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30 Concourse Gate, Unit 3
Ottawa ON K2E 7V7
Telephone: 613.736.9733
Fax: 613.736.5660
Internet: www.cshp.ca

Homecare: Guidelines on the Role of the Pharmacist

PREFACE

The Canadian Society of Hospital Pharmacists (CSHP) struck the Home Health Care Task Force to develop these Homecare: Guidelines on the Role of the Pharmacist, which complement the Society's 1998 Homecare: Statement on the Role of the Pharmacist (formerly known as the Statement on the Pharmacist's Role in Home Health Care). These 2005 guidelines are intended to assist CSHP members who are performing this role.

The CSHP Home Health Care Task Force included interdisciplinary representation from hospitals, community groups, home care organizations, and academic institutions. The Guidelines significantly expand upon the original CSHP Statement by reviewing the status of home care in Canada, developing a rationale for the role of the home care pharmacist, and addressing various aspects of the provision of pharmacist services to patients moving from hospital to home, such as assessment of the patient, development of a pharmacy care plan, follow-up and monitoring of the patient, documentation in the home care record, communication with the patient and the patient's informal and formal health care providers, provision of medication distribution services, quality assurance activities, medication safety activities, and participation in research.

Permission was obtained from the Chair of the Executive Committee of the American Society of Health-System Pharmacists (ASHP) Section of Home Care Practitioners to adapt material from their Guidelines on the Pharmacist's Role in Home Care in preparing these guidelines. Where the ASHP Guidelines are the basis for sections of this document, they are cited as such.

These guidelines were approved under the title of Guidelines on the Pharmacist's Role in Home Health Care; the title was fined-tuned in 2009.

1. SCOPE

1.1

These Guidelines are intended as a tool for pharmacists seeking continuity of care for patients discharged from the hospital setting to home care.

1.2

Many home care patients are treated with complex oral medication regimens along with infusion therapy, other injectable drug therapy, and parenteral and enteral nutritional support. The purposes of these Guidelines are to define the role of the pharmacist in providing pharmaceutical care to patients in the home and to describe the types of home care services that pharmacists should provide.

1.3

The Guidelines take the perspective of the provision of home care services by hospital-based pharmacists; they also emphasize the need for communication among health care providers across the continuum of care. Appropriate and confidential sharing of patient information among health care professionals is needed to optimize medication management of the home care patient and to minimize the risk of drug-related problems (DRPs).

1.4

These Guidelines describe pharmacists' responsibilities for the home care patient in the following areas:

a) patient assessment (both qualification and initial assessments);
b) education, training, and counselling of the patient, caregiver, and other health care professionals;

c) medication distribution associated with home infusion services;
d) development and implementation of the pharmacy care plan;
e) monitoring and follow-up assessment;
f) documentation in the home care record;
g) communication with health care providers and with the patient and caregivers;
h) participation in quality improvement activities;
i) medication safety activities; and
j) participation in research.

2. INTRODUCTION

Currently, there is a lack of standardized definition, governance, and services for home care across Canada.[1] Health Canada's definition of home care is "an array of services which enables clients, incapacitated in whole or in part, to live at home, often with the effect of preventing, delaying or substituting for long-term care or acute care alternatives."[2] The existence of regional variations in this sector of health care provides an opportunity for key policy and strategy decision-makers to formulate and come to agreement on a common framework for funding and providing home care within the Canadian health care system. Although pharmacists perform a significant role as members of hospitals' interdisciplinary health care teams, participating in the assessment and prevention of medication-related problems, the pharmacist's role in home care is currently not funded.

Three key reports outline the important role of home care within the context of the Canadian health care system: Senator Michael Kirby's final report, *The Health of Canadians — The Federal Role*,[3] presented recommendations for reform of the health care system, including expanded coverage of home care; Roy Romanow's final report, *Building on Values: The Future of Health Care inCanada*,[4] acknowledged home care as "one of the fastest growing components of the health care system"; and the "2003 First Minister's Accord on Health Care Renewal"[5] recommended the establishment of a core set of home care services accessible to all Canadians, to be implemented by 2006.

Home care is dynamic and continuously evolving, influenced by changes in health care policy and levels of funding, as well as the implementation of various initiatives such as development of standards of care and the education and training of both formal (e.g., home care personnel) and informal care providers.[1]

The sources of funding and delivery for home care programs differ across Canada but are primarily the jurisdictional responsibility of the department or ministry of health, social services, or community services of provincial and territorial governments.

Some funding is supported through transfer payments from the federal government. The first publicly funded home care service in Canada was formally established by the government of Ontario in 1970, followed by the establishment of Quebec's first Local Community Service Centre (Centre local de services communautaire [CLSC]) in 1972. By 1988, all of the provinces and territories had initiated some form of home care services for both acute and chronic needs.[1]

In general, the mandate for a home care program [or "for home care services"] should consider the types of professional and/or personal support services that will enable an individual to maintain his/her independence in the place of residence, and the availability of informal caregivers and community supports. Home care programs (the organization of single or multiple services for a designated population with a specific need) generally provide services to a wide range of "clients" in the form of care coordination, case management, acute care, continuing or long-term care, and palliative or end-of-life care. However, it is likely that the variation in relevant legislation regarding the funding and delivery of home care services has contributed to differences in home care programs with regard to types of services offered, amount of service provided

to each patient, and criteria for accessing services. As a result, home care policies, services, and delivery vary greatly across the country, as each home care program is based on the needs of the local community and existing resources.[1]

There are currently no provincial or national criteria for assessing client eligibility for home care services or determining the specific types of services needed by clients; rather, a variety of screening assessment tools are being used provincially and regionally. The range of services that are generally available include nursing, personal care, homemaking, physiotherapy, occupational therapy, and social work. These services may be accessed through either a hospital (generally requiring a formal referral from a health care provider) or the community setting.

Nursing services have typically been provided for assessing and managing the medication needs of home care patients, such as education, review of needs for and use of medication in the home, assistance with administration, and assessment of adherence. However, documentation received from the hospital regarding home care referral requirements is often incomplete or inaccurate. Nurses have expressed concerns about hospitals changing medications just before discharge, about incompleteness of information on the referral document regarding a patient's medications at the time of discharge, and about lack of current drug therapy knowledge and lack of access to information that would help them to safely and effectively provide what one study called "medication management services" (that study examined areas of breakdown in the referral process from hospital to home care, among other variables, and suggested requirements for improvement).[6]

Pharmacists are recognized members of the interdisciplinary health care team, playing a key role in identifying, managing, and preventing drug-related problems (DRPs).[7-10] A DRP (also referred to as a "medication-related problem" or "MRP") is defined as "an undesirable patient experience that involves drug therapy and that actually or potentially interferes with a desired patient outcome."[10] Examples of DRPs include medical indication for drug therapy that the patient is not receiving; availability of a more effective drug therapy for the patient's condition that is not being used; subtherapeutic as well as excessive dosages; adverse drug reactions and drug–drug, drug–food, and drug– laboratory interactions; omission of drug therapy; and lack of a valid medical indication for drug therapy that the patient is receiving.[10]

DRPs have adverse consequences for health and health care utilization. For instance, 19% to 28% of medical admissions to hospital for people 50 years of age and older have been attributed to DRPs.[11-16] Patients discharged from hospital to home care are at greater risk of DRPs. Risk factors for DRPs can be attributed to the patient (e.g., age, impaired cognitive or sensory status), type of medications (e.g., therapeutic classes of antihypertensives and hypoglycemics are associated with more frequent DRPs), polypharmacy, complexity of the medication regimen (e.g., changes to medication therapy just before hospital discharge), and/or the health care system (e.g., insufficient or inadequate transfer of information between hospital and community care providers and among community-based providers).[11-19]

Across Canada, only a few community pharmacies and specialized infusion companies provide medication-related services to home care patients, and home care programs are not mandated to reimburse pharmacists for such services. Because of resource constraints and the lack of funding for pharmacy home care services, very few community pharmacies are able to conduct home visits for the purpose of providing pharmaceutical care. Services provided by pharmacists, such as sorting medications, stabilizing patients on a medication regimen, monitoring drug therapy, and providing medication education to patients, if provided to home care patients, could ultimately reduce ongoing needs for home care, as well as readmissions to

hospital and needs for additional hospital services.[6] In the absence of home pharmacy services, the task of providing medication management to home care patients falls to the home care nurse. As such, the home care nurse, in addition to providing nursing services, must provide medication management services to assist with different stages of medication use, most commonly drug administration and monitoring.[6] One report suggested that nurses, who have insufficient time to do all that is required of them, may be delegating medication monitoring responsibilities to the home support worker.[20]

With the multiple, complex medication regimens now being prescribed to patients upon hospital discharge to home, there is a high risk of DRPs, including inappropriate prescribing, adverse drug events, drug interactions, and medication nonadherence.[19,21,22]

Given the risks associated with medication misuse, the current gap in addressing this need, and pharmacists' expertise, it is surprising that pharmacist involvement in home care is so limited. Pharmacists working with home infusion companies currently conduct their patient assessments over the phone through communication with the patient's physician and/or the home care nurse. Drug information and guidelines on drug therapy administration are provided to the patient's nurses, rather than directly to the patient.

Compounding the home care patient's risk for experiencing DRPs is the fragmented and delayed communication that often occurs between hospital, community, and home health care providers about a patient's medication needs upon hospital discharge.[6]

These Guidelines describe the roles and responsibilities that pharmacists can undertake in the provision of pharmaceutical care to home care patients.

3. PATIENT ASSESSMENT

3.1 Qualification Assessment

3.1.1

Once a patient is referred for home care, and the patient and caregiver agree to accept such services, the pharmacist should conduct an assessment to determine whether the patient is appropriate for and would benefit from pharmaceutical care services in the home. The assessment should include the following considerations:

a) the patient or caregiver is willing to engage in a relationship with the pharmacist, with appropriate understanding of the roles, rights, and responsibilities of both parties;
b) the patient or caregiver is willing to be educated about the correct administration of medications, storage, and risks and benefits of therapy;
c) the home care pharmacist has reasonable geographic access to the patient and can visit the patient at predetermined intervals or on predetermined dates to provide pharmaceutical care;
d) there is ongoing prescriber involvement in the assessment and treatment of the patient;
e) the medical condition and prescribed therapy are suitable for pharmaceutical care services in the home;
f) the indications, dosages, routes, methods of administration, and durations of medications are appropriate, and the medication orders meet legal requirements;
g) if the first dose of a medication is administered at home, precautions are in place for management of a serious reaction (e.g., availability of emergency medications, presence of a health care provider); and
h) appropriate laboratory tests can be and are ordered for monitoring the patient's response to therapy.

3.1.2

The conclusions of the qualification assessment should be communicated to all parties involved and documented in the patient's record.

3.1.3

If home pharmaceutical care services are accepted, the patient and family members should also receive a document that clearly indicates the patient's rights and responsibilities, the role of the home care pharmacist, and the services that will be provided.

3.2 Initial Patient Assessment

3.2.1

For any patient who will receive home care services, the pharmacist should collect and document information for the patient database, to allow for the development of the pharmacy care plan and the monitoring of drug therapy. The database should include the following information:

a) patient's name, provincial health number (where applicable), address, telephone number, date of birth, sex, height, and weight;
b) name and information of person to be contacted in the event of an emergency;
c) name and telephone number of family physician and specialists;
d) name and telephone number of the pharmacy or pharmacies that dispense the patient's medications;
e) all diagnoses, including past medical history;
f) social history (e.g., use of tobacco, alcohol, recreational drugs);
g) history of allergies, adverse effects, or medication intolerances;
h) current detailed medication profile, including prescription and nonprescription drugs, vitamins, complementary or alternative therapies, and investigational therapies, with indications and, if available, dates of initiation;
i) past medication use and reasons why medications were discontinued;
j) current care plan, with treatment goals and desired outcomes, as well as current DRPs, if any;
k) pharmacotherapeutic endpoints to be achieved with current medications and expected duration of therapy;
l) results of pertinent baseline laboratory tests, imaging, and procedures (e.g., echocardiography, biopsy);
m) education received by the patient and future requirements for education;
n) functional limitations (e.g., hearing impairment, poor eyesight, low level of cognition);
o) location, type, and duration of intravenous access, if applicable; and
p) specific needs of the patient (e.g., adherence tools, flip-top vials, simple instructions).

3.2.2

The pharmacist should collect the information from the patient's chart and through discussion with the patient, caregiver, and/or other health care providers.

3.2.3

The collected information should be documented in and retrievable from the home care record, so that any other care provider can also access it.

4. EDUCATION

4.1

The pharmacist responsible for the supervision of the patient's medication therapy at home should ensure that the patient and the principle caregiver(s) receive appropriate education and counselling about the patient's medication therapy, training for the administration of medications, information about how problems associated with administration can be addressed, and instructions about proper storage.

The pharmacist should verify that the patient and caregiver(s), as well as any other health care providers who may be in contact with the patient on a casual or ongoing basis, understand the therapy. To reinforce oral communication, the pharmacist should provide supplemental information in writing or through audiovisual aids where available, preferably in a language that the patient can read and understand. When the pharmacist cannot communicate with the patient in his/her preferred language, the pharmacist should make appropriate arrangements to provide the necessary education and counseling in that language. Access to bilingual pharmacists or interpreters may be required in this situation.

4.2

The pharmacist should use professional judgement in determining what information should be included in the education and counselling of patients. The following types of information should be considered:

a) description of the medication therapy, including drug, dose, route of administration, dosage interval, and duration of therapy;
b) contraindications, potential adverse effects, drug–drug interactions, drug–laboratory test interactions, drug–nutrient interactions, how such problems can be recognized, and what procedures to follow if they occur;
c) goals of medication therapy and the indicators that can be used to measure the patient's progress toward those goals;
d) techniques that can be used by the patient or caregiver to monitor the effectiveness of therapy (e.g., use of a blood pressure monitor);
e) importance of adherence to the therapeutic plan;
f) proper aseptic technique, if applicable;
g) proper care of the vascular access device and site, if applicable;
h) inspection of medications, containers, and supplies before use;
i) proper use of equipment, necessary maintenance, and dealing with mechanical problems;
j) home inventory management and procedures for obtaining additional supplies and medications when needed;
k) special precautions and directions for the preparation, storage, handling, and disposal of drugs, supplies, and biomedical waste;
l) information on contacting health care providers involved in the patient's care;
m) situations that need to be brought to the attention of the pharmacist or other health care providers (e.g., missed doses, doses not given at the proper time, low supplies, broken tablets, capsules, or vials); and
n) emergency procedures.

4.3

The pharmacist should ensure that other health care providers are aware of the appropriate handling and disposal of cytotoxic and hazardous medications and the procedures for preventing and managing needle and sharp stick injuries. The pharmacist is a key resource in the development of education programs relating to the safety of medications.

4.4

Patient counselling and education should be performed in accordance with applicable provincial regulations and documented in the patient's home care record.

5. MEDICATION DISTRIBUTION ASSOCIATED WITH HOME INFUSION SERVICES

5.1 Selection of Devices, Associated Supplies, and Products

5.1.1

The pharmacist, in collaboration with the patient and other health care providers, should select infusion devices, associated supplies (e.g., syringes, administration sets), and the drug products required for maintaining intravenous access (e.g., heparin, saline flushes). The pharmacist should be knowledgeable in the proper use of these devices, supplies, and drug products.

5.1.2

The pharmacist should consider the following factors in selecting devices and supplies:

a) availability and appropriateness of specific devices and supplies;
b) ability of the patient or caregiver to operate and care for the infusion device;
c) ease of use and convenience for the patient or caregiver;
d) safety features of the infusion device;
e) potential for complications during use;
f) stability and compatibility of medications;
g) volume and required rate of medication infusion; and
h) cost-effectiveness.

5.1.3

The pharmacist, in collaboration with the patient and other health care providers, should determine when and where emergency medications (e.g., for treatment of anaphylaxis) will be available. Standard medication orders and treatment protocols should be reviewed for each patient to determine if such emergency medications are appropriate.

5.2 Drug Selection, Preparation, Dispensing, Storage, and Delivery

5.2.1

The pharmacist facilitates the coordination of the proper selection, preparation, dispensing, storage, and delivery of medications by the pharmacies and compounding centres serving the patient. When preparation and dispensing of sterile medication dosage forms are provided by a compounding pharmacy, the home care pharmacist should have reasonable assurance that processes and techniques comply with the CSHP Guidelines for Preparation of Sterile Products in Pharmacies,[23] as well as federal, provincial, and territorial laws and regulations.

5.2.2

The pharmacist should provide medication education for the patient and his/her informal caregiver(s) regarding the preparation, administration, and storage of medications. The pharmacist coordinates the provision of medication supplies with pharmacies and compounding centres as required. The pharmacist guides the development of guidelines and policies and procedures addressing medication preparation and administration in the home environment.

In collaboration with the patient and other health care providers, the pharmacist should ensure that the following requirements are met:

a) the patient or caregiver has the necessary home setting, knowledge, and ability for proper storage and administration of all medications;

b) the patient or caregiver has the necessary knowledge and ability for proper use of drug products and related supplies; and
c) the medications and associated devices and supplies are delivered in a timely manner to avoid disruptions in therapy.

6. DEVELOPMENT AND DOCUMENTATION OF THE PHARMACY CARE PLAN

6.1

Currently, home care agencies create a care plan for each patient on the basis of internal policies and procedures; this record remains part of the home care agency's records for the patient upon discontinuation of home care services. The pharmacist should integrate the pharmacy care plan into this record and document the pharmaceutical care provided to the patient. Where the home care record has not been established, or where there is no agreement with the agency allowing for pharmacist documentation, the pharmacist should maintain his/her own patient database and document the interventions performed.

6.2

A pharmacy care plan should document the initial patient assessment, the goals of services, the services performed, and the action plan, as well as any monitoring and follow-up required. The care plan should provide a record of the actions taken and the patient's response and progress, and facilitates communication with other health care providers, eliminating duplication as well as preventing management oversights. The pharmacist should make the record accessible to authorized health care providers involved in the patient's care while honouring patient confidentiality.

6.3

The pharmacist should develop the individualized care plan for each patient in collaboration with the patient and/or caregiver and other health care providers. The pharmacist's contribution to the care plan should be based on information obtained from the initial patient assessment, as well as other relevant information provided by the patient, the caregiver, the nurse, and the prescriber.

6.4

The pharmacy care plan should:

a) describe the findings of the initial assessment;
b) define the specific goals (e.g., resolution of an identified DRP, medication education) and measurable outcomes of each goal; and
c) define the action steps, including the appropriate time frame, necessary for achieving the goals and desired outcomes.

6.5

The pharmacist should monitor the patient's drug therapy according to the care plan. The pharmacy care plan should specify objective endpoints (e.g., vital signs, laboratory tests, physical findings) and subjective endpoints (e.g., response to therapy, quality of life), as well as the frequency and duration of monitoring.

6.6

Pharmacists, in collaboration with prescribers and others, may wish to develop clinical monitoring protocols for various therapies that could be individualized within specific care plans. Pharmacists may receive or obtain laboratory test results from either private or hospital laboratories before other health care providers obtain such results. Policies that permit the pharmacist to requisition the results of appropriate laboratory tests should be established

to facilitate effective monitoring of the patient's therapy. In such cases, the pharmacist should communicate the test results to the prescriber and other health care providers. The pharmacist should provide an interpretive analysis of the information and recommendations for dosage adjustments and for continuation or discontinuation of drug therapy.

6.7

The documentation of the pharmacy care plan should include the following elements:

a) description of actual or potential DRPs and proposed solutions;
b) description of desired outcomes of drug therapy;
c) proposal for patient education and counselling;
d) monitoring plan with dates for plan implementation, review, and update;
e) recommendations to other health care providers for achieving goals and intended outcomes of therapy; and
f) discharge summary of care provided.

6.8

The pharmacist should communicate the pharmacy care plan to the patient, the caregiver, and other health care providers involved in the patient's care. Updates should be communicated to the appropriate persons as events occur.

7. COMMUNICATION

7.1 Communication with the Patient and Caregivers

7.1.1

The pharmacist providing home care services should establish an open channel of communication based on a relationship of trust with the patient and the caregivers.

7.1.2

The pharmacist should communicate with the patient or caregiver for the following reasons:

a) to gather information needed for the initial assessment;
b) to assess adherence with medication therapy;
c) to assess progress toward the goal of therapy;
d) to ascertain the patient's subjective response to therapy;
e) to assess DRPs;
f) to provide patient education that may be needed;
g) to inform the patient about how to contact the pharmacist when needed; and
h) to jointly determine an individualized approach for managing the patient's medication-related needs.

7.2 Communication with Health Care Providers, Facilitating Seamless Care

7.2.1

In addition to the relationship that the pharmacist establishes directly with the patient to obtain information, the pharmacist should facilitate information retrieval and sharing among health care providers, as well as between different practice settings. The forms of such communication may vary from one practice setting to another.

7.2.2

The pharmacist should develop a relationship with other health care providers through the following activities:

a) meeting with other pharmacists, nurses, physicians, and other health care providers;
b) documenting information that other health care providers would find useful, including the pharmacy care plan;

(c) initiating communication with the patient's other health care providers to encourage continuity of the patient's care plan.

7.2.3

When a patient is admitted to a home care program, the pharmacist should contact the patient's pharmacy provider to obtain the following information:

a) accurate medication history of prescription and nonprescription products, including complementary health care management;
b) history of adverse reactions and allergies;
c) patient's attitudes and medication-taking behaviours (e.g., adherence to dosing regimens, health beliefs, social and cultural issues); and
d) any self-monitoring that the patient uses.

7.2.4

Upon discharge from hospital, the pharmacist should prepare a summary of his/her findings and services provided for the patient (i.e., the care plan) to the community pharmacist, physician, home care nurse, and other relevant health care providers who will be involved in the patient's care. This discharge summary should include the following patient information:

a) chief complaint;
b) history of present illness (including brief information on hospital course and referral);
c) medications on admission to home care;
d) aspects of patient education;
e) monitoring plan (including outcomes of any patient self-monitoring that was instituted and plan for long-term monitoring of the patient's medication therapy regimen); and
f) names of key contacts who can answer questions about the material provided and their phone numbers or other contact information.

8. PARTICIPATION IN QUALITY IMPROVEMENT ACTIVITIES[24]

8.1

Pharmacists who provide home care services must have an active licence to practice pharmacy, issued by the applicable provincial or territorial regulatory authority.

8.2

The pharmacist should be knowledgeable in federal jurisprudence and the legislation applicable to pharmacy practice in his/her province or territory, as well as the internal policies and procedures of his/her organization.

8.3

The pharmacist may participate in the development of organizational policies and procedures. The organization should maintain current policies and procedures for all aspects of patient care. The following activities may be addressed in an organization's policies and procedures:

a) criteria for accepting patients into home care services;
b) documentation procedures;
c) patient education;
d) medication therapy assessment; and
e) quality assurance regarding sterile product compounding, handling of medications in the home, and infection control procedures.

9. PARTICIPATION IN MEDICATION SAFETY INITIATIVES

9.1

The home care pharmacist should take a lead in developing a program to identify, monitor, and report all adverse drug events among home care patients, including adverse drug reactions and medication errors. The pharmacist should ensure that the prescriber and other health care providers involved in the patient's care are informed about any suspected adverse drug event.

9.2

Monitoring trends in medication errors should also be part of the organization's program. Relevant trends should be incorporated into staff development and inservice education programs for pharmacists and nurses to improve the quality of care and patient outcomes.

10. RESEARCH BY PHARMACISTS IN THE HOME CARE SETTING[25]

10.1

Pharmacists practising in the home care setting should be encouraged to participate in independent, intraprofessional, and interdisciplinary collaborative research. Scientific inquiry, through formal research and systematic problem-solving, leads to advancement and generation of new knowledge. Both research and systematic problem-solving are needed for developing knowledge in pharmaceutics and drug therapy and for evaluation, modification, and justification of specific practices. Pharmacists practising in home care can make an important contribution to such research initiatives as participants or as co-investigators or principal investigators.

10.2

Pharmacists practising in home care should increase their involvement in the following kinds of scientific research and development:

a) pharmaceutical research, including the development and testing of new drug dosage forms and the development of methods and systems for drug preparation and administration;
b) practice-based research, such as the therapeutic characterization, evaluation, comparison, and outcomes of drug therapy and drug treatment regimens;
c) health services research and development, including behavioural and socioeconomic research, such as research on cost–benefit issues in pharmaceutical care; and
d) operations research, such as time-and-motion studies and evaluation of new and existing pharmacy programs and services.

10.3

The specific areas of research in which pharmacists choose to participate will depend on individual interests and expertise. The home care pharmacist may refer to the CSHP Guidelines for Institutional Pharmacy Research[26] to obtain background information as well as acquire an understanding of the following principles:

a) formulation of a research hypothesis;
b) justification of the proposal;
c) study design;
d) application for funding and proposal format; and
e) responsibilities of investigators with respect to patients, employers, grantors, and science in general.

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Note: *In 2009 the title of this document was fine-tuned to Institutional Pharmacy Research: Guidelines on Conducting Research.*

12. ADDITIONAL RESOURCES

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