committee:

Mary Catherine Lindberg, Chair

Marsha Barnes, Ontario Ministry of Health
and Long-Term Care

Nick Busing, University of Ottawa

Wayne Hindmarsh, University of Toronto

Jean Jones, Consumers' Association of
Canada*

Cheryl Levitt, McMaster University

Stuart MacLeod, BC Research Institute for
Children's and Women's Health

Laura Offord, Ontario Ministry of Health
and Long-Term Care

Susan Paetkau, Ontario Ministry of Health
and Long-Term Care

Jeff Poston, Canadian Pharmacists
Association

Deanna Williams, Ontario College of
Pharmacists

** Jean Jones passed away in March 2005
after many years of contributing to the
Intersectoral Advisory Committee*

The IMPACT team would like to acknowledge all the work and effort placed into each practice enhancement by the pharmacists and their practice sites.

Beamsville Medical Centre, Beamsville, ON
Pharmacist: Nita Patel

Bruyère Family Health Network, Ottawa, ON
Pharmacist: Natalie Jonasson

Caroline Medical Group, Burlington, ON
Pharmacist: Shelly House

Claire Stewart Medical Centre, Mount Forest, ON
Pharmacist: Robin Brown

Fairview Family Health Network, Toronto, ON
Pharmacist: Lisa Kwok

Riverside Court Medical Clinic, Ottawa, ON
Pharmacist: Rashna Batliwalla

Stonechurch Family Health Centre, Hamilton, ON
Pharmacist: Lisa McCarthy

Stratford Family Health Network, Stratford, ON
Pharmacist: Margaret Jin/Joanne Polkiewicz

Contact Information:

IMPACT Demonstration Project Principal Investigator:
Lisa Dolovich, (905) 522-1155 ext. 3968,
ldolovic@mcmaster.ca

From previous page:

1. Sellors J et al., A Randomized Controlled Trial of a Pharmacist Consultation Program for Family Physicians and their Elderly Patients. *CMAJ* July 8, 2003;169(1):17-22.