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COMMUNICATION

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Feature

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The Changing Face of Pharmacy

As I sat down to write this article I couldn't help but notice the parallels between my life and the state of pharmacy in this country. Both are at a cross roads. I guess the best way to describe it is that both need a game plan. It needs to be thought out, detailed, open for change and not afraid to step on some toes along the way. Yes, if you haven't noticed from my editorials that tends to be my approach. You will never get what you truly want unless you are willing to make sacrifices and enter into a battle head on.

ALAN LAWLESS

This couldn't be truer when I think of our profession. We have many different facets that make up our collective. We have hospital, community, government, consulting pharmacists, etc. These are some of the various ways that we practice on a day to day basis. They may seem very different on the surface, but one thing is for certain, it doesn't matter what arena we find ourselves in, whether it's government, or third party, everyone wants to save money. This is where we need to make sure that we take care of ourselves and look out for OUR professional interests. No one else can or will do that for us. Every other profession does this. We can't be embarrassed to do the same.

We have seen cuts across the country with drug reform, nominal paid services introduced, hospital wage decreases in BC and we have only begun this journey through the unknown of the future of pharmacy. We can only control our own actions. We can't stop government from cutting generic prices, third party from conducting stringent audit processes, and employers looking at ways to operate more efficiently. These are all things we can't change, but what we can change is our response to them.

It is no secret that provincial governments have been more than willing to reduce generic pricing / rebates, and offer limited or no paid services on the back end. Yes, we have seen implementation in other jurisdictions, but what revenue have some of these initiatives really brought to the table? Many new paid "expanded scope practices" are being introduced but as we see in some other provinces, the level of reimbursement offered does not adequately compensate for the amount of work required to provide the service. The result in some cases is that pharmacists and pharmacies do not see the point of doing them and uptake has been limited. Also, in some cases, agreements that were reached through consultations and negotiations with government have been reneged on and redrafted without consultation or negotiation.

In my opinion, what we need is a complete fee for service structure similar to the doctors. They have done an excellent job capturing revenue and ensuring their future. Doctors are now in the top 1% of this country's earners. That was not the case on the last Statistics Canada report. Doctors' salaries are the fastest growing expenditure of healthcare. Government recognizes this. The Ontario government has already taken $1 billion from the doctors to redistribute to much needed long term care funding in that province. Other provinces are bound to follow.

If we can carve out our piece of the pie, prove that we can move into a primary care role, and demonstrate to government that we can provide some services safely, effectively and more cost efficiently, we may have a bright financial future as well. Also, we need to take advantage of our expanded scope of practice to achieve this. Or so it is called. We have spent much time and attention on Bill 41. We can't get wrapped up and lose sight of what is just as important. That is, where are we going to fit in to the provision of health care in Manitoba even with this new legislation? We need to carve out many new professional practice paths, patient centered modalities and think big picture. Little wins are great but what is it that we really want?

One thing that pops into mind is technician regulation. Other provinces that have gone through this process are not seeing any benefit. Many are actually finding that it has resulted in poorer pharmacy service by eliminating staff overlap. Not only are pharmacists still liable for what happens in the dispensary, they are now responsible for providing clinical services with no extra time. It is important to ensure that the expanded scope of practice is achieved and adequately reimbursed in order to fully realize the advantages offered through such initiatives as technician regulation.

Throughout this process we have seen nurse practitioners, clinical assistants, midwives, and now podiatrists gain prescribing (some for narcotics) rights. We are still working towards "minor ailment" prescribing. Don't get me wrong, this is a first step, but come on, we have 1000+ pharmacists in this province that are highly trained, and either underutilized or don't have the professional authority they should. The only way to change this is to fight for it. We need a plan, a comprehensive plan. A lot of this may also require taking revenue out of the pockets of others. This is life. If we can prove that we can provide efficient, safe and less expensive ways to alleviate the stressors on the healthcare system to the powers that be, we may be on our way to achieving our goals. If we don't, others will. It is going to be a challenge and we have to start the dialogue. Never be afraid to engage in an educated and competent manner.

2012 Award of Merit: Elmer Kuber

This year's recipient of the MSP Award of Merit, Elmer Kuber, is a consummate example of the generous, helpful nature of a great pharmacist.

Every year, the award is given to an active Society member as acknowledgement of significant contribution to the pharmacy profession throughout the duration of his or her career. Elmer is the 11th recipient of this award and was nominated in his first year of eligibility.

"It's a great finish to a fantastic career in pharmacy," Elmer says. "It's truly an honour to be recognized by your peers, and to have them say you've offered something of value to your professional community."

Elmer has dedicated himself to the pharmacy profession since his first part-time shift at his neighbourhood pharmacy in Philadelphia in 1966. In 1972, Elmer came to Canada for a University of Toronto post-graduate residency. He expected to complete his masters program in Philadelphia, but love changed his plans.

"Linda and I were able share a 10' by 10' residency space in harmony, so we decided we really had something," he says with a laugh, referring to his wife of 38 years. They worked and travelled with several stops across Canada until they returned to Linda's home province of Manitoba in 1984. Elmer spent his Manitoba pharmacy career at Selkirk Shoppers Drug Mart, Deer Lodge Centre, Misericordia Hospital, and Stonewall Pharmacy.

Since 2001, Elmer has played an active role in the governing of pharmacy. He's served nationally on the boards of the Canadian Pharmacists Association, Canadian Academy of the History of Pharmacy, and the Canadian Pharmacists Benefits Association. He's also governed on the board of the Manitoba Society of Pharmacists.

"The MSP is a truly important organization for all pharmacists in our province. It works on behalf of all pharmacists and gives them a voice. I think it's important for all pharmacists to be MSP members and show support," Elmer says.

Elmer gives high praise to his wife Linda and the colleagues who have offered their help throughout his career. Without the support of his peers, Elmer says he couldn't have performed his duties or met the hectic travel schedule as a board member throughout the years.

Elmer continues to work part-time at Stonewall Pharmacy. He enjoys applying his knowledge and putting it into practice, but most of all, Elmer gains satisfaction from the daily interaction with clients.

"We all know physicians are really busy, so it's nice to sit down with someone to give them some time, some extra knowledge, and that second layer of understanding. Reassurance means a lot and it can give a client a boost of confidence."

Looking back over his career, Elmer says the biggest change to the pharmacy profession is the clinical involvement and the empowerment of the client.

"In my beginning days, we didn't say anything to customers beyond the dollar amount. We didn't even put the name of the product on the label back then and we'd give people huge bottles with sometimes a year's worth of prescription. Of course, everything has changed. Now we give them knowledge and understanding, and we're active in monitoring their medications. It's a credit to our profession that we embrace these new methods and practices. It enables us to continue to grow."

The Rectal Route – Suppositories

Suppositories are solid dosage forms that are inserted into the rectum, vagina and rarely, urethra. They are used as vehicles to deliver therapeutic products that can provide topical relief, protect local tissues, or deliver a drug for systemic effect (Figure 1).

MEERA B. THADANI
M.Sc.(Pharm.)

Suppositories are used when:

- patients cannot take drugs orally,
- drug delivery is more effective by this route,
- drugs are metabolized extensively by the liver (first pass effect),
- drugs are destroyed in the stomach or intestines, and
- drugs are irritating to the stomach.

Figure 1 Pediatric glycerin suppositories and adult antinauseant suppositories.

The selection of base used depends upon:

- comfort for the patient,
- route of administration (rectal, vaginal, urethral),
- compatibility of and stability of the base and active ingredients,
- local effects. For example, glycerin suppositories act as a laxative; anti hemorrhoidal suppositories contain protectants, astringents, analgesics and emollients to soothe anal and perianal pain and itching, spermicidal agents are used as contraceptives; and antifungal drugs are used to treat vaginal infections (Figure 2).
- systemic effects. For example, antinauseants and analgesics can be used rectally.

Figure 2 Vaginal suppositories (oval shaped) with applicator.

Factors affecting rectal drug absorption

Physiological factors – The rectum is 15 to 20 cm in length and contains 2 to 3 ml of inert, neutral (pH 7) mucus when empty. It has a rich blood supply which allows effective absorption of some drugs.

Colonic content – Absorption is less effective from a rectum that is distended and full of fecal matter. An enema may be required to ensure that the drug to be administered will be effective. Conditions such as diarrhea, obstruction, tissue irritation and injury (hemorrhoids), can affect absorption.

Circulation route – Drugs are absorbed by the local tissues and enter systemic circulation, bypassing the liver. Lymphatic circulation also helps absorption.

pH and lack of buffering capacity – Drugs to be administered rectally should have a neutral pH (7-8) to be absorbed without causing local tissue irritation.

The most frequently used bases are:

- fatty or oleaginous,
- water-soluble, and
- water-miscible.

Fatty or oleaginous bases

Hydrogenated palm kernel oil, cotton seed oil, glyceryl monostearate, glyceryl monopalmitate and cocoa butter fall into this group. Of these Cocoa Butter NF is the most common. Obtained from the roasted seed of *Theobroma cacao*, its composition of the component acids of the triacylglycerols is oleic (37%), stearic (34%), palmitic (26%) and linoleic (2%) acids (Figure 3).

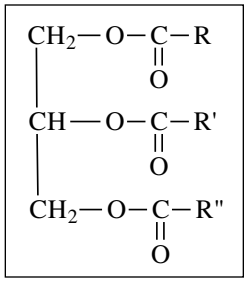

Figure 3 General chemical structure of a fat or oil (triacylglycerol). R, R', R" may be the same fatty acid or different; saturated or unsaturated.

Cocoa butter is solid at room temperature and melts between 30 to 36°C, just below body temperature. Because of its triglyceride content, it exhibits *polymorphism*, that is, the ability to exist in different crystalline forms. If cocoa butter is heated quickly (above the minimum temperature required for a melt) and then chilled quickly, the resulting form is metastable. It is called the a-form. The melting point of the a-form is lower than that of the more stable b-form. This means that suppositories will not solidify at room temperature. The a-form reverts back to the b-form but this transition can take several days.

Water soluble bases

Glycerinated gelatin bases are a mixture of glycerin (70 parts), gelatin (20 parts) and water (10 parts). They are difficult to make and do not offer any advantages over the other bases. Gelatin can serve as a bacterial medium and this requires the products to be kept in the refrigerator.

Water miscible bases

Polyethylene glycol (PEG) bases are commercially available mixtures of polymers of polyethylene glycol (Figure 4). They have been formulated to remain solid at room tem-

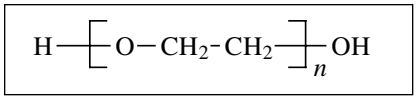

Figure 4 Chemical structure of polyethylene glycol.

perature but dissolve in body fluids. They are made by fusion and do not require special storage conditions. PEG bases with less than 20% of water can be irritating to tissues. To avoid this irritation, they should be inserted with the use of a lubricant or dipped in water before insertion. Products formulated with PEGs do not "leak" from bodily orifices as do cocoa butter products.

PEGs are available in a variety of grades and some of these are given in Table 1. The grade refers to the average molecular weight of the polymer. Some example formulae of PEG bases are given in Table 2. Figure 5 shows an example of a vaginal suppository formulated in a PEG base.

PEG bases can be heated in the microwave or on a hot plate using a hot water bath. Melting points of some PEG bases are listed in Table 1. Commercially prepared bases list the melting point on the label.

Grade	Molecular weight	Form	Melting Range °C	Solubility %w/v
400	285 – 315	Liquid	4 – 8	Soluble
600	570 – 630	Liquid	20 – 25	Soluble
1000	950 – 1050	Solid	37 – 40	80
1450	1300 –1600	Solid	43 – 46	72
3350	3000 – 7300	Powder	54 – 58	65
4600	4400 – 4800	Powder	57 – 61	65

Table 1 Characteristics of polyethylene glycols (PEG)

Suppositories can be made in the pharmacy by hand rolling or fusion. Other than skill and practice, hand rolling does not require any specialized equipment. Cocoa butter is used as the base. The final product, while effective, does not look pharmaceutically elegant.

PEG base formula 1	PEG base formula 2
PEG 400 60% PEG 8000 40%	PEG 400 20% PEG 1540 30% PEG 8000 50%

Table 2 Example formulae of PEG bases

Fusion requires specialized molds shown in Figure 6 that produce a neat, professional product. Because the base and drug are heated care must be taken when formulating heat labile drugs.

Preparing cocoa butter suppositories in a mold

1) *Calibrate the mold* – This is done by preparing molded suppositories with *only the base*, in this case, cocoa butter.
2) *Prepare the melt* – Using a hot plate, warm the hot water bath to about 55°C. Shred the cocoa butter into very small pieces. Add the cocoa butter in small portions to a beaker in the hot water bath. The melt should have a creamy appearance to about 34°C. If it becomes a clear golden color (like honey) it has been overheated.

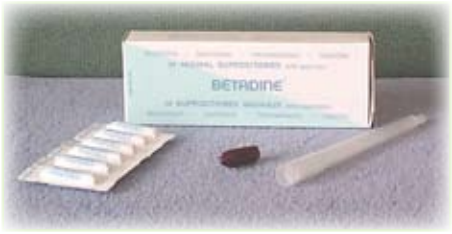

Figure 5 Vaginal suppository formulated in a PEG base.

3) *Pour* – the melt into the mold, pre-lubricated with a thin film of mineral oil or vegetable oil. Let harden. Trim excess material from the top of the mold with a sharp blade. Remove from the mold. Wrap each suppository individually. Label.

Drug	Density factor
Aspirin	1.1
Boric acid	1.5
Castor oil	1.0
Dimenhydrinate	1.3
Glycerin	1.6
Menthol	0.7
Morphine HCl	1.6
Paraffin	1.0
Phenol	0.9
Phenobarbital	1.2
Procaine	1.2
Progesterone	1.25
Resorcinol	1.4
Tannic acid	1.6
White wax	1.0
Zinc oxide	4.0
Zinc sulfate	2.8

Table 3 Density factors for drugs being formulated into cocoa butter suppositories

Calculating the amount of base needed

To supply the correct amount of drug in every suppository the amount of cocoa butter being displaced by the drug being incorporated must be known. Density factors of drugs relative to cocoa butter have been determined experimentally. Table 3 lists density factors for some of the more common ingredients. Cocoa butter is assigned the value of 1 as the standard base. Density factors must be taken into account when:

- The concentration of the drug in the suppository is significant, and
- Density differences exist between the drug and the base.

Example 1

Prepare the following prescription. Make enough for 10 suppositories to allow for 2 extra. The suppository mold has been calibrated to 2 g of cocoa butter.

Dimenhydrinate 100 mg
Cocoa butter qs
Mitte: viii supp.
Sig: i prn nausea

Procedure

The amount of dimenhydrinate needed for 10 suppositories is:

100 mg x 10 = 1 000 mg or 1 g

The amount of cocoa butter needed for 10 suppositories is:

2 g x 10 = 20 g cocoa butter

20 g – 1 g dimenhydrinate = 19.0 g cocoa butter

However, the relative density of dimenhydrinate is 1.3 (Table 3).

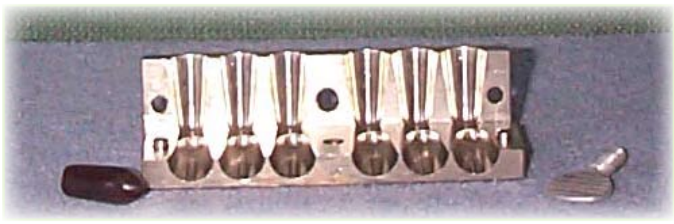

Figure 6 Suppository mold.

The amount of cocoa butter that is displaced by the drug is:

$$\frac{1.3 \text{ g dimenhydrinate}}{1.0 \text{ g cocoa butter}} = \frac{1.0 \text{ g dimenhydrinate}}{x \text{ g cocoa butter}}$$

x = 0.769 g cocoa butter is displaced by 1 g dimenhydrinate.

The amount of cocoa butter needed to make 10 suppositories is:

20.0 g – 0.769 g = 19.231 g

The final weight of each finished suppository is:

19.231 g cocoa butter + 1 000 mg dimenhydrinate = 20.231 g

20.231 g ÷ 10 = 2.02 g

- Clean the suppository mold and apply the lubricant. Grate the cocoa butter.
- Prepare the hot water bath. Carefully melt about ¼ of the cocoa butter in the beaker until it has a creamy opalescent appearance. The temperature of the cocoa butter is about 34°C.
- Add the dimenhydrinate to the base and mix well.
- Add the remaining cocoa butter and mix well. Do not overheat.
- Pour the creamy melt into the suppository mold. Overfill the mold because the melt will shrink as it cools.
- Allow the suppositories to solidify at room temperature and then place the mold in the refrigerator for about 30 minutes to harden. If the mold is placed in the refrigerator too soon the suppositories will shrink very quickly leaving an empty cavity in the center of each suppository.
- Trim excess material from the top of the mold using a sharp blade.
- Wrap each suppository in foil. Label. Affix the auxiliary label "For Rectal Use".

Example 2

Prepare the following prescription. The pharmacy does not have any suppository molds but does have plenty of cocoa butter. Allow for 2 extra suppositories.

Indomethacin 25 mg
Cocoa butter qs
Mitte: 8
Sig: i bid

These suppositories will have to be hand rolled. Ten suppositories at 2 g each require 20 g cocoa butter.

- Weigh enough indomethacin (25 mg x 10 = 250 mg) and set aside in a glass mortar.
- The amount of cocoa butter needed is 20 g – 250 mg = 19.750 g. Shred the cocoa butter.
- Triturate the indomethacin. Add a small amount of cocoa butter and triturate. The cocoa butter will behave as the levigating agent as it softens and, if enough pressure is used, liquefy. Add the remainder of the cocoa butter by geometric dilution.
- Remove the mass and place it on a clean ointment slab.
- Put on clean latex gloves and knead the mass until it is pliable and roll it into a cylinder about 1 cm in diameter. Table 4 gives approximate sizes and weights of hand rolled suppositories.

Suppository	*Weight*	*Size*
Adult rectal	2.0 g	2.5 to 3.5 cm in length, 1 cm diameter
Adult vaginal	2 to 5 g	2.5 to 3.5 cm in length, 1 cm diameter
Pediatric rectal	1.0 g	2.0 to 2.5 cm in length, 0.7cm diameter
Female urethral	2.0 g	5 to 7.5 cm in length, 0.5 cm diameter
Male urethral	4.0 g	10 cm in length, 0.5 cm diameter

Table 4 Approximate sizes and weight of hand rolled suppositories

- Cut into 10 equal length pieces with a sharp clean razor blade. Adult rectal suppositories are bullet-shaped. Form a point at one end. Weight each suppository. They should be 2 g each. If needed, adjust the weight by slicing thin pieces from the blunt end. Individually wrap the suppositories.

Selection of mold lubricants

Molds should be dry for polyethylene glycol suppositories. Mineral oil or vegetable oils are suitable lubricants for cocoa butter suppositories.

A final word

While suppositories may not be the first choice in drug delivery, they are a very useful dosage form in special cases or when local drug delivery is needed.

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Food Poisoning

Professional Relations Committee

Objective: To educate pharmacists about the various types of food poisoning, their onset and duration of action, and how to treat food poisoning appropriately.

Source of photo: http://www.foodpoisoningsigns.info/Knowing_the_Right_Food_Poisoning_Treatment.php

1.) What is Food Poisoning?

Food poisoning is the ingestion of a substance from contaminated food causing uncomfortable consequences in the GI tract. It is also referred to as 'food-borne illness', and can be caused by the following:

a.) Poor handling of food.[1]
b.) Improper cooking or inadequate storage which result in bacteria multiplying to large enough numbers to cause illness.[1]
c.) Parasites, viruses, toxins, and chemicals contaminating food and causing illness.[1]

The government of Canada estimates that there are 11 million cases of foodborne illness in Canada every year.[6] The following are common pathogens that cause food poisoning:

- bacteria such as *Campylobacter jejuni*, *Clostridium botulinum*, *E. coli* O157:H7, *Listeria monocytogenes*, *Salmonella*, *Shigella*, *Vibrio*[7]
- viruses such as hepatitis A and norovirus[7]
- parasites such as *Cyclospora*[7]

Pathogens can come from a variety of sources, including the following:

- Fresh off the farm: fruit and vegetables washed with water contaminated with animal feces or human sewage.[3]
- Contamination during processing, storage, transportation or preparation.[3]
- Natural pathogens, such as *Vibrio* bacteria found naturally in seawater, which can be found in oysters and other shellfish.[3]

Pathogens are often food specific (i.e. *E.coli* in beef, *Salmonella* in poultry and eggs).

The most common causes of food poisoning are norovirus, *Salmonella, Clostridium perfringens*, and *Campylobacter*.[5]

Consult Chart 1 on page 12 for specific information about Canada's Least Wanted Foodborne Pathogens.

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2.) Signs and Symptoms of Food Poisoning:

Signs and symptoms of food poisoning can be very mild from not even realizing you have the pathogen, to very severe, including organ failure and death. The most common signs and symptoms are:

- Nausea[1]
- Vomiting[1]
- Watery diarrhea[1]
- Abdominal pain and cramps[1]
- Fever[1]

Signs and symptoms can appear within hours of consuming the contaminated food, or can start even days or weeks after consuming the food in question. Onset of symptoms depends on which contaminant was consumed. Generally food poisoning lasts from 1-10 days[1] but can resolve within 24-48 hours.[2] The type of food poisoning dictates how long and severe the illness can be.

3.) Special Populations:

Everyone is at risk for food poisoning, however, there are certain groups of people who are at a higher risk of complications or more severe food poisoning. Those higher risk groups include adults 60 years of age and older, pregnant women, infants and young children, and people with weakened immune systems.

Adults 60 years of age and older:

Figure 1: Reference listed at bottom of article

- As people get older, it is harder for their immune systems to fight off infection. Older adults are at increased risk of complications including kidney failure and anemia, and older adults with a chronic disease such as diabetes and kidney disease will have an even harder time fighting off infection.

Pregnant women:

- When you are pregnant, your immune system is weaker, as there are many changes occurring in your body. That puts you and your infant at a higher risk of food poisoning complications, and dehydration is a concern. Sometimes pregnant women may have minor symptoms, but some foodborne illnesses can cross the placenta and affect the baby who hasn't developed a proper immune system yet.

Infants and young children:

- Infants less than one year old have underdeveloped immune systems.[7] Young children up to 5 years old are more susceptible to foodborne illness and may take longer to recover.[7] This group of people may suffer from other complications such as kidney failure. Bottle-fed infants are at a high risk of food poisoning as bacteria grows in a bottle of warm milk left in room temperature for more than 1 hour, and breast milk for more than 4 hours. Always wash your hands and clean

and disinfect the bottle before use.[7]

People with weakened immune systems:

- This group of people may experience more severe food poisoning and for a longer duration. The following are examples of conditions that affect your immune system:
  - Alcoholism[7]
  - Cancer (especially chemotherapy patients)[7]
  - Diabetes[7]
  - HIV/AIDS[7]
  - Organ transplantation[7]

4.) Prevention:

The best way to prevent food poisoning is to properly handle and prepare your food. The 4 key points are: Clean, Chill, Separate and Cook. The following information regarding Clean, Chill, Separate and Cook and the chart of Internal Cooking Temperatures was taken word for word from the Canadian Food Inspection Agency website at: http://www.inspection.gc.ca/english/fssa/concen/cause/pathogene.shtml. Accessed May 9, 2012

CLEAN

- Wash your hands for at least 20 seconds with soap and warm water, before and after handling food.
- Thoroughly clean, rinse and sanitize countertops, cutting boards, utensils and dishes after each use by using hot soapy water or a bleach sanitizer. Do this after preparing each food item and before preparing the next food.
- Wash raw fruits and vegetables with clean, running water before you prepare and eat them. Use a brush to scrub produce that has firm or rough surfaces, such as cantaloupes, carrots, oranges, and potatoes.

WHY? If you don't keep your hands, food, work surfaces and utensils clean, harmful pathogens can easily spread.

CHILL

Figure2: Reference listed at bottom of article

- Keep cold food cold at or below 4°C (40°F).
- Thaw food in the refrigerator, where the food will stay at a safe, constant temperature of 4°C (40°F) or below.
- Do not keep food in the danger zone for longer than two hours. Foods that need to be refrigerated or frozen should be stored immediately.

WHY? Bacteria can grow in the danger zone between 4°C and 60°C (40°F to 140°F).

SEPARATE

- Use one cutting board for raw meat, poultry and seafood. Use a different cutting board for food that is ready-to-eat or cooked.
- Keep raw food away from other food while shopping, and while storing, preparing and serving foods.
- Place raw meat, poultry and seafood in containers on the bottom shelf of the refrigerator. This will prevent raw juices from dripping onto other food or touching other food.

WHY? Raw food and their juices can contain harmful bacteria. These bacteria can be transferred from raw food to cooked food.

COOK

- Keep hot foods at or above 60°C (140°F).
- Use a digital food thermometer to check that cooked food has reached a safe internal temperature (refer to the chart below).

WHY? In most cases, heat will kill harmful pathogens. Cooking food to the right internal temperature can get rid of these pathogens.

Internal Cooking Temperatures

You can't tell by looking. Use a digital food thermometer to be sure!

Food	Temperature
Beef, veal and lamb (pieces and whole cuts) - Medium-rare	63°C (145°F)
Beef, veal and lamb (pieces and whole cuts) – Medium	71°C (160°F)
Beef, veal and lamb (pieces and whole cuts) - Well done	77°C (170°F)
Pork (pieces and whole cuts)	71°C (160°F)
Poultry (for example, chicken, turkey, duck) – Pieces	74°C (165°F)
Poultry (for example, chicken, turkey, duck) – Whole	85°C (185°F)
Ground meat and meat mixtures (for example, burgers, sausages, meatballs, meatloaf, casseroles) - Beef, veal, lamb and pork	71°C (160°F)
Ground meat and meat mixtures (for example, burgers, sausages, meatballs, meatloaf, casseroles) – Poultry	74°C (165°F)
Eggs dishes	74°C (165°F)
Others (for example: hot dogs, stuffing, leftovers)	74°C (165°F)

Source: Canadian Food Inspection Agency: website: http://www.inspection.gc.ca/english/fssa/concen/cause/pathogene.shtml. Accessed May 9, 2012

It is also important to properly assess how long an item has been stored in the refrigerator and if it is okay to consume. Consult the following chart from the Canadian Partnership for Consumer Food Safety Education, called 'Food Safety for Older Adults'.[8] For your own printable version, go to the following link: http://www.canfightbac.org/en/_pdf/fs_adults.pdf.

For additional Food Safety tips for holiday situations, visit this specific Health Canada website: http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/food-aliment/holiday-fete-eng.php.

WHEN IN DOUBT, THROW IT OUT![8]

5.) Tests and Diagnosis:

A physician can try to determine what kind of food poisoning you have based on the types and duration of symptoms, and the foods you have eaten. Blood tests and/or stool cultures may be ordered, and it is possible that the guilty pathogen may not be found.[1]

6.) Non-pharmacological Treatment:

For most people with food poisoning, the illness dissipates on its own, and the patient overcomes the foodborne illness. Non-pharmacological treatments for food poisoning include oral rehydration with Pedialyte or its equivalent (consult with physician first for infants), oral rehydration salts, drinking plenty of liquids, and eating bland food. If you are breast-feeding or using formula, continue to feed your child as usual.[1]

Other things you can do to ease the discomfort of food poisoning include:

- Let your stomach settle: stop eating and drinking for a few hours[1]
- Try sucking on ice chips or drinking sips of water, clear soda (ie. 7-up or Sprite), clear broth or non-caffeinated sports drinks (ie. Gatorade). Adults should be drinking 8-16 cups of liquid every day, taking small sips.[1]
- Ease back into eating: Start eating bland foods gradually, including soda crackers, toast, gelatin, bananas and rice. If nausea returns, stop eating.[1]
- Avoid certain foods until you are feeling better including dairy products, caffeine, alcohol, and fatty or highly seasoned foods.[1]
- Avoid nicotine.[1]
- Get plenty of rest.[1]

Figure 3: Reference listed at bottom of article

7.) Pharmacological Treatment:

DO NOT TAKE ANTI-DIARRHEALS!![1] These medications can keep the bacteria or toxin in the body longer, leading to a longer duration of symptoms, or a more severe case of food poisoning. Your body wants to get rid of the toxin, so let it. Although I was unable to find specific information about anti-nausea medication and food poisoning, it would make sense not to take it, due to the same reason that it could keep the bacteria or toxin in the body longer.

If diarrhea and/or vomiting is persistent, dehydration may be an issue. People who are severely dehydrated may need intravenous rehydration fluids in the hospital to balance minerals including sodium, potassium, and calcium in the body. Intravenous rehydration fluids replace nutrients faster than oral rehydration fluids.

Antibiotics may be given in certain cases of food poisoning. Most food poisoning does NOT warrant antibiotic use. *Listeria monocytogenes* requires intravenous antibiotics in the hospital.[1] The sooner the treatment, the better.[1]

8.) When to see a physician:

Food poisoning can be very mild and self-limiting, to very severe and life-threatening. It is important to see a physician when the following symptoms are present:

- high fever (temperature above 38.5C[8] or over 101.5°F[5], measured orally)[1]
- blood in the stools[5,7,1]
- prolonged vomiting that prevents you from keeping liquids down[5,7,1]
- signs of dehydration (decrease in urination, dry mouth and throat, feeling dizzy when standing up)[5,7,1]
- diarrhea for more than 3 days[5,7,1]
- vomiting blood[1]
- extreme pain or severe abdominal cramping[1]
- difficulty speaking[1]
- trouble swallowing[1]
- double vision[1]
- muscle weakness that progresses downward[1]

Figure 4: Reference listed at the bottom of article

Call 911 or seek Emergency Medical Assistance in the following circumstances:

- Severe symptoms are present, such as watery diarrhea that turns very bloody within 24 hours. [2]
- You belong to a high risk group
- You suspect botulism poisoning
  - Potentially fatal blood poisoning[2]
  - Results from ingestion of a toxin formed by certain spores in food[2]
  - Found most often in home-canned food especially tomatoes and green beans[2]
  - Symptoms start 12-36 hours after ingestion and may include headache, blurred vision, muscle weakness and eventual paralysis.[2]
  - Some people also have nausea and vomiting, constipation, urinary retention, difficulty breathing, and dry mouth.[2]
  - These signs and symptoms require immediate medical attention.[2]

9.) Online Resources:

- Health Canada has games and information on their website to teach adults and young children about the importance of food safety. Go to this website: http://www.healthycanadians.gc.ca/init/cons/games-jeux-eng.php for more information.
- Health Canada: This portion of the website talks specifically about different foods and how to store them, etc. It also lists additional information tidbits regarding food and food poisoning. http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/food-aliment/holiday-fete-eng.php
- The Canadian Partnership for Consumer Food Safety Education. Website: http://www.canfightbac.org/en/. This website has plenty of information about Food Safety, as well as useful charts and educational materials.

10.) Summary

Food poisoning, also known as food-borne illness can be caused by poor handling of food, improper cooking or inadequate storage, and the contamination of food by a virus, toxin, parasite or chemical. Typical signs and symptoms include nausea; vomiting; watery diarrhea; abdominal pain and cramps; and fever. The onset, duration, and severity of symptoms is dependent on the type of contaminant consumed. High risk groups include adults 60 years of age and older, pregnant women, infants and young children, and people with weakened immune systems. The best way to avoid food poisoning is by preventative measures which include proper cleaning, chilling, separating and cooking. It is important to learn how to properly handle and store food to prevent food poisoning from occurring. WHEN IN DOUBT, THROW IT OUT! Non-pharmacological treatments include rehydration, rest, and eating bland food. Pharmacological treatments may be required in certain circumstances such as *Listeria monocytogenes*, and hospitalization may be required. A physician should be contacted with more severe symptoms, and 911 or

emergency medical assistance is needed if you are a patient at high risk, you have watery diarrhea that turns very bloody within 24 hours, and/or botulism is suspected. There are many useful online sources for plenty of information regarding food safety, including Health Canada and The Canadian Partnership for Consumer Food Safety Education.

References:

1.) Mayo Clinic. Food Poisoning: website: http://www.mayoclinic.com/health/food-poisoning/DS00981. Website's URL: www.MayoClinic.com. Accessed May 2, 2012.

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3.) Health Canada: Canadian Food Inspection Agency: http://www.inspection.gc.ca/english/corpaffr/educ/gamejeu/gamejeue.shtml. Accessed May 2, 2012

4.) Health Canada: Games and Learning Tools: http://www.healthycanadians.gc.ca/init/cons/games-jeux-eng.php. Accessed May 2, 2012.

5.) CDC – Centres for Disease Control and Prevention: Be Food Safe: Protect Yourself from Food Poisoning. website: http://www.cdc.gov/Features/BeFoodSafe/. Accessed May 2, 2012.

6.) Health Canada: Canadian Food Inspection Agency: Causes of Food Poisoning. Website: http://www.inspection.gc.ca/food/consumer-centre/food-safety-tips/causes-of-food-borne-illness/eng/1331151916451/1331152055552. Accessed May 2, 2012.

7.) Health Canada: Canadian Food Inspection Agency: Canada's 10 Least Wanted Foodborne Pathogens.website: http://www.inspection.gc.ca/english/fssa/concen/cause/pathogene.shtml. Accessed May 2, 2012.

8.) Canadian Partnership for Consumer Food Safety Education: Mrs. Cookwell's Steamin' Hot Food Safety Tips. Website: http://www.canfightbac.org/en/_pdf/storage_chart-eng.pdf. Accessed May 22, 2012.

Figure 1: Cartoon old couple: Source: http://www.google.ca/imgres?q=cartoon+old+couple&num=10&hl=en&gbv=2&biw=1680&bih=835&tbm=isch&tbnid=fTToAXZ91ao34M:&imgrefurl=http://www.vectorimages.org/vector-images/cartoon-old-couple-in-the-window-watching-the-birds-vector.html&docid=uLxCEKW

Source: Canadian Food Inspection Agency: website: http://www.inspection.gc.ca/english/fssa/concen/cause/pathogene.shtml. Accessed May 9, 2012

Figure 2: Cartoon Snowflake: Source: http://www.google.ca/imgres?q=snowflake&num=10&hl=en&gbv=2&biw=1680&bih=835&tbm=isch&tbnid=g4RC1VoUFAeOQM:&imgrefurl=http://www.weatherclipart.net/free_weather_clipart/snowflake_with_cartoon_face_0521-1012-0818-0641.html&docid=zq2WNhh0Dd1MMM&imgurl=http://www.weatherclipart.net/free_weather_clipart/snowflake_with_cartoon_face_0521-1012-0818-0641_SMU.jpg&w=300&h=296&ei=otW9T-fhFsOa6QHOoolR&zoom=1&iact=rc&dur=408&sig=102545048746365288257&sqi=2&page=1&tbnh=145&tbnw=155&start=0&ndsp=36&ved=1t:429,r:26,s:0,i:189&tx=86&ty=89

Figure 3: Bananas: Source: http://www.google.ca/imgres?q=bananas&hl=en&gbv=2&biw=1680&bih=835&tbm=isch&tbnid=0xy96Wg61IrTRM:&imgrefurl=http://www.fatburningfurnace.com/blog/banana-nutrition-facts-%25E2%2580%2593-unique-health-benefits-of-bananas&docid=lhcwSqkXxmDIKM&imgurl=http://www.fatburningfurnace.com/images/Banana%252520nutrition%252520facts.jpg&w=460&h=360&ei=UNe9T7i6OumM6QHuyO1K&zoom=1

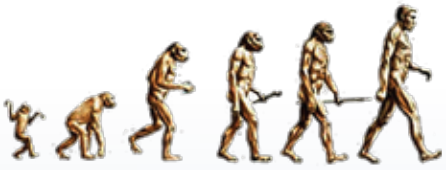
Figure 4: Thermometer: Source: http://www.google.ca/imgres?q=thermometer&num=10&hl=en&gbv=2&biw=1680&bih=835&tbm=isch&tbnid=iR2345KkDBWhTM:&imgrefurl=http://ncelementaryscience.wordpress.com/2010/07/27/thermometer-quiz/&docid=h9MIKwQfAtaIMM&imgurl=http://ncelementaryscience.files.wordpress.com/2010/07/thermometer.gif&w=339&h=588&ei=7de9T7auC9DogAfxkuH_Dg&zoom=1&iact=rc&dur=184&sig=102545048746365288257&sqi=2&page=1&tbnh=142&tbnw=82&start=0&ndsp=42&ved=1t:429,r:1,s:0,i:137&tx=386&ty=277

Chart 1: CANADA'S 10 LEAST WANTED FOODBORNE PATHOGENS

Pathogen	Symptoms	Onset/Duration	How You Get Sick	Potential Health Impacts	Foods Associated	How to Protect Yourself
***Campylobacter jejuni* Bacteria** 	*Diarrhea (usually bloody or watery) *Abdominal pain *Fever *Nausea *Vomiting	*Usually 2-5 days but can occur months after *lasts up to 10 days	*eat/drink contaminated food *improperly washed hands from petting infected cats, dogs, farm animals *Preparation cross-contamination *person-person contact including physical care of people carrying the bacteria	*Rare long-term consequences *Sudden gallbladder inflammation (sharp abdominal pain) *Guillain-Barre syndrome *meningitis *Reiter's syndrome *chronic colitis	*Raw eggs *Raw milk and raw dairy products *Raw or undercooked meat (poultry, beef, pork, lamb) *Raw vegetables *Shellfish *untreated drinking water	*Cook to safe internal temperatures (use digital food thermometer) *consume pasteurized dairy *Keep hot food above 60° C (140°F) *Keep cooked food separated from raw food – use separate utensils for each *Buy shellfish from reputable suppliers *Drink water from a safe supply
***Clostridium botulinum* Bacteria** 	*Nausea *Diarrhea *Fatigue *Blurred Vision *Dry Mouth *Difficulty speaking and swallowing *Descending paralysis of arms, legs, trunk, and breathing muscles (starts in arms and moves down)	*Usually start within 12-36 hours *Lasts from 2 hours to 14 days	*A bacteria that can form toxins *Eating or drinking contaminated food and beverages *Home-canned food processed improperly or has low-acidity	*Rare but severe *If treated quickly good prognosis, given early doses of anti-toxin and intensive respiratory care *Recovery: weeks to months, sometimes years and not completely recovered *Can lead to intensive medical and nursing care; paralysis and respiratory failure *Death within 3-10 days from respiratory failure if not diagnosed and treated.	*Home-canned low-acid food: asparagus, beets, corn, garlic, green beans, pepper, mushrooms, chicken, chicken livers, ham, liver pate, sausage *Smoked, salted and fermented fish *Fermented marine animal meat (i.e. whale, walrus, seal) *Baked potatoes stored in aluminum foil *Honey (infant botulism) *Low-acid juice (i.e. carrot juice) *Improperly cured meat products	*Follow instructions, up-to-date canning recipes, use up-to-date equipment *Don't use aluminum to wrap potatoes or veggies unless consuming right away or unwrapped and refrigerated right away after cooking. *No honey of any kind under 1 year old *Keep all low-acid juices refrigerated *Never eat from dented, bulging or leaking home or commercially-canned food
***E. coli* 0157:H7 Bacteria** 	*Severe stomach cramps *Diarrhea (often bloody) *Vomiting *Nausea *Headache *Little or no fever	*Starts within 3-4 days but can occur up to 10 days later *Lasts 5-10 days	*By eating or drinking: -food or beverages containing E.coli -Unpasteurized (raw) milk and (raw) milk products -Untreated water *Through contact with cattle or other farm animals, and/or the feces of infected people *Through cross-contamination with raw meat and other food while cooking *Person or animal carrying the bacteria without symptoms spreading it to food, surfaces or other people	*Up to 15% of children and smaller portion of adults develop Hemolytic Uremic Syndrome, a type of kidney failure and blood disorder *Most people recover within few weeks but some have permanent kidney damage, other organ complications, or may die.	*Raw and undercooked ground and whole cuts of beef *Unpasteurized apple juice, cider, milk, milk products (i.e. raw milk cheese) *Untreated drinking water *Contaminated raw fruit and vegetables that are not cooked (including alfalfa and bean sprouts)	*Cook food to safe internal temperature (use digital food thermometer) *Eat and drink only pasteurized milk, milk products, apple juice and cider *Wash hands thoroughly before preparing or eating food *Wash hands after contact with animals in their environment (i.e. farms, petting zoos, fairs) *Drink water from safe supply (treated or boiled water) *Keep raw food away from other food while shopping, storing, preparing and serving
***Listeria monocytogenes* Bacteria** 	*Persisting fever *Muscle aches *Constipation *Nausea (sometimes) *Vomiting (sometimes) *If infection spreads to nervous system: - Headache - Stiff neck - Confusion - Loss of Balance	*Symptoms start 3 to 70 days after consuming bacteria *How long illness lasts depends on severity of illness	*By eating or drinking contaminated food and drink *Through cross-contamination while preparing food or processing plant	*Mainly affects adults 60 years of age and older, pregnant women, newborns, weakened immune systems *Pregnant women experience mild flu-like illness but it can lead to miscarriages, stillbirth, premature delivery, infection of newborn *Infection of Listeria may be followed by meningitis or septicaemia which can cause death	*Deli meats (cold cuts or 'ready-to-eat meats) *Hot dogs *Raw cheeses from unpasteurized milk including soft and semi-soft cheese, (i.e. Brie, Camembert and Blue-veined cheese) *Raw foods like undercooked meat *Refrigerated pâtés and meat spreads *Refrigerated smoked seafood	*Use digital food thermometer to check internal temperature of food *Wash hands after handling meat products *Adults 60 years of age or older, pregnant women and people with weakened immune systems should avoid food commonly assoc. with Listeria including hot dogs, deli meats, unpasteurized dairy. *If eating this food, follow: - Cook high-risk food to safe internal temperature - Avoid spreading fluid from meat packages (hot dog and deli) onto other food or cutting boards, utensils, dishes, food prep surfaces *eat only pasteurized cheese incl. hard cheese (i.e. Colby, Cheddar, Swiss, Parmesan)
***Salmonella* Bacteria** 	*Fever *Chills *Headache (with sudden onset) *Stomach cramps *Diarrhea *Nausea *Vomiting (sometimes)	*Symptoms usually start within 6 to 72 hours of eating or drinking contaminated food *Lasts 4 to 7 days *Sometimes symptoms last up to 8 weeks	*Eating or drinking contaminated foods *Cross-contamination between raw meat and other food *Improperly washed hands from washroom before preparing food *Improperly washed hands after handling infected animals (cats, birds, reptiles, turtles) whose bodies may have feces containing salmonella *Improperly washed hands after handling animal feces, pets, pet turtles or rodents, pet food, toys, and treats	*Most people recover w/o treatment but symptoms can cause dehydration leading to hospitalization *Severe illness abscesses and pneumonia can occur. *Complications can cause death if no appropriate antibiotics. Young, older than 60 years old and weakened immune systems more likely to have severe illness *Some people may get Reiter's Syndrome or colitis	*Raw or undercooked meat, poultry, eggs and milk *Unpasteurized dairy products (i.e. raw milk and raw cheese) and cream-filled desserts and toppings *Raw fruit and vegetables (esp. sprouts and cantaloupes and their juices) *Homemade products like salad dressings, hollandaise sauce, mayonnaise, ice cream, cookie dough, tiramisu and frostings	*Cook food including meat, poultry, and eggs to safe internal temperature (use digital food thermometer) *Drink and eat pasteurized products *Consume only pasteurized milk, apple juice, cider, and milk products *Wash fruit and vegetables thoroughly *Keep cooked and raw food separated *Wash hands thoroughly after contact with animal feces, pets, pet turtles and rodents, pet food, toys and treats

***Shigella* Bacteria** 	*Fever *Nausea, *Vomiting *Abdominal pains *Stomach cramps *Diarrhea (often bloody)	*Symptoms usually start within 1-3 days but can happen up to 7 days later *Lasts between 5 and 7 days	*Improperly washed hands from washroom before preparing food *Person-to-person contact from hands improperly washed after washroom *Flies which breed on contaminated feces and then contaminate food *Water and vegetables contaminated from sewer run-off	*People with diarrhea generally recover completely but may be weeks to months for normal bowel habits *Complications include septicaemia and infection in other body areas *Small # of people infected with *Shigella flexneri* may get Reiter's syndrome (can last for months or years resulting in chronic arthritis)	*Raw oysters and other shellfish harvested from contaminated waters *Vegetables harvested from fields contaminated w/ sewage *Salads, incl. chicken, fruit, lettuce, macaroni, pasta, potato, shrimp, tuna, turkey and vegetable *Water contaminated with sewage	*Buy shellfish from reputable suppliers *Cook shellfish thoroughly before eating, esp. oysters *When travelling, particularly in developing world, drink water from safe source, eat only cooked hot food, eat only fruit that can be peeled.
***Vibrio* Bacteria** 	***V. parahaemolyticus*** *Diarrhea (watery) *Stomach cramps *Nausea, vomiting, fever, headache ***V. cholera*** *Diarrhea (watery) *Leg cramps *Vomiting *Low blood pressure	***V. parahaemolyticus*** *Symptoms usually start within 12 – 24 hours *Last up to 3 days ***V. cholera*** *Symptoms usually start within 1 to 3 days, and last up to 7 days	***V para:*** *eating raw or undercooked shellfish, esp. oysters *contact with feces of a sick person ***V. cholera*** *Eating or drinking contaminated food or beverage while travelling to developed countries where food-borne illness from *V. cholera* is common	***V. para:*** *Severe illness rare, may occur in persons with decreased immune system ***V. cholera*** *Rapid loss of body fluids leading to dehydration and shock. w/o treatment death can occur within a few hours	*Raw, undercooked or contaminated shellfish, especially oysters *Contaminated drinking water	*Cook shellfish thoroughly especially oysters *Keep raw and cooked shellfish separated always *Keep cooked and raw food separate during preparing and storage *When travelling, esp. in developing country, drink water from safe source (treated or boiled), only eat cooked hot food
***Hepatitis* A Virus** 	*Fever *Loss of appetite *Stomach cramps *Jaundice appears several days after symptoms *Children often no symptoms	*Symptoms usually start 2 to 7 weeks after exposure *Usually mild and last 1-2 weeks *Severe cases can last several months	*Eating or drinking food/drink contaminated with Hep A through: - contaminated food handler - improperly washed hands after washroom - contaminated water during harvest, manufacturing, etc. *Direct person-to-person contact including physical care of people carrying virus *Person may carry virus with no symptoms but still spread it to people, food, surfaces	*10-15% of people who do not show symptoms can carry disease for up to 6 months *Hep A is not chronic. If you are immune to it this will last your entire life. *Rare for healthy adults to die from the virus.	*Contaminated water *Raw or undercooked shellfish *Fresh fruit and vegetables	*Wash hands after washroom, changing diapers, and preparing or eating food *Speak to your Dr. about a Hep A vaccine before travelling *When travelling drink water from safe supply (commercially bottled carbonated water or boiled water), avoid ice cubes in drinks, eat only freshly cooked food, avoid non-peelable raw fruit or vegetables unless well-washed *If you think you've been exposed to the virus see your Dr. immediately. Vaccination can prevent the onset of symptoms if given within 2 weeks of exposure.
Norovirus 	*Diarrhea *Vomiting (children may have more than adults) *Nausea/stomach cramps *Headache *Low-grade fever *Muscle aches *Sudden onset of symptoms	*Symptoms usually start within 1 to 2 days after exposure and lasts 24-48 hours. *Most people recover completely within 72 hours	*Eating contaminated food and beverages *Cross-contamination when preparing food *Touching surfaces or objects contaminated then putting fingers in mouth *Caring for or having direct contact with someone infected with the virus *Virus is usually in the feces or vomit of the person infected	*Severe illness or hospitalization is very rare in healthy adults *Infection can cause severe vomiting/diarrhea which can lead to dehydration. This is more likely in the very young, adults over 60 years old, and those with weakened immune systems	*Contaminated or untreated drinking water *Shellfish, especially raw or improperly steamed clams and oysters that were harvested in contaminated waters	*Wash hands after washroom and changing diapers, before eating or preparing food *Avoid raw shellfish. Cook it thoroughly before eating it, especially clams and oysters. *Wash raw vegetables thoroughly before eating *Thoroughly clean any vomit and/or feces with soapy water and disinfect with bleach solution immediately after illness *Immediately remove and wash clothes and linens that may be contaminated with the virus.
***Cyclospora* Parasite** 	*Diarrhea (watery) *Loss of appetite, weight loss *Stomach cramps *Abdominal bloating, increased gas *Nausea *Fatigue	*Symptoms usually start one week after eating or drinking contaminated food/beverages, and can last a few days to 7 weeks *Symptoms may go away and return for one more time	*Eating or drinking contaminated food or while travelling to developing countries where this foodborne illness is common *Food and drinks can become contaminated: - during cultivation, harvest or packaging - Through contact with infected food handlers during packing and transportation - Through contaminated irrigation or tap water	*Responds quickly to antibiotics and is not considered life-threatening in healthy people *Rarely long-term consequences in healthy people	*Imported fruit and vegetables including fresh basil and raspberries that are consumed raw or lightly cooked and from countries where *Cyclospora* is common	*Wash fruit and vegetables thoroughly before they are eaten, although this may not fully eliminate the risk of illness.

Source: Canadian Food Inspection Agency: www.inspection.gc.ca. Website: http://www.inspection.gc.ca/english/fssa/concen/cause/pathogene.shtml. Accessed May 9, 2012



The Evolution of Pharmacy Practice

The 2012 Manitoba Pharmacy Conference was held at the Winnipeg Convention Centre from April 20 to 22, 2012. Pharmacy practice is evolving across the country and the profession is challenged to face the future and be prepared for the expanding scope of practice. The conference theme for 2012, "The Evolution of Pharmacy Practice" was most applicable. The professional development sessions were well presented and the Conference Planning Committee would like to thank all speakers for their contribution to making the conference a success.

The pharmacy technician sessions that run concurrently on Saturday have increased the scope of the conference, and have been well received since their inception 4 years ago. Pharmacy technician attendance has continued to grow.

MSP President Mel Baxter took on a lead role in chairing the conference this year and his contribution to the event is greatly appreciated. Thanks also to those students from the Faculty of Pharmacy who volunteered their time to assist at the registration desk.

It is the Conference Planning Committee that develops the education sessions and plays a key role in identifying relevant, and interesting educational topics. The committee takes a lead role in identifying the conference theme. The 2012 Conference Planning Committee included: Shawn Bugden, President, MPhA; Bonita Collison, Assistant Director of Conferences and Event Planning, MSP; Alison Desjardins, Board Member, MSP; Rose Dick, Provincial Representative, CAPT; Jill Ell, Acting Executive Director, MSP; Sara Gusta, Administrative Assistant, MSP; Marnie Hilland, Director of Conferences and Event Planning, MSP; Britt Kural, Board Member, MSP; Kim McIntosh, Assistant Registrar, MPhA; Amy Oliver, Board Member, MSP; and Gayle Romanetz, Vice-President, MSP.

Wine and Cheese Reception

The Friday Wine and Cheese Reception featured a Tuscan inspired wine tasting. Each of the four stations featured a red and a white wine from different countries including Italy, Chile, Argentina, and Australia. A brief description of each wine was provided by servers and guests had an opportunity to learn a little bit about each.

The Friday evening event centred on the presentation of the Young Leaders Awards which are sponsored jointly by the Manitoba Society of Pharmacists (MSP) and the Manitoba Pharmaceutical Association (MPhA). This year they were presented by MPhA President Shawn Bugden. The Young Leaders awards are presented to pharmacists who are in their first five years of practice or pharmacy students in the fourth year. Congratulations to the six deserving recipients.

Young Leaders Award Recipients pictured with MSP President Mel Baxter and MPhA President Shawn Bugden. (top row, left to right) Mel Baxter (MSP President), Michael Prout, Laura Delevau, Harvey Noel, Shawn Bugden (MPhA President), (bottom row, left to right) Thanh Nguyen, Farah (Joy) Rashid and Chris Tsang.

MSP Vice President Gayle Romanetz, former MSP Board Member, Carey Lai and MSP President Mel Baxter.

Photos courtesy of Bonita Collison.

Saturday, April 21, 2012

The Manitoba Society of Pharmacists and the Manitoba Pharmaceutical Association Annual General Meetings took place on Saturday morning. Following the AGMs conference attendees enjoyed a light lunch which included the opportunity to view the products and services displayed by a host of exhibitors from relevant organizations. The atmosphere provided the chance to browse through the various booths, do some networking and enjoy lunch. The Issues Forum was held during the afternoon and included the Open Discussion and three current topics.

MSP staff members Sara Gusta, Bonita Collison, Jill Ell and Marnie Hilland.

The Saturday evening Reception and Silent Auction began with the auction preview in a relaxing atmosphere where beverages and hors d'oeuvres were served. The evening offered conference participants an opportunity to mingle and talk with colleagues while viewing the many prizes at the silent auction which were made available through the generosity of corporate sponsors. Proceeds from the silent auction benefit the Pharmacists at Risk program. The committee was able to raise $1,994.88 thanks to all those who donated prizes and placed bids.

Annual Awards Banquet

The Annual Awards banquet highlighted the awards presentation and Dan Licoppe; the featured entertainment. Award winners were honored by their peers and presented with a commemorative memento to note their accomplishment. Congratulations were extended to all individuals recognized for their achievements throughout the evening.

Dana Peoples presents the Takeda Magnum Opus Award to Colin Reeve.

Charles McClure, recipient of the Pfizer Consumer Healthcare Bowl of Hygeia.

Dinah Santos, recipient of the 2012 Pharmacist of the Year Award.

Elmer Kuber, recipient of the MSP Award of Merit.

Barbara Bromilow, recipient of the Bonnie Schultz Memorial Award for Practice Excellence.

Sunday, April 22, 2012

Continuing education sessions were again held on Sunday with the annual Manitoba Pharmaceutical Association Awards Luncheon highlighting the day. Awards presented included the Patient Safety Award, the 50 Year Gold Pins and the 25 Year Silver Pins. MSP would like to applaud the Award winners.

Cenzina Calgiuri, recipient of the MPhA Patient Safety Award.

50 Year: Anita Mainella, Marlene Sahulka (missing: Anne Drapack, John D. O'Neil, Shirley O'Neil, Arlene Shaw, Marilyn Toms).

25 Year: (top row) Angela Wierzbicki, Anthony Nakazato, Kathleen Alder, John Laverge, Dinesh Gadhok, Dana Gillis (bottom row) Jason Nutbean, Joyce Marozas, Grazia Prochazka, Christine Hayden, John M. O'Neil, James Olynyk (missing) Deborah Bell Kirby, Sandra Boutcher, Terrence Dow, Michele Fontaine, Deborah Ginther, Fran Gira, Evelyn Harms, Peter Kovac, Thu Le, Carla Mulligan, Sunita Persaud, Curtis Solmundson, Kelson Stevenson, Maria Thody, Peter Wong.

FEATURE ARTICLE

2012 Takeda Magnum Opus Award: Colin Reeve

The 2012 Takeda Magnum Opus Award recipient is Colin Reeve, who strives to continually expand his knowledge and ability to serve as a pharmacist.

This award recognizes pharmacists who have completed advanced training or education and then have successfully expanded their practice. The award comes with a $1,000 donation to an organization of Reeve's choice.

"This generous donation from Takeda will benefit the Saul Sair Health Centre at Siloam Mission," says Reeve. "I'm impressed by the mission's philosophy of offering clients a hand-up, not a hand-out. Their health facility provides a much-needed "one-stop" health service for Winnipeg's less fortunate."

Reeve says he's honoured to receive this award because it validates the goals and standards he sets for himself.

"I think this award heightens the awareness of what can be done with expanded pharmacy services. It inspires me to do more and believe that as a group we pharmacists can do more."

Reeve is a Catalyst Smoking Cessation Trainer (courtesy of a Pfizer program) and the Manitoba representative for Pharmacists for a Smoke-Free Canada. He is also a certified diabetes educator (CDE), thanks to shadowing at St-Boniface Hospital and the Diabetes Research Centre at Health Sciences Centre. He serves as the Manitoba representative for the Canadian Pharmacist Association Diabetes Strategy for Pharmacists.

"We're promoting the idea that all pharmacists can educate about diabetes without being a CDE. All pharmacists know this information and we all can handle it."

Reeve put his diabetes knowledge to the test with the North West Company from 2007 to 2009. Together with the company's dietitian, Reeve worked with northern communities about making healthy food choices within limited resources.

"In the beginning, people were using evaporated milk as baby formula, so we had a long way to go. But we used a collaborative approach to affect customer purchasing decisions via point of purchase advertising and pharmacy promotional activities, and we saw successes," Reeve says.

Reeve graduated from the University of Saskatchewan in 1995. His pharmacist career has taken him across the country, including the north, British Columbia, Saskatchewan and Ontario. In Winnipeg, he was employed by Shoppers Drug Mart for 10 years and is currently in his third year at Taché Pharmacy.

Reeve says he's been privileged to work for exceptional pharmacists who have acted as mentors.

"My current boss, Bill Balacko, built his business from the ground up 40 years ago. I was always envious of people working for him. And Ken Del Bigio, my boss at Osborne Shoppers, taught me the humanity of pharmacy. He always said it's about your clients and the people you work with."

Reeve is looking forward to his next challenge at the Seven Oaks Hospital, where he will manage the pharmacy and an in-house diabetes program with a focus on medication monitoring.

"I think pharmacists are best suited to serve as resources for patients taking charge of their disease. Helping them to step up and feel powerful is, I think, where we're able to make a difference for people. As we get farther away from dispensing and more to cognitive, consultative services, that's where we can really feel the rewards."

Gain Tax-Free Income Through Universal Life

Universal Life insurance is a little-known plan that can have a big impact on your retirement income. It combines life insurance and an investment account in one package. When a deposit is made into a Universal Life policy, that amount, less a small premium tax, is put into the investment portion of the plan. Administrative expenses and the cost of insurance charges are withdrawn monthly. Meanwhile, the remainder of the deposit, up to an amount subject to Income Tax Act limits, accumulates in the investment account, sheltered from taxation.

At even the most conservative rates of return, deposits that are large enough to fund both the insurance and the investment program can potentially grow into substantial, tax-free wealth. Later in life, the Universal Life contract may be assigned as collateral for a loan† which provides an income stream upon retirement that is tax-free. Interest on the loan is capitalized and is repayable upon death. At death, the basic death benefit, in addition to the tax-deferred accumulation, is paid out on a tax-free basis. Part of the total death benefit is used to satisfy the outstanding balance on the loan while the remaining amount is paid out to one's estate or named beneficiaries on a tax-free basis.

Funding Your Retirement with Universal Life

Here's an example: A couple, both aged 40 and non-smokers, purchase a Universal Life policy with an initial death benefit of $850,000. They make annual deposits of $20,000 for 15 years. Let's look at how their Universal Life plan might develop over the next 50 years, assuming a 6 per cent rate of return††. Let's assume further that the couple chooses to enhance their income by taking out a series of tax-free loans beginning at age 65 against the value of the insurance policy. The loan will pay them $26,666 per year of tax-free capital for 25 years. The outstanding loan balance of $2,273,830 is repaid at their death, using proceeds from the policy's $5,588,632 death benefit. The remaining $3,314,802 death benefit that is left once the loan has been paid, will be paid out to the couple's beneficiaries. As you see from the chart, the couple has succeeded in enhancing their retirement income tax-free while at the same time protecting their family with a life insurance policy that accumulates tax-free and pays a tax-free death benefit.

Initial death benefit	$850,000
First year deposit	$20,000
Total deposits at age 90	$300,000
Annual tax-free advances at age 65	$26,666
Total tax-free advances over 25 years	$666,650
Projected death benefit at age 90	$5,588,632
Outstanding loan balance at 8.00%††† at age 90	$2,273,830
Net estate value at age 90	$3,314,802
Internal Rate of Return, after tax, assuming death at age 90	6.57%

The key to getting the most out of any Universal Life plan is to have your life insurance licensed Investment Executive guide you through the variety of products available to you, and then to help you direct the investment options within the plan you choose in accordance with your overall financial strategy.

† Based on current tax rules. You must satisfy credit criteria to qualify for the loan. The loan is designed so that the maximum loan plus its interest never exceeds 50-75% of the accumulated policy cash value.

†† For illustration purposes only. Rates are not guaranteed.

††† Based upon current loan rates. Rates may vary and are not guaranteed.

Report From Your Public Relations Committee

A Profession in Change

The role of a pharmacist has evolved beyond the procurement and dispensing of medications and as health care demands increase and our practice evolves, we must be well positioned to highlight our expertise. Creating public awareness of pharmacists and the professional services we provide is fundamentally important to our future. All practice settings find themselves in an economically challenging environment and the expansion of the pharmacist's role to include adaptation, continued care, administration of injections, treatment of minor ailments, and specialized consultative services must occur in tandem with new compensation models. The Public Relations Committee has been focused on developing a communication strategy that embraces emerging practice trends and educates the public about the valuable services that pharmacists provide today and ultimately will provide, under the authority of the new *Pharmaceutical Act* and Regulations.

GAYLE ROMANETZ
Chair, Public Relations Committee

Communication Strategy

The Public Relations Committee consulted with several public relations specialists who provided guidance in respect to developing a communication plan and strategy. Our goal was to ensure that we developed a clear message that was cost effective, reached our target audience and inspired pharmacists to strive for excellence.

Summary of Promotional Events

1. Transit Promotion - Pattison Advertising

- Pulse 1 : four week promotion Feb 12 – Mar 10, 2012
- Pulse 2 : four week promotion Oct 14 – Nov 10, 2012

2. Newsprint:

- Thompson Citizen
- Brandon Westman Journal
- Portage Herald
- The Metro - follow this link to see our ad on page 21 http://reader.metronews.ca/digital_launch.aspx?eid=d3641079-07a6-4162-9b40-1462f5f28e08&skip=true
- Coffee Time
- Senior Scope - follow this link and scroll to page 7 to read our free editorial and see our ¼ page ad http://www.seniorscope.com/images/pdfs/v10n10_mar7.pdf
- First Nations Voice - Our ad appears on page 21. http://www.firstnationsvoice.com/index.php?action=archives&year=2012&month=03&page=21

3. Radio

- HOT 103
- Dauphin CKDM
- CJOB - Rick Thermeirer appeared on CJOB's The Health Report on Sunday, March 4 for a fantastic kick-off to Pharmacy Awareness Week.

4. Television

- Breakfast TV
- Pam Johnson appeared on Thursday, March 8 with host Courtney Ketchen for their Health Segment. This is a direct link to Pam's interview http://video.citytv.com/video/detail/1495254038001.000000/pharmacy-awareness-week/CTV Morning Live
- Dennis Wong appeared on Thursday, March 8 with host Kris Laudien. Dennis did a fantastic job highlighting the various PAW themes and Kris included our tagline at the end of the interview.

5. Mall displays and interactive sessions

- Grant Park Mall
- St. Vital Centre

Voluntary Fund and Sponsorship

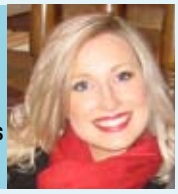
Financial support has been the biggest barrier to moving forward with a successful communication campaign and it is with great appreciation that I would like to acknowledge the many pharmacists that supported our efforts through a generous contribution to the Public Relations Fund. We have collected $9,902.50 in pharmacist donations since launching the fund in May of 2011. We are very appreciative of external donations totaling $17,792.46 and this collective support has allowed the Public Relations Committee to expand our promotional activities far beyond Pharmacy Awareness Week. Our revenue over expenses to date totals $ 20,376.19 and with funding secured, we are able to finalize our fall campaign. A detailed reconciliation of the Public Relations Fund has been prepared for your perusal and accompanies this report.

Total Revenue	$47,694.96
Total Expenses	$27,318.77
Revenue over Expenses to date	$20,376.19

We would like to remind everyone that the work of the Public Relations Committee is just beginning. Donations to the PR Fund received in 2011 have allowed the committee to start the process of educating the public and promoting pharmacists' professional services but it is only a start. As part of the 2012 MSP membership renewal, all pharmacists have been asked to once again contribute to the fund and keep the momentum building. All pharmacists will benefit from this campaign and it is important that all pharmacists contribute to this common effort. If you have not already contributed to the fund with your 2012 membership renewal, it is not too late. To find out how you can donate to the fund please visit: http://msp.mb.ca/files/pr/public_relations_committee_communication_donation_form_-_dec_2011.pdf or contact the MSP office at info@msp.mb.ca.

Report From Your Pharmacist Awareness Planning Sub Committee

The Honorable Theresa Oswald, Minister of Health, proclaimed March 4th - 10th, 2012 ***Pharmacist Awareness Week.*** This year's theme "**Talk to Your Pharmacist. A Healthy Choice"** was an opportunity to remind our patients of the important role we play in managing their health and to demonstrate that pharmacists are more than a source of medication. The Pharmacy Awareness Committee, under the leadership of Amy Oliver, organized a series of PAW events in our communities. Members of the Manitoba Society of Pharmacists (MSP), the Canadian Society of Hospital Pharmacists (CSHP), and the Canadian Association of Pharmacy Students and Interns (CAPSI) collaborated to make this year's activities an unprecedented achievement. PAW events were convened in over 50 sites across Manitoba including community pharmacies, hospitals, retirement homes, shopping malls, fitness centers, and schools. The primary messaging emphasized the Manitoba Medication Return Program, Smoking Cessation, and the MIPS / It's Safe to Ask card. A wide array of individualized messages were also promoted through a variety of health clinics which highlighted A1C testing, heart health and sodium reduction, medication reviews, nutrition and grocery tours, diabetes risk assessments and much more.



AMY OLIVER
Chair, Pharmacy Awareness Sub-Committee

MSP Public Relations Income Statement
May 16, 2012

REVENUE	
MSP Budget Amount	$15,000.00
Donations:	
Voluntary Fund Donations – 2011	$9,827.50
Voluntary Fund Donations – 2012	$75.00
Dauphin Clinic Pharmacy	$500.00
Loblaw	$1,000.00
Shoppers Drug Mart	$5,000.00
Post- Consumer Pharmaceutical Stewardship Assoc.	$5,000.00
MPhA	$5,000.00
MPhA - Manitoba Medication Return Program	$1,292.46
OUTSTANDING REVENUE	
Post Consumer Pharmaceutical Stewardship Assoc.	$5,000.00
	=========
TOTAL REVENUE	**$47,694.96**
EXPENSES	
Transit Promotion	$7,564.70
Print Media Promotion (newsprint)	$5,549.83
Radio Promotion	$5,300.00
Office Expenses	$110.07
Media Coordinator Salary	$1,850.00
Misc. (Posters, Jets Tickets)	$307.00
OUTSTANDING EXPENSES	
Print Media Promotion (newsprint)	$437.17
Transit Promotion Fall 2012	$5,200.00
Media Coordinator Salary	$1,000.00
TOTAL EXPENSES	**$27,318.77**
	=========
***REVENUE OVER EXPENSES TO DATE**	**$20,376.19**

* WILL BE ALLOCATED TO THE FALL FOUR WEEK PROMOTIONAL EVENT

Volunteers

We would like to extend a thank you to all of our volunteers for their commitment to patient education and Pharmacist Awareness Week. The success of the program was reflective of the talent and dedication of over sixty pharmacy students and pharmacist volunteers. Congratulations to Carrie Evans, a third year pharmacy student, who was the lucky winner of the Volunteer Raffle and a pair of Winnipeg Jets tickets.

Above And Beyond The Call Of Duty

Team Cooney

Louise Cooney and her team at the Super Thrifty in Ste. Rose du Lac went above and beyond the call of duty to promote our profession during PAW. Louise coordinated a variety of events throughout the week that inspired the public to stay healthy.

Day 1: The week started at the local diner where healthy eating and the importance of breakfast where highlighted.

Day 2: They set up a smoking cessation display to emphasize that quitting smoking is the single most important change you can make to improve your health. Patients were encouraged to talk to their QUIT certified pharmacist.

Day 3: Patients were invited to join a grocery tour and learn about the Canada Food Guide and how to read food labels.

Day 4: The main event focused on the benefits of the It's Safe to Ask program.

Day 5: The week wrapped up with a diabetes risk assessment workshop that was developed in tandem with the RHA and the Canadian Diabetes Association.

Team Shewfelt

Trevor Shewfelt and the team at Dauphin Clinic Pharmacy also made great contributions to our promotional endeavors. Trevor participated in a radio interview on CKDM radio highlighting the role of a pharmacist. The interview can be accessed at www.dauphinclinicpharmacy.com/2012/03/06/pharmacist-awareness-week-2/ . The Dauphin Clinic Pharmacy also encouraged patients to enter a draw by submitting testimonials on how pharmacists have touched their lives and contributed to their overall health and wellbeing.

Team Manitoba

We are always happy to hear and share your PAW story which can be sent to info@msp.mb.ca. An online photo album of PAW activities has been compiled for your viewing and is available at http://s1153.photobucket.com/albums/p510/amyolivermsp/?albumview=slideshow.

Please join Team Manitoba this October when we kick off our inaugural four week Fall Pharmacy Awareness Promotion. Stay tuned for more details.

Acting Executive Director's Update

I am pleased to be able to submit my second information update to the members since assuming the role of Acting Executive Director. As expected, the last couple of months have proven to be both interesting and challenging and I will attempt to provide members some insight into what has transpired during that time.

When conversing with members, economic issues are usually top of mind. Although the Economics Committee recently signed agreements with both MB Health and the Regional Health Authorities for pharmacy services in personal care homes, and with Health Canada for the Non-Insured Health Benefits Program, the work on both of these files continues.

JILL ELL

A meeting was held with Manitoba Health in regards to the standards of practice for personal care homes as required by Manitoba Health and those required by the Manitoba Pharmaceutical Association. The goal of the meeting was to raise awareness of the differences between the two sets of standards. The Economics Committee is continuing to address the level of reimbursement for professional pharmacy services to ensure that it reflects all requirements of the Manitoba Health Standards of Practice for Long Term Care.

Work also continues with Health Canada and the NIHB Program in regards to reimbursement for complex extemporaneous compounding. At the time of writing this report, Health Canada has indicated that a decision has been reached regarding the level of reimbursement for complex extemporaneous compounding and that it would be communicated in the very near future.

In the minds of most MSP members, Bulletin 68 and generic drug price reform would be the top priority of the Economics Committee and you would not be wrong. Bulletin 68 included the addition of a number of new generic drugs to the formulary through drug utilization management agreements (UMA's). Shortly after the release of the Bulletin, the Manitoba Government announced that they expect to realize savings of $10 million annually as a result.

The MSP Board of Directors has assumed a collaborative broad based approach to addressing these developments. Generic drug pricing reform, reinvestment in community pharmacy services, the upcoming expanded scope of practice that will be enabled with the proclamation of the new *Pharmaceutical Act* and reimbursement for these services must all be taken into account. The MSP Economics, Pharmacare, Government Relations, and Public Relations committees are working collaboratively along with stakeholders on this very important initiative. Updates will be provided to the members as they become available.

MSP continues to be involved in the MPhA Legislature Proclamation Component Development Project along with other stakeholders. As I am sure a majority of members are aware, a major milestone was achieved in the process on April 21st at the Annual Manitoba Pharmacy Conference when the revised Code of Ethics was approved during the MPhA Annual General Meeting. The new Code of Ethics will come into effect with the proclamation of the new *Pharmaceutical Act*. MSP was asked to actively participate in the development of the regulation and corresponding practice direction with regards to advertising. The draft prepared by the MSP Government Relations Committee will be forwarded to Manitoba Health for review.

Much of the work remaining on the regulations now falls in the hands of the legislative drafters. At the time of writing this update, an MPhA Special General Meeting has been scheduled to address six new practice directions. While it appears that the original projected dates for completion of all the components may not be met, progress continues as does optimism.

MSP took great pleasure in presenting the 2012 Annual Manitoba Pharmacy Conference at the Winnipeg Convention Centre on April 21, 22 and 23. The conference was very successful and the highlights have been captured and included in this issue. The MSP staff, members of the Conference Planning Committee and volunteers are to be commended for their efforts to ensure the event was successful and enjoyable.

The 2012/2013 MSP membership drive is underway and all members should have received renewal packages in the mail. Memberships can be submitted by mail, fax, or online. If you did not receive your renewal or if you have any questions, please contact the MSP office by phone or by email and the staff will be more than happy to assist you.

As part of the 2012 MSP membership renewal, all pharmacists have been asked to once again contribute to the Public Relations Committee Voluntary Fund. The work of this committee is just beginning and it is important to ensure the process of educating the public and promoting pharmacists' professional services continues to build momentum. Your support is both necessary and appreciated. Please see the Public Relations Committee article included in this issue for a complete report on the committee's activities during the past year.

As you can see, MSP has been very active since the last update was provided. With the expanded scope of pharmacist practice edging nearer, MSP will continue to advocate for the increased utilization of pharmacists in the provision of primary healthcare, reimbursement for new professional pharmacy services under the expanded scope of practice, and reinvestment into community pharmacy.

MSP Annual Student Night

Each year the Manitoba Society of Pharmacists puts together a function to celebrate and encourage the pharmacists of tomorrow. This year pharmacy students were invited to attend an evening of fun and games at the King's Head Pub. The event which was held on March 1, 2012, included a tournament of pool, darts and putting along with munchies and prizes. Nine teams participated in this year's tournament with the pictured teams being the prize winners.

Most Honest Team – Daddy and the Young Guns (MSP Board Members) Greg Harochaw, Britt Kural, Amy Oliver and Alan Lawless

Random Prizes were also handed out which included donations of T-shirts, and hats from The King's Head and gift cards courtesy of MSP. This year one of MSP's Preferred Providers, Academy Massage, contributed a beautiful gift basket as a door prize. The lucky winner was Dave Nguyen.

Dave Nguyen

First Place – Fatties Chris Sochan, Derek Wong, Mandeep Jassal, Mark Takla

Lucy Vuong, Student Liaison to the MSP Board of Directors, was an integral part of putting Student Night together and the MSP staff would like to thank Lucy for all her assistance. Lucy not only contributed feedback for student night but also submitted reports for MSP Board Meetings and volunteered at the Annual Manitoba Pharmacy Conference.

The staff at the Manitoba Society of Pharmacists wish all Manitoba Pharmacy students a fantastic summer and all the best in their future endeavours….whether it be continuing with their studies or starting out in their profession. To those continuing on in the Pharmacy program, we hope to see you all at next year's student night!

Second Place – Pharmaceutical Elegance Carrie Evans, Alisha McCulloch, Bethany Simpkin, Michelle Huyber, Sarah Stroeder

Third Place – Mighty Metformin Power Rangers Lucy Vuong, Nathan Baart, Devin Ross, Parveen Samra and Lindsay Alvero

This year's event was well received with positive feedback from the students. MSP is looking forward to hosting another event again next year and encourages the students to participate. If you have any suggestions or feedback to contribute, please feel free to do so by email at info@msp.mb.ca.

Q&A: GETTING TO KNOW YOUR MANITOBA PHARMACISTS

Name: **Joyce Marozas** (nee van de Vorst)

Place/Year of Graduation: BSc, University of Manitoba, 1984
BScPharm, University of Manitoba, 1987

Years in Practice: 25 years

Currently Working:
- PharmaCElink.ca - Canadian Continuing Education resource website for pharmacists and pharmacy technicians
- Island Lakes Pharmacy, Winnipeg

Accomplishments in pharmacy:
- Developed, maintaining and continually improving PharmaCElink.ca
- QUIT Certification (CPhA)
- Prior Learning Assessment Program and Distance Education instructor at Winnipeg Technical College
- Adult Education Program at Red River Community College
- Past instructor for Pharmacy Technician Programs at Robertson College and Winnipeg Technical College
- Reviewer for Learning Portfolios for the MPhA Continued Professional Development Program
- Past Field Officer and Assistant Registrar for the Manitoba Pharmaceutical Association
- Past member of the Standards of Practice Committee and Professional Development Committee
- Chemical Dependency Intervention Course, Addictions Foundation of Manitoba
- AsthmaTrec: Asthma Training and Educator Course, Manitoba Lung Association
- Lab Assistant for the 3rd year pharmacy student dispensing lab

Family: Married to Albert Marozas for 25 yrs this November. We have two girls Jenna & Kara. Jenna is attending the University of Manitoba going into her 3rd year of science. Kara will be graduating from grade 12 this year. To round out our family we have two Yorkies, Brandy and Nikita who keep us all very busy.

Hobbies: Walking with my dogs and attending our "Out of the Dog House" small dog play group, biking, reading and surfing the net.

Community activities: Speaking to elementary students about being a pharmacist. Volunteering for charity dog events such as Erin's Walk and Paws in Motion. I also volunteer on the medical committee for Safe Grad.

Favorite thing about Manitoba: That would have to be the sunshine! I love walking through Manitoba's many parks and appreciating our beautiful change of seasons.

Most relaxing vacation choice: Clearwater Bay, Lake of the Woods, sitting on our deck, sipping a cool drink and reading.

Pet peeves: Drivers with road rage …. Just chill!

Favorite fictional character and why: Bionic Woman, because I could really use her super human strength most days.

What could you do without forever? Operating the cash register while trying to practice pharmacy.

What couldn't you do without for even a day? My I-Phone

What you love about pharmacy: Continually learning and implementing new ways to improve the lives of our patients.

Do you know someone who is making a difference in the pharmacy community? We would like to highlight them in this article! Please contact the MSP office at (204) 956-6681 or info@msp.mb.ca.

What Predicts Life Expectancy? Just Follow the Money

Does money make you well? The question seems foolish, for having a big bank account is at first sight unrelated to illness and may just be an autocorrelation showing that the owner is in good enough health to earn money. Yet the idea raises the larger question – is it healthy to strive to earn money or will the striving be a waste of time and health? The answer, as we'll see, is that it is not so much earning a lot of money, but being where a lot of money is earned that determines life expectancy in early, middle and late life.

Data tend to show that money and mortality have an inverse relationship. The largest declines in mortality in the last half century have been for infants in prosperous places. The lowest rates of infant mortality appear in Monaco, Japan and Bermuda, Singapore and Sweden, all of which have high ratios of gross domestic product (GDP) per resident. The highest rates of infant mortality are in Somalia, Mali, Niger and Afghanistan, each of which has low GDP per capita. In the case of Afghanistan, so-called collateral damage from warfare appears to affect the life expectancy of infants. Perhaps the most dramatic decrease in infant mortality has taken place in Singapore where, in 1950, 60.69 babies died per 1,000 live births. In 2011, Singapore had 2.60 infant deaths per 1,000 live births. Correlated against GDP per capita, the case seems clear: As GDP rises, infant mortality falls, for the countries with the lowest infant mortality rates have the world's highest ratios of GDP per capita and those with the highest levels of infant mortality have the world's lowest incomes per capita.

ANDREW ALLENTUCK

Achieving these results is not cheap. Among prosperous and advanced developing countries, health spending rises as a percentage of gross domestic product. Thus in 2011, health care spending as a percentage of GDP was 10.7% in Germany, 10.9% in Switzerland, 13.9% in the United States and 9.7% in Canada.

What drives health care spending is a chicken and egg dilemma. With more money, countries – most of which have some sort of national health care schemes – allocate more to individual health. And with more money in their pockets and in national treasuries, citizens tend to demand more and better health care. The process leads to declining mortality over time. It is likely to do so until the median age of the population advances so far that increasing medical care produces strongly diminishing returns. For now, it may be that more prosperity means that people can afford to eat better, to have more and better sanitary systems, to afford preventive medical care, or perhaps that they take the time to be better educated about illness, nutrition and life style choices.

If money and mortality are inversely related, then one would tend to find that illness and mortality should rise in economic downturns and fall when GDP accelerates. Paradoxically, this is not always true. In an article in the International Journal of Epidemiology published in 2005, economist José A. Tapia Granados found that mortality declined in U.S. economic contractions and increased during expansions. His tentative explanation – more stress in expansions as workweeks increase leading to lower immunity levels, less sleep, and increased consumption of tobacco, alcohol and saturated fats. In other words, gobbling Big Macs is proportional to changes though not necessarily absolute levels of discretionary income. Though the North American love for junk foods affects life expectancy, people in other high income countries do not necessarily fill up on burgers and fries. Yet, according to Granados, after being deprived of junk foods during recessions, folks splurge on them when their economies recover. Their health, as a consequence, may not.

The perverse connection between money and diet demonstrates that high GDP of itself will not produce health for all people. But if we stratify the connection between GDP and health by age groups, the relationship between national income and health becomes clearer. A baby is lucky to be born in a country with high GDP per capita. Monaco, paved with money, and Japan, where nutrition is good and people are seldom obese, have among the lowest infant mortality rates. In middle age, he or she would be showing wisdom to be in a country in which a measure of physical activity is part of earning a living or, if in a prosperous country, to ensure that his caloric intake and use of tobacco and alcohol is not proportionate to income. Several Scandinavian countries qualify. It would then be best to spend retirement in a nation with high income and readily available health and drug sources and, if needed, health insurance - including drug coverage – to maximize life span. Life expectancy is longest in Japan – 82.6 years combing data for men and women and, on the same basis, it is 80.7 years in Canada and 78.2 years in the United States. The worst place to live by mortality statistics – Swaziland, where life expectancy on a gender combined basis is a mere 31.9 years.

The final question is what drives health? For babies, it is being born in a country with excellent obstetrical, neonatal and pediatric care. In middle age, it is the prescience to live where medical care is abundant and affordable. In old age, it is the residual luck to have institutional services such as on call nursing, health insurance, and, especially, plans that make prescription drugs affordable.

The number of physicians in relation to population is a proxy for all of these characteristics. On that basis, it turns out that Cuba, with 5.91 doctors per 1,000 residents, is tops,

followed by wealthy Monaco with 5.81 per 1,000 residents, then the U.S. at 2.3 doctors per 1,000 inhabitants and Canada at 2.1 per 1,000 inhabitants. The world leader turns out to be the enclave of San Marino, a republic of its own within Italy, with 47.35 doctors per thousand – an anomaly given the city state's population of 30,000 packed into a 24 square mile area in northeastern Italy, and the world's laggard, Tanzania, with 0.2 physicians per 1,000 people. Number of physicians per thousand is not an optimal predictor of health or longevity, but it works. In early life and in old age, it does pay to have doctors close at hand and affordable and to be in a prosperous country with the infrastructure to support prescription drug distribution networks, refrigeration of products that need it, accessible dispensaries and the other apparatus of contemporary pharmacy.

In the end, there is a connection between prosperity and life expectancy at all ages. It is an imperfect ranking. Cuba is not prosperous on a per capita basis, but it benefits from the very lack of cars and excessive caloric consumption that the United States' trade embargo has imposed on it. Developing Asian nations are in the middle of the life expectancy ratings with average expectancies in the low 70s. At the bottom are African nations ravaged by disease and warfare with life expectancies mostly in the low 40s.

And so to the bottom line: to live long, live well. To live well, be prosperous. This is health status by association rather than by clinical evaluation. But as epidemiology, it works.

Samantha Kendall, Recipient of the 2011/2012 A. Langley Jones Award

The A. Langley Jones Leadership Award was presented at the Welcome to the Profession 2012 Graduation Ceremony on May 31st at the Brodie Centre at the U of M Bannatyne Campus. The award is presented annually to a graduating student who exemplifies leadership qualities, has obtained a sufficiently high academic standard and who has an aptitude for Community Pharmacy as assessed through such courses as Pharmacy Practice, and Consumer Health Care Products.

The award honours the memory of Mr. A. Langley Jones who served as the first Executive Director of the Manitoba Society of Pharmacists. The recipient of the award is nominated by his/her peers and is recommended to the Selection Committee. The recipient is presented with an award and a cheque in the amount of $500.00.

This year the A. Langley Jones Award was presented to Samantha Kendall by Manitoba Society of Pharmacists Board Member and P.A.W. Chair, Amy Oliver.

Congratulations Samantha and all the best for your future in the Pharmacy Profession!

Oguzhan Ozturk
Consultant

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