

DEPARTMENT OF PHARMACEUTICAL SCIENCES



In this issue:

President's Perspective

American Pharmacists Month

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"The mission of the South Dakota Pharmacists Association is to promote, serve and protect the pharmacy profession."

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SDPhA CALENDAR

Please note: If you are not on our mass e-mail system check our website periodically for district meetings and other upcoming events. They will always be posted at: <http://www.sdpha.org>.

October American Pharmacists Month

- 1 License Renewals Due to the Board of Pharmacy (Sept. 30th)
 SDAPT Fall CE & Annual Business Meeting
 Pierre, SD - Capital University Center - 925 E Sioux Ave
- 8-12 NCPA Annual Meeting, Nashville, TN
- 10 Native American Day
- 12 Rosebud District Meeting
 Renee Sutton Ranch, 2499 Lakeview Drive, Burke, SD.
 Contact Renee Sutton for more information or to RSVP,
 605-775-2620
- Sioux Falls District Meeting
 Museum of Visual Materials, 500 N. Main, Sioux Falls.
 Social begins at 5:30 p.m., dinner at 6:00 p.m.,
 VA residents will be presenting a CE from 7:30 to 8:30pm
 (CE credit will be requested through the South Dakota Board
 of Pharmacy) on the updated clostridium difficile (C. diff)
 guidelines & a review of the new drug fidaxomicin
 (DificidTM)
 Please RSVP to robyn.cruz@va.gov.
- 16-22 National Hospital & Health - System Week
- 25 National Pharmacy Technician Day
- 25-27 SDSU Pharmacy Days
- 31 Halloween

November

- 11 Veterans Day
- 11-13 Academy of Student Pharmacists Midyear Regional Meeting
 Des Moines, IA
- 13 Mobridge District Meeting
 Jake's Good Time Place,
 620 S. Cleveland Avenue, Pierre, SD.
 Dinner/meeting beginning at 6:00 p.m.
 RSVP to Galen Jordre: rxservices@pie.midco.net
- 24 Thanksgiving
- * Cover photo courtesy of Karen Mahoney, Spirited Pony Gallery, Deadwood, SD.
 Photo Location: Roughlock Falls - Spearfish Canyon.
 For more information on this photo or other regional art, contact Karen at
kjmahoney@wildblue.net or visit the Spirited Pony Gallery on Facebook.

SOUTH DAKOTA PHARMACIST

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PRESIDENT'S PERSPECTIVE



Lenny Petrik
SDPhA President

Greetings All,

What a beautiful Fall we are having so far! I love this time of year!! It just smells like football.....and flu shots!! October is American Pharmacists Month and a great time to promote our profession and the valuable services we offer our customers. There are links with some great promotional tools on the SDPhA website if you need ideas.

Fall District meetings are in full swing. Please attend if you have a chance. SDPhA will be giving an update worth one hour of CE at the meetings and some have also scheduled other speakers and education opportunities. This is a great opportunity to meet with other pharmacy folks from your area and get caught up on SDPhA activities. New ideas or thoughts you may have are always welcome at the table.

The SDPhA Board recently attended the SD Board of Pharmacy meeting in Sturgis. It was very educational and was a great opportunity to share ideas and converse with the SD BOP members on many issues. I am looking forward to attending more SD BOP meetings in the future.

I recently had the opportunity to attend a picnic in Brookings welcoming pharmacy students to the current school year and speaking a bit on behalf of SDPhA. I enjoy working with the students and faculty at SDSU. What a great group!! SDPhA will also be at SDSU for Pharmacy Days October 25th-27th. I am really looking forward to it!!

Please remember to mark your calendars for September 21st and 22nd, 2012. The SDPhA Annual Convention will be held at that time at the Deadwood Mountain Grand Resort in beautiful Deadwood, South Dakota. I want to see as many friends there as possible, I may need to borrow some money!!

Take care and please let us know if we can help in any way!

Lenny Petrik, Pharm. D.
President, South Dakota Pharmacists Association

Save The Date!



Legislative Days
January 31st & February 1st
2012
Pierre, SD

**2012 SDPhA
CONVENTION**
**SEPTEMBER
21-22, 2012**
**DEADWOOD
MOUNTAIN GRAND**

DIRECTOR'S COMMENTS



Sue Schaefer
Executive Director

The time has come to celebrate your accomplishments as a pharmacy professional!

October is American Pharmacists Month! October 16-22 is National Hospital and Health System Pharmacy Week, and October 25th is National Pharmacy Technician Day. We hope you find some new and exciting ways to celebrate within your pharmacies. We have placed some information on the website, and I am once again encouraging all of you to contact your local media to set up interviews and provide Public Service Announcements (PSAs) to showcase your profession. If you need help, we're only a phone call or an email away.

This year we would like to expand on an exciting public/private partnership that was announced recently. It's called "Million Hearts" campaign, and is a national initiative to prevent one million heart attacks and strokes over the next five years. The Centers for Disease Control and Prevention and Centers for Medicare and Medicaid Services are the co-leaders of Million Hearts within the U.S. Department of Health and Human Services, working alongside other federal agencies including the National Institutes of Health, the Agency for Healthcare Research and Quality, and the Food and Drug Administration. Key private-sector partners include the American Heart Association, American Pharmacists Association, National Alliance of State Pharmacy Associations, the AMA, ANA and the YMCA, just to name a few!

Heart disease and stroke are two of the leading causes of death in the United States. Million Hearts aims to improve heart disease and stroke prevention by:

- Improving access to effective care.
- Improving the quality of care.
- Focusing more clinical attention on heart attack and stroke prevention.
- Increasing public awareness of how to lead a heart-healthy lifestyle.
- Increasing the consistent use of high blood pressure and cholesterol medications.

South Dakota Pharmacist

Million Hearts brings together existing efforts and new programs to improve health across communities and help Americans live longer, healthier, more productive lives!

We hope you pick up your sphygmomanometer, especially this month, and offer to check your patients when they drop by to see you. You could very well save a life and enhance your professional experience at the same time...a win win! For more information on the Million Hearts campaign, visit: <http://millionhearts.hhs.gov/index.shtml>.

It's very busy in the office as fall district meetings are underway along with many other issues that we have on our front burner. The Attorney General's Office has asked pharmacy's input into potential legislation surrounding the pseudoephedrine paper and electronic logs you all provide monthly. A program developed by APRISS called the NPLEx (formerly METHCHECK) may be coming to your pharmacy, if it hasn't arrived already. We are currently awaiting a draft of the legislation, and will keep you posted on the process. The intent of the Attorney General's Office is not to add to the workload for pharmacy, but to streamline the process for you and for law enforcement so that information can actually be reviewed in a timely manner. Stay tuned for additional information.

Also, the Board of Pharmacy is working on new draft rules regarding Technician Certification and Training. We encourage all of you to review these proposed rules as they are rolled out by Randy Jones and the Board of Pharmacy. It's critical to remain engaged in the process as it will affect each and every pharmacist and technician in their practice. For more information, visit the SD Board of Pharmacy's website at www.pharmacy.sd.gov.

Once again SDPhA has been invited to attend legislative briefings with the American Cancer Society and AARP. We'll be driving across South Dakota to various bergs sharing information about pharmacy. This proved to be very valuable last year prior to Legislative Session, and we look forward to a repeat.

I hope you all enjoy your special month. You are a very skilled and special group of pharmacy professionals, and I plan on celebrating and sharing your successes!

Take care and Happy Autumn!!

Sue

SOUTH DAKOTA BOARD OF PHARMACY



Randy Jones
Executive Secretary

NEW REGISTERED PHARMACISTS

The following candidates recently met licensure requirements and were registered as pharmacists in South Dakota: David Anderson, Dua Anderson, Megan Binger, Jennifer Bjergaard, Laura Botkins, Andrea Carder, Chelsea Conway, Katie Deutsch, Rebecca Doerr, Kyle Dvoracek, Michelle Eykamp, Kristen Felice, Elizabeth Fincel, Craig Fjeldheim, Scout Forbes, Ryan Fox, Brian Gilson, Sarah Grothen, Shane Halouska, Sarah Hanson, Richard Hauptmann, Kyle Heer, Peter Herout, Derek Hoitsma, Samantha Ingemannsen, Jill Jacobson, Wesleigh Jastorff, Amanda Jensen, Adam Jerke, Ashley Johnson, Brandi Johnson, Brandon Johnson, Michaela Johnson, Kara Kaiser, Madhuri Kanuri, Sara Khalid, Kasey Kirschenmann, Elizabeth Knaak, Annie Lancaster, Courtney Larson, Daniel Lee, Kristen Lee, Kara Lippert, Makayla Lorsung, Samuel Mari, Christy Martin, Thomas Merten, Anne Meyer, Kristi Mihok, Sarah Nagel, Matthew Nielsen, Susanne O Kane, Kathy Opdahl, Tayana Patrick, Susan Puetz, Katie Reis, Kristen Remund, Jeffrey Roth, Kristen Sample, Robert Sayles, Jessica Schroeder, Wendy Schulte, Jennifer Smith, Jason Stubbe, Amanda Styles, Christi Swaby, Alicia Thole, Kimberlee Thuringer, Morgan Tschetter, Joel Van Heukelom, Tyler Van Metre, Daniel Vostad, Ryan Waybright, Brittany Wilson, Curtis Wong

NEW PHARMACIES

Pharmacy licenses have been issued recently to: Complete Home Care Inc, (second location) Sioux Falls, Thomas K. Chiu, Pharmacist-in-charge; Avera Dermatology Pharmacy, Sioux Falls, Jennifer Bergan, Pharmacist-in-charge; Animal Rx Pharmacy, Sioux Falls, Jordon Breuer, Pharmacist-in-charge.

THIRD NATIONAL TAKE-BACK DAY SCHEDULED
DEA has scheduled another National Prescription Drug Take Back Day on Saturday, October 29, 2011, from 10:00 am - 2:00 pm. to provide a venue for persons who want to dispose of unwanted and unused prescription drugs.

National Prescription Drug Take Back Day addresses a vital public safety and public health issue. More than seven million Americans currently abuse prescription drugs, according to the 2009 Substance Abuse and Mental Health Services Administration's National Survey on Drug Use and Health. Each day,

approximately, 2,500 teens use prescription drugs to get high for the first time according to the Partnership for a Drug Free America. Studies show that a majority of abused prescription drugs are obtained from family and friends, including the home medicine cabinet.

DEA in conjunction with state and local law enforcement agencies throughout the United States conducted National Prescription Drug Take Back Days on Saturday, September 25, 2010 and April 25, 2011. Nearly, 4,000 state and local law enforcement agencies throughout the nation participated in these events, collecting more than 309 tons of pills.

Four days after last fall's Take-Back Day, Congress passed legislation amending the Controlled Substances Act to allow the DEA to develop a process for people to safely dispose of their prescription drugs. DEA immediately began developing this process after President Obama signed the Safe and Secure Drug Disposal Act of 2010 on October 12. Until that process is complete, however, DEA will continue to hold Take Back Days every six months.

Further information about the second National Prescription Drug Take Back Day, including a link to locate a collection site near you, will be posted on this website: http://www.deadiversion.usdoj.gov/drug_disposal/takeback/index.html.

RISK EVALUATION AND MITIGATION STRATEGY (REMS)

Our office has received many communications over the last year about REMS and what are pharmacists required to do to be in compliance?

The August issue of the American Society of Health-Systems Pharmacists published an article that provided some answers. The article is entitled "No New Pharmacist Responsibilities With Upcoming Opioid REMS". A key points of interest: Education for prescribers and patients but responsibilities for pharmacists will not change. FDA's Janet Woodcock, director of the Center for Drug Evaluation and Research was quoted by saying, "This REMS is focused on the prescribers, and on patients". She goes on to say, "We feel the prescribers are really critical in managing this. They really have to be able to determine the pain needs of the patient". Woodcock goes on to say that even though there are no new responsibilities for pharmacists, this doesn't mean pharmacist involvement will not be required. Involvement in the smallest sense would be pharmacist will be required to dispense med guides when dispensing prescriptions.

View the complete article at: www.ashp.org/menu/News/PharmacyNews/NewsArticle.aspx?id=3525

SOUTH DAKOTA BOARD OF PHARMACY

Continued

AUTOMATED MECHANICAL DISTRIBUTION DEVICES (AMDD)

Many pharmacies have been or are currently addressing the addition of automated dispensing cabinets to their pharmacy operations. Examples of such devices are: Pyxis, Omnicell, ScriptPro, and Parata. As part of the annual inspection process, board inspectors review the current operating procedures for the cabinets. Inspectors have provided feedback that if these devices are utilized appropriately, patient safety will be improved due to enhanced efficiencies and dispensing accuracy. However, prior to the implementation there is often one area that is overlooked. Administrative Rule 20:51:17:01 states the facility / pharmacy must submit policies and procedures to board for review and approval prior to use. Facilities / pharmacies not completing this task prior to use are in direct violation of the rule.

For a comprehensive review of the administrative rule, a link to the rule from our website is listed here. <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=20:51:17>

TECHNICIAN EDUCATION AND CERTIFICATION

During the September 16th Board Meeting, at the request of the Board, staff presented changes and additions to ARSD 20:51:29 Registered Pharmacy Technicians that would require mandatory education and certification for pharmacy technicians. Points for discussion included dates for adoption; defining technician-in-training and responsibilities; potential grandfather clauses for technicians with tenure. Information will be available on our website when the Board makes a decision on these changes.

CHANGES OF INFORMATION?

The Board staff sends out communications to pharmacists and technicians throughout the year. The office needs accurate information so that you will receive this information in a timely fashion. Please report changes such as – name, home address, work address, phone numbers, e-mail address, etc. Please report this information when the change occurs. Please don't wait until the renewal timeframe of your license. This results in delays in the issuance of your license. Technicians are required to report within 10 day (see ARSD 20:51:29:15). A change in pharmacist-in-charge must be reported immediately (see ARSD 20:51:06:02.01). The Change of Name or Location forms can be located on our website at www.pharmacy.sd.gov or you may simply send an e-mail message to one of the staff with your changes

PRESCRIPTION DRUG MONITORING PROGRAM (PDMP) UPDATE

The Board of Pharmacy has selected Health Information Designs as the vendor for data collection, data storage and data reporting for the SDPDMP. HID provides

this service to 13 other states including North Dakota and Minnesota. All pharmacies recently received information from HID with instructions to access the Dispenser's Implementation Guide for the SDPDMP. The guide serves as a step-by-step implementation and training guide to prepare pharmacies for mandatory data submission to the program.

Mandatory weekly reporting will begin by December 12, 2011. Retro date back to July 1, 2011 must be submitted by February 15, 2012. Our staff will be able to generate patient profiles by the end of January. We anticipate that online access for data query by pharmacists and prescribers will be available by the end of February.

General information about the PDMP and specific information for prescribers and pharmacists can be found on the website. Please call or email the Board of Pharmacy office with your questions about this new program.

BOARD MEETING DATES

Please check our website for the time, location and agenda for future Board meetings.

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Board of Pharmacy Website
www.pharmacy.sd.gov

Please read all Newsletters and keep them for future reference. The Newsletters will be used in hearings as proof of notification. Please contact the Board office at 605-362-2737 if you have questions about any article in the Newsletter. Past Newsletters are also available on the Board's Website.

EXECUTIVE PROCLAMATION FROM GOVERNOR

Executive Proclamation *State of South Dakota* *Office of the Governor*

Whereas, Pharmacy is one of the oldest health professions concerned with the health and well-being of all people; and,

Whereas, There are over 254,000 pharmacists licensed in the United States providing services to ensure the rational and safe use of all medications; and,

Whereas, The use of medication, as a cost-effective alternative to more expensive medical procedures, is becoming a major force in moderating overall health care costs; and,

Whereas, Today's powerful medications require greater attention to the manner in which they are used by different patient population groups, both clinically and demographically; and,

Whereas, It is important that all users of prescription and nonprescription medications, or their caregivers, be knowledgeable about, and share responsibility for their own drug therapy; and,

Whereas, Pharmacists are specifically educated with a focus and level of expertise on medication therapy and are ideally suited to work collaboratively with other health care providers and patients to improve medication use and outcomes by providing services through medication therapy management; and,

Whereas, Pharmacists provide both expertise and accessibility which are crucial to patients fully optimizing access to medications that are not self-administered such as, but not limited to, immunizations; and,

Whereas, Pharmacists are best positioned to be the health care professionals to help ensure patients are adherent to their medications and provide patient care that ensures optimal medication therapy outcomes; and,

Whereas, The American Pharmacists Association and South Dakota Pharmacists Association have declared October as American Pharmacists Month with the theme "Know Your Medicine – Know Your Pharmacist":

Now, Therefore, I, Dennis Daugaard, Governor of the state of South Dakota, do hereby proclaim October 2011 as

PHARMACISTS MONTH

in South Dakota, and urge all our citizens to acknowledge the valuable services of pharmacists to provide safe, affordable, and beneficial pharmaceutical care services and products to all citizens.

In Witness Whereof, I have hereunto set my hand and caused to be affixed the Great Seal of the state of South Dakota, in Pierre, the Capital City, this Twenty-third Day of August in the Year of Our Lord, Two Thousand and Eleven.



Dennis Daugaard
Dennis Daugaard, Governor

Attest:

Jason M. Gant
Jason M. Gant, Secretary of State

THE CHANGING LANDSCAPE FOR VACCINE ADMINISTRATION

Managing vaccine storage and delivery at the pharmacy level

By Kevin O'Donnell and Patrick McGrath

In its 2009 report the state of the world's vaccines and immunizations, the World Health Organization (WHO) described vaccines as "one of the most powerful and cost-effective of all health interventions. It prevents debilitating illness and disability, and saves millions of lives every year. Vaccines have the power . . . to . . . save . . . lives." Vaccines, according to the WHO, are ranked second only to clean water for the prevention of disease and improvement of all human life.

In the U.S., a child can receive a dozen or more shots and be vaccinated against 23 diseases before the age of 18. The most recently published recommended immunization schedule furnished by The Centers for Disease Control and Prevention (CDC) states that the cost to immunize a child in the U.S. through adulthood is \$1,195 for males and \$1,483 for females. A vaccination administrator will typically hold between \$5,000 and \$15,000 of vaccine inventory in a refrigerator at any one time. The fragile nature of vaccines requires that they must be stored at proper temperatures. To maintain their efficacy, most vaccines require refrigeration, while some must remain frozen. All vaccines must be protected from heat. The CDC also estimates that between 15-35% of all vaccines distributed in the U.S. become unusable and are wasted as a result of temperature spoilage. The proper procurement, storage and administration of vaccines is essential for maintaining both the social value and economic value of these drugs.

UNDER NEW ADMINISTRATION

Pharmacists regulated by individual states' laws have been administering vaccines to patients for many years. It was only in October of 2009 that the state of Maine passed a law to become the last of the 50 states to allow pharmacists to administer vaccines. Advancements in the training of pharmacists initiated by the American Pharmacy Association (APhA) in 1996 accelerated the practice when they published the Pharmacy-Based Immunization Delivery Program, which was endorsed by the CDC. By 2006, 43 states had laws on the books allowing registered pharmacists to provide immunizations. The H1N1 pandemic influenza scare of 2009 motivated the few remaining states to enact legislation removing legal hurdles to allow pharmacists in all 50 states to administer vaccines.

The nationwide shift in vaccine administration by pharmacists received additional legislative endorsement when the Patient Protection and Affordable Care Act was signed into law on March 23, 2010 as part of the Healthcare Initiative created by

President Obama. Under PPACA, which will become effective September 23, 2011, "children 0-18 years that are enrolled in new group or individual private health plans will be eligible to receive vaccines recommended by the CDC Advisory Committee on Immunization Practices (ACIP) prior to September 2009 without any cost-sharing requirements when provided by an in-network provider." Essentially, this means that co-payments or deductibles will no longer be accepted for the administration of vaccines for preventive care.

Conventional wisdom holds that this economic pressure on primary care physicians and pediatricians will discourage them from administering vaccines. At the 2011 APhA conference in Seattle, WA, the association's president, Harold Godwin, stated that he believes this will increase the flow of patients to pharmacists for vaccinations, and that pharmacy owners should work with local physicians to facilitate information sharing to complete patient history files.

STUDIES SHOW PHARMACISTS ARE QUALIFIED

Each year, nearly 90,000 Americans die of infections that can be prevented by vaccination, such as influenza, pneumococcal disease, and hepatitis B, according to the ACIP. Influenza and pneumonia together are the fifth leading cause of American deaths.

A study published in 2004 in the journal Vaccine compared influenza vaccination rates in states where pharmacists were authorized to administer vaccines versus states where they were not. Researchers reviewed and compared data from 1995, when only nine states allowed pharmacists to vaccinate patients, with data from 1999, when the number of states had grown to 30. The research concluded that states allowing pharmacists to provide immunizations had significantly more people in all age groups who were immunized against influenza than in states that did not. Among patients ages 18 to 64, states allowing pharmacist administration of vaccines had a 5% increase in vaccination rates between 1995 and 1999. And for patients age 65 years and older, influenza vaccination rates were significantly higher in states allowing pharmacist vaccination (10.7%, compared with 3.5% in states without authorization). This demonstrates that making vaccines more accessible to the general population through pharmacists results in a higher vaccination rate. The time-strapped American consumer is often influenced by convenience. The administration of vaccines at a local pharmacy without the need, time or costs associated with scheduling a doctor's ap-

pointment is a tempting convenience indeed—just one more thing to add to the list of things to get while at the pharmacy. This model can be leveraged to improve vaccination rates for conditions other than influenza.

ARE PHARMACISTS READY FOR THIS NEW RESPONSIBILITY?

Properly trained pharmacists are taking proactive steps to improve their potential for success. It is proposed that the standard concern of pharmacists is centered around the procedures for injecting the patient and informing them of potential side-effects while not enough emphasis is placed on the processes for receiving vaccines, storing them at proper temperature levels, and reporting their administration to physicians or state registries. Pharmacists may be experienced with managing tablet-style drug inventories, but the physical fragility of temperature-sensitive vaccines carries additional responsibilities. If they are stored or administered at temperatures that are too high or too low, efficacy can be negatively affected and the patient may be inadequately protected.

MANAGING TEMPERATURE-SENSITIVE VACCINES AT THE PHARMACY LEVEL

Vaccines have great social value allowing for an improved quality of life by preventing debilitating diseases. They carry a high inventory value because of their typically high cost per dose, making temperature management a critical component to inventory, cost and patient well being. Improperly stored vaccines can lose their efficacy. They must be maintained at required temperatures as determined by the manufacturer's stability studies, up to the point of administration to the patient. For these reasons, pharmacists are encouraged to be trained on proper vaccine storage and handling procedures and be equipped to execute appropriate measures to insure that proper temperature conditions are maintained during storage and administration. Prior to administering vaccines, a pharmacist will receive certification training from a state approved agency. However, in some cases they may not be fully trained to handle temperature management.

GOOD AND BEST PRACTICES

The CDC has clearly indicated that proper handling and storage of vaccines is paramount. An organization's basic quality management plan should ensure that each receiving location identifies an individual as the primary vaccine inventory person, and another as the secondary/backup person. They should be responsible for receiving, storing and handling all vaccines. They should maintain an inventory log documenting the vaccines received. This should include the drug name, date received, lot number, expiration date and arrival condition —

including temperature. When receiving vaccines, it is important to inspect the product to insure the temperature has been maintained, and the product should be stored according to its recommended label conditions immediately upon arrival. This in accordance with the CDC Vaccine Handling and Storage Tool Kit, an on-line tool that can be found at www2a.cdc.gov/vaccines/ed/sh toolkit/. The guide goes on to state that if vaccines arrive without a temperature monitor device or data logger or the temperature appears to be above or below that which is listed on the manufacturer's storage label, the supplier and/or the manufacturer should be contacted. These vaccines should be quarantined or segregated and kept in the cold-chain but clearly marked so as not to be mistakenly used until it is determined if they are acceptable for use or if they are to be returned for replacement.

When storing vaccines the CDC recommends the use of a unit with separate refrigerator and freezer space. Vaccines should be placed into "breathable plastic mesh baskets" on the middle shelves (never on doors, in drawers/bins or against walls). Separate vaccines by bin and label them according to the vaccine within. Refrigerators or freezers used to store vaccines should not contain food or beverages. It is recommended to place bottles with water on door shelves to stabilize internal temperatures. Refrigerator temperatures must be maintained between 2° and 8° C (35°F and 46°F). Vaccine efficacy will decrease if they are exposed to temperatures beyond their allowable range. Diminishing efficacy is not necessarily a linear process. Often degradation is accelerated over time as the result of excessive temperature exposure or after multiple exposures to temperatures outside the recommended storage condition.

The CDC advocates the use of a mercury bulb thermometer or a digital thermometer inside a vaccine storage unit and manually recording the storage equipment or facility twice a day at a minimum. However, not only can such devices and processes be inaccurate, but they fail to document an elapsed history of temperature exposure. Continuous monitoring of the internal temperature of the storage unit is considered a best practice. This is most reliably achieved through the use of an electronic temperature-monitoring device. It is important to have an accurate, calibrated device that can provide the high and low temperatures observed each day as well as alert the user to situations when the temperature has gone beyond the required range. The WHO, for example, recommends the use of a 30-day device (such as the Fridge-tag®). This device will record and display high and low temperature data for the preceding 30 days. It will also provide a visual indicator if temperatures have exceeded a specified range, and if so, for how long. Such a device may

be helpful to pharmacies that are closed overnight and need visibility of temperatures when no one is present.

The CDC recommends every pharmacy have an emergency vaccine retrieval and storage plan. Facilities should be equipped with a back-up generator, or an uninterrupted power supply or an approved alternate or off-site storage location. In the event of a power outage, emergency plans need to be in place and practiced well before they need to be implemented. It is important to have an emergency call-tree readily accessible for managing vaccine inventory and escalation procedures. Portable insulated coolers and pre-conditioned refrigerants will help if vaccines need to be moved to a new location. In the absence of a back-up generator or uninterrupted power source, it is important to keep the refrigerator and freezer doors closed and to rely on a continuous temperature monitoring device for information on inventory viability. Should temperatures go outside of the required range it is important to contact the manufacturer with the maximum temperature recorded and total time out of temperature. Only the manufacturer of a vaccine can determine the proper dispensation of a product that may have been compromised due to exposure to high or low temperatures.

Changing U.S. laws and shifting payment policies ensure that pharmacists will play a growing role in the administration of vaccines in the future. This increased access to vaccines among the U.S. population will result in lower costs and will benefit patients and society by preventing or potentially irradiating diseases. It is important for all involved within the vaccine supply chain that this paradigm shift is recognized and actively planned for and that appropriate records of temperature conditions in storage and transportation are maintained. States' Boards of Pharmacy requiring certification for vaccine administration by pharmacists can improve patient outcomes by including training on proper handling and storing of vaccines. Continuous temperature monitoring and proper management of vaccine storage facilities at the pharmacy level decreases wastage, lowers costs and improves patient outcomes.

Proper planning, training and temperature management will improve a facility's ability to demonstrate that vaccines have been handled correctly. After all, if the vaccine's efficacy, potency, safety or quality is compromised due to temperature excursions prior to administration to the patient, it may not stop the very disease it is meant to prevent.

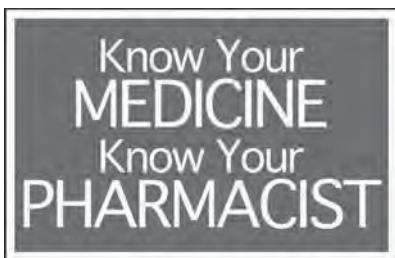
Contributing Editor Kevin O'Donnell is a senior partner at Exelsius Cold Chain Management – U.S. He serves as chair for the International Air Transport Association (IATA) Time & Temperature Task Force, is a member of the USP Expert Committee on Packaging, Storage and Distribution, and is a temporary advisor to the WHO. He blogs at www.coolerheads-blog.com. He can be reached at kevin.odonnell@exelsius.us.

Patrick McGrath is general manager, Berlinger USA LLC. He has an MBA from Temple University, is a long-standing member of the Parental Drug Association and is serving as a temporary member of a CDC advisory committee.

REFERENCES

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Celebrate Your Profession!



American Pharmacists Month

In the Community Pharmacy Setting

- ◆ Use a special answering message promoting American Pharmacists Month when you answer your phone, "Thank you for calling. We are celebrating American Pharmacists Month. How can I help you?"
- ◆ Conduct an Immunization Day (flu clinic), blood pressure clinic or osteoporosis screening. Create a patient care center in your pharmacy.
- ◆ Hold a week long event of brown bag medication reviews in your pharmacy.
- ◆ Decorate your pharmacy for the month of October with banners and posters highlighting American Pharmacists Month.
- ◆ Hold an educational session with snacks at a convenient time, call it "Snacks & Facts" and invite the public.
- ◆ Hold an "open house" at your pharmacy and hand out goody bags with an informational brochure inside.
- ◆ Give an OTC tour to your patients on how to select the best OTC products for their individual condition.
- ◆ Invite local students to visit your pharmacy for a class trip and give them a tour of the pharmacy.
- ◆ Reach out to local media.
- ◆ Host a visit for your senator or representative and provide him/her with a view of the role of the pharmacist.

American Pharmacists Month

October 2011

October is American Pharmacists Month! It's time to celebrate your profession, recognize your pharmacy staff, and reach out to your patients. SDPhA has compiled some creative ways for you and your colleagues to celebrate American Pharmacists Month!

Hospitals, Institutions, Managed Care & Long Term Care Settings

- ◆ Place information in your facility's newsletter about American Pharmacists Month.
- ◆ Decorate the hospital or institution lobby with posters or displays. Create a lunch tray tent card explaining the goals of the pharmacy and services you offer.
- ◆ Hold an "open house" for all employees to visit the pharmacy.
- ◆ Host a visit for your senator or representative and provide him/her with a view of the role of the pharmacist.
- ◆ Reach out to local media.

Student Pharmacists/Collages of Pharmacy

- ◆ Create a plan and be prepared to help your employer or rotation site hold activities and events for the month of October.
- ◆ Create a banner and ask your school to display the banner to promote American Pharmacists Month.
- ◆ Hold a t-shirt fundraiser at your school in honor of American Pharmacists Month.
- ◆ Talk to high school students about pharmacy careers.



Please send SDPhA information on what you are doing this year to celebrate American Pharmacists Month. Send us an email at sdpha@sdpha.org or fax at 605-224-1280 telling us your plans. Make sure to include names of those who participated and photos, if available. Visit our website at www.sdpha.org and click on "October is American Pharmacists Month" for more ideas on how to celebrate. This is a celebration of pharmacists and pharmacy-so make sure to share your story!



American Pharmacists Month

October 2011

Make sure to recognize your pharmacy staff during American Pharmacists Month! October is the perfect time for managers and supervisors to show their appreciation for the great work the pharmacy staff does throughout the year.

Go Out into Your Community

- ◆ Senior Citizen Centers are always looking for new, exciting educational events. Set up a brown bag medication review event at a local Senior Citizen Center.
- ◆ Hold a healthcare event in your community or get involved in your local health fair.
- ◆ Present information on pharmacy to people in the community. Promote the event in advance and invite the public.
- ◆ Speak with the local school nurse on educating high school teachers about pharmacy. Ask the guidance counselor if you can set up a presentation on careers in pharmacy for Career Day.
- ◆ Contact the media in your area, write a news release and talk with the media about American Pharmacists Month.



Don't Forget to Celebrate!

October 16-22, 2011 is National Hospital and Health-Systems Pharmacy Week

October 25, 2011 is National Pharmacy Technician Day

Make sure to show your appreciation for your pharmacy technicians on this day by acknowledging their significant contribution in the pharmacy!

Resources

For more information visit APhA website at:

<http://www.pharmacist.com>

Follow the Newsroom tab to the American Pharmacists Month tab for a webpage full of promotional items and gifts available to you for American Pharmacists Month.

Visit our website at www.sdpah.org and click on "American Pharmacists Month" for more ideas on how to celebrate.



**Spread the word!
Pharmacists are the medication experts!**

PERSPECTIVES ON PHARMACY CRIME

Reprinted with permission from Pharmacists Mutual Company

OVERVIEW

Pharmacy burglary and robbery are two of the fastest growing types of crime in the United States. Always a challenge, these crimes cost money, interrupt the pharmacists ability to do business, and can have a huge emotional toll.

Pharmacists Mutual tracks claim data and compares it against other sources of information to provide customer education about the problem, and to develop effective risk management solutions.

EXTENT OF THE PROBLEM

Some sources place primary blame on the economy, citing historical evidence that prolonged high levels of unemployment have always been associated with increased crime. Data is not yet available to support this assumption. While this may be the case, the latest information from the U.S. Census Bureau, 2011 Statistical Abstract for Law Enforcement shows a steady decrease in non-residential burglary from 1,041,000 in 1990 to 566,000 in 2008, the last year data is available. Reductions are attributed to increased police presence, and higher effectiveness of cooperative police/community efforts. Unfortunately, with the economic downturn, state, county and municipal budget cuts are having a negative impact on law enforcement. Pharmacists Mutual is finding a trend in some areas toward slower police response or the need to place a lower priority on non-violent crimes.

Other evidence suggests that some of the increase in pharmacy crime may relate to improved computer systems designed to prevent doctor shopping, success at shutting down a number of illegal internet sites, seizures in the U.S. of large shipments of illegal drugs and a perception that drugs produced by pharmaceutical companies are "safer".

Crime Locations and Concentrations - While a portion of our loss concentration is dependent on how much business we write in any particular state, concentrations in Texas, Michigan and Pennsylvania are consistent with data being tracked by Rx Patrol. Overall objective –Bottom line, the principal objective of protective features has to be limiting the extent of the loss and increasing the probability of detection. In Pharmacists Mutual experience, 22% of the cases were determined to be successes, with success defined as an attempt or building damage below deductibles but with no entry made.

Armed robberies – According to DEA data, there were 686 armed robberies of pharmacies in 2010. These represented 9% of Pharmacists Mutual pharmacy crimes and approximately 52% of crimes reported to Rx Patrol.

Criminal apprehension rates - In the United States, violent criminal apprehension is about 42%. In Pharmacists Mutual experience, suspects are apprehended 15% of the time shortly after the act. Countrywide (FBI), the apprehension rate for burglaries in all occupancies is 29%.

Method of entry – 42% of perpetrators entered through the front door, typically by breaking out glass, and another 24% through windows. In spite of this, most pharmacies do not employ break resistant glass or security film. Once an attempt or burglary occurs, the original type of glass is usually reinstalled with 24 hours.

Visibility from the street – 76% of entries were visible from the street. This includes entries through doors, windows and drive through windows. In general, most pharmacy burglars and robbers are betting on being able to get in and out before the police arrive and are not worried about being identified.

Video surveillance – was present in 62% of cases. We were unable to find any objective evidence that the presence of video surveillance prevents crime. Surveillance may encourage the perpetrator to select a less well protected pharmacy, and may be helpful to law enforcement.

Safes were present 38% of the time. In an examination of high dollar thefts, the most consistently missing control was a safe. Safes require the thief to take additional time and to plan. Without a safe, criminals can sweep shelves very quickly and clean out a pharmacy in minutes. With working alarms and adequate police response, the size of loss is significantly limited.

There are currently two schools of thought on the use of safes in pharmacy. The first is to hide the safe and use it to hold overstock of high valued drugs. The second borrows from policies and practices in use by convenience stores for years. Make the safe visible, post signs that the safe is on time delay. One national chain is installing time delay safes in 42 stores on a test basis and the viability of the approach will be tested.

Alarms were in place in 88% of cases but failed 19% of the time. They fail because they are not maintained or because the criminal defeats them by cutting lines, phone line interference or creating multiple false alarms.

Even where police response is slow, local alarms and sirens serve to alert the neighborhood and cause the criminal to hurry through what they are doing. Extremely loud sirens will cause physical pain.

NEW TECHNOLOGIES

FlashFog emits a dense ethyl glycol fog into the pharmacy on activation of the alarm system during a burglary attempt making it impossible for the perpetrator to see what they are doing. An included bright flashing strobe makes it even more powerful. Burglars quickly leave empty handed. Before purchasing and installing the system, pharmacists should ask FlashFog to check with local police and fire departments to educate them about the system and determine if installation is permitted. PharmaSafe has introduced a line of safes that are specifically designed for the pharmacy environment.

Security film, such as that provided by Win-Tec, of sufficient thickness, installed into the door

frame and chemically bonded, can provide bullet resistant levels of protection. Pharmacies that have employed inferior designs of security film have often experienced repeat burglaries with no appreciable increase in protection.

Tracking devices are now available that are small enough to fit into a prescription bottle. The potential problem is if the criminal is aware of the possibility and threatens the pharmacist if one is located.

For questions about this article, please contact Pharmacists Mutual Risk Management at 515-395-7229.

SD SOCIETY OF HEALTH-SYSTEM PHARMACISTS

Erin Christensen

SDSHP President

Greetings from SDSHP!

I hope everyone had a fantastic Summer! The South Dakota Society of Health-System Pharmacists has been keeping busy this year. Here is a brief update of our most recent activities, as well as those upcoming:

GVR Society Open Golf Classic

The 10th Annual Gary Van Riper Society Open Golf Classic was held July 29th at Bakker Crossing Golf Course in Sioux Falls. We raised nearly \$2500 that will be used to help support SDSU pharmacy student scholarships. Thank you to the 32 players that turned out for the event this year; your support is greatly appreciated! Congratulations to this years winning team, which consisted of: Tom Johnson, Tyler Van Metre, Neil Matthiesen, and Jason Stubbe. A special thank you to Tyler Turek and Tom Johnson for organizing the Open and to Bakker Crossing Golf Course for hosting the event. Thank you also to our Platinum Sponsors: Gary & Sharon Van Riper and Avera McKennan and to our Gold Sponsors: Tom & Jodi Johnson, Tyler & Kristin Turek, Ron Johnson & Dennis Jones and Pharmacists Mutual.

ASHP Midyear Clinical Meeting–Dakota Night Reception

Once again we will be hosting a Dakota Night Reception for pharmacists, students and technicians during the Annual ASHP Midyear Clinical Meeting in New Orleans, LA. Please join us for refreshments and networking opportunities on Monday, December 5th, 2011 from 5:30-7:30 pm at the Hilton Riverside in the 3rd floor Breezeway.

Continuing Education Events

In collaboration with SDPhA and the SDSU College of Pharmacy, we will be offering 4.5 hours of free CE on Saturday, February 4th, 2012 from 10am-3:45pm at the SDSU Student Union. We will break for lunch from 11:30am-12:30pm. The program will be presented by the pharmacy practice residents from Avera McKennan and Sanford hospitals. Please plan to attend and also order your Jacks tickets ahead of time (www.gojacks.com) so that you can see the men and women take on Southern Utah. The women tipoff at 5pm and the men at 7:30pm. Hope to see many of you take advantage of this CE and then come out to Support the Jacks!

36th Annual SDSHP Conference

Mark your calendars for the 2012 SDSHP Annual Conference, which is being held March 30th & 31st at the Sioux Falls Convention Center. Our conference planning committee is hard at work organizing another quality conference

Join SDSHP

If you are interested in joining SDSHP we have an online membership application available. Check out our website at www.sdshp.com.

Have a great Fall!

Erin Christensen, Pharm.D., BCPS

President, South Dakota Society of Health-System Pharmacists

PHARMACY TIME CAPSULES - 2011 - FOURTH QUARTER

TWENTY-FIVE YEARS AGO 1986

- Food and Drug Administration approval of the first monoclonal antibody drug, Muronomab-CD3 (also known as Orthoclone OKT3), for treatment of transplant rejection
- Total health care expenses for a population of approximately 244 million were approximately \$477 billion.
- Average prescription price was \$14.36 and the average number of new and refill prescriptions filled per year was 29,100 according to the Lilly Digest.

FIFTY YEARS AGO 1961

- Pharmacist Donald Hedgpeth and the Northern California Pharmaceutical Association indicted for violation of the Sherman Anti-trust Act for the development of a pricing schedule that incorporated a professional fee.
- Amitriptyline HCl (Elavil) was introduced in the US by Merck Sharp & Dohme
- Total health care expenses for a population of approximately 189 million were approximately \$29 billion.
- Average prescription price was \$3.25 and the average number of new and refill prescriptions filled per year was 15,100 according to the Lilly Digest.

SEVENTY-FIVE YEARS AGO 1936

- Johnstown, PA was hit with a devastating flood on St. Patrick's Day. Initial reports were that 27 out of 34 drug stores were destroyed. Pharmacists and manufacturers rushed aid to the city to assure that essential medicines were available.

ONE HUNDRED TWENTY-FIVE YEARS AGO 1886

- The Brooklyn College of Pharmacy was formed in 1886. Renamed, it is now the Arnold and Marie Schwartz College of Pharmacy and Health Sciences of Long Island University.

By: Dennis B. Worthen Lloyd Scholar, Lloyd Library and Museum, Cincinnati, OH

One of a series contributed by the American Institute of the History of Pharmacy, a unique non-profit society dedicated to assuring that the contributions of your profession endure as a part of America's history. Membership offers the satisfaction of helping continue this work on behalf of pharmacy, and brings five or more historical publications to your door each year. To learn more, check out: www.aihp.org

SDSU PHARMACY STUDENTS BUILDING ACADEMIC DYNASTY

BROOKINGS, S.D. - In baseball, it would be considered a dynasty. In hockey, it would be considered a hat trick. In the Kappa Psi pharmaceutical fraternity, it is considered another dominant showing by South Dakota State University.

For the third consecutive year, the Gamma Kappa chapter of Kappa Psi had the top grades of any of the 82 collegiate chapters in the United States and Canada. This was the fifth time the chapter won the award. Back-to-back awards came in 1997 and 1998. This year's awards were presented in San Francisco at the annual convention Aug. 2-6.

Pharmacy students at most every college are going to be academic heavyweights, so why has the SDSU bunch been ahead of its peers?

"It's the quality of students at SDSU," according to co-advisor Gary Van Riper. "The work ethic exhibited by the brothers is phenomenal."

Calculating the winner requires a high grade point average in its own right.

Van Riper said the complicated formula considers only the grades of students in their fourth and fifth year of the six-year pharmacy program during fall semester 2010 and spring semester 2011, and adds bonus points for class standing. The 68 qualifying SDSU students earned at least a 3.00 grade point average.

Erik Lambrechts, of Milbank, and Kim Wurtz, of Elk Point, served as collegiate delegates and received the Frank H. Eby Scholarship Tray Award that goes to the academic kingpin.

Also at the convention, the SDSU chapter was named the sixth best chapter in the nation based on a judging of annual reports covering July 1, 2010, to June 30, 2011. Last year the chapter tied for ninth place.

"We've never been No. 1, but we've consistently been in the top 10 for a number of years," Van Riper said. "Each chapter completes an annual report based on chapter activities, community service, public activities and organizations that members belong to and are an officer in."

Kortney Slinger, chapter president in 2010-11, directed compilation of the report. She said, "Our continued success is a testament to the long hours and late nights our brothers put in. It also wouldn't be possible without the tremendous support we receive from the excellent faculty at SDSU."

"We have always done well on our chapter report because we excel in our community service projects. We help with the Brookings Backpack Project, Habitat for Humanity, Relay for Life, Vial of Life, highway clean-up, boxtop collection and the Ronald McDonald house picnic, to name a few."

Photo: SDSU pharmacy students Kim Wurtz and Erik Lambrechts received the Frank H. Eby Scholarship Tray from Ben Welch, grand regent of Kappa Psi pharmacy fraternity, at the organization's national meeting in San Francisco Aug. 2-6. It is the third consecutive year for the SDSU chapter to win the award.



In addition to collegiate chapters, there are 59 graduate chapters. Gamma Kappa tied for the 10th best graduate chapter. Judging of graduate chapters is based on an annual chapter report.

Van Riper, who has served as advisor or co-advisor of the chapter since 1973, received one of 10 Grand Council Deputy Certificate of Excellence awards. The awards honor chapter advisors for their contributions to their collegiate chapters. Advisors are nominated by the chapter.

Slinger said, "We nominated GVR (Gary Van Riper) for the Certificate of Excellence because he is exactly what the award says, an excellent advisor.

He is always available to help with any problem that may occur, and he is one of the reasons our chapter has had its continued success. He deserves the recognition for all his hard work and dedication to our chapter."

The SDSU collegiate chapter of Kappa Psi was formed in 1958 and currently has 107 members. The graduate chapter was formed in 2008 and has 43 members.

Co-advisor for the chapter is Eric Kutscher, associate professor of pharmacy practice. Van Riper was on the faculty for 34 years before retiring in 2006.

Article credit: Jeanne Jones Manzer, SDSU



South Dakota State University

College of Pharmacy



Dennis Hedge
Dean

Greetings from the College of Pharmacy!

After a summer that seemed to pass much too quickly, the 2011-12 academic year is off to a great start. Each year the College eagerly looks forward to welcoming new students into our academic programs. To facilitate a strong start for our incoming students we put great effort into our orientation process. Throughout orientation, we conduct several activities geared toward helping students better understand our expectations, policies, and the academic rigor of the pharmacy curriculum.

This year we added a new activity to our P1 orientation process – development of a class honor code. Upon completion of the honor code, each member of the class will sign the document during a ceremony, thus agreeing to uphold the principles of the code throughout the professional program. In developing the code, the incoming P1 class was divided into groups and asked to consider the following:

- Academic Honesty and Integrity
- Patient Rights
- Professional Conduct
- Classroom Behavior and Conduct
- Substance Abuse
- Lifelong Learning
- Service

With the above categories in mind, the students were then charged to develop a document in the following format:

- For our patients, we pledge to:
- For our community, we pledge to:
- For our faculty, we pledge to:
- For our peers, we pledge to:
- For ourselves, we pledge to:

Our P1 Class has made excellent progress toward completion of the code and we anticipate having our signing ceremony within the next cou-

ple of weeks. We view this activity as an important step in developing the sense of professionalism that is required of a student pharmacist. After our students have signed the document, I look forward to sharing the Pharm.D. Class of 2015 Honor Code with you.

I would also like to remind you all that the College is changing to a “rolling admissions process” for the Pharm.D. program this year. Under the new process, the College will accept and review applications beginning October 1st (but not later than February 1st). Interviews will be held multiple times throughout the year, although the interview process itself will remain the same. Applicants selected for interviews will be informed of their status immediately and will fall into one of three categories – accepted, deferred, or not admitted. Applicants informed of a deferred decision will be notified of their final status prior to March 15th. If you have any questions regarding this change, please contact us at the College.

Finally, I am pleased to announce that Dr. Brian Kaatz (Class of 1974) has been selected as the 2011 Distinguished Pharmacy Alumnus. Dr. Kaatz had a 20 year career at the SDSU College of Pharmacy as Head of the Department of Clinical Pharmacy from 1989-2002 and later as Dean of the College of Pharmacy from 2002-2008. Among the notable awards and honors that Dr. Kaatz has received throughout his professional career are the SDSHP Hospital Pharmacist of the Year, South Dakota Pharmacists Association (SDPhA) Pharmacist of the Year in 2001, Bowl of Hygeia award recipient in 2004, and the SDPhA Excellence in Pharmacy Award in 2008. As Senior Health Care Policy Fellow for Senator Tim Johnson in 2000, Dr. Kaatz gained national attention for his efforts to advance the recognition of pharmacists as vital members of the health care team. For his efforts, Dr. Kaatz was named DRUG TOPICS’ Academia Pharmacist of the year in 2001, received a certificate of recognition in 2002 from the American Society of Health-System Pharmacists, and in 2003 he received the American Pharmacists Association Good Government Pharmacist-of-the-Year Award. Dr. Kaatz will be honored during the College’s Annual Scholarships and Distinguished Alumni Program on October 1st.

As always, if you are in the Brookings area, please stop by and say hello. We would enjoy your visit.

Warm regards, Dennis D. Hedge, Pharm.D.
Dean and Professor - SDSU College of Pharmacy

ACADEMY OF STUDENT PHARMACISTS



Jared Sogn

APhA-ASP President

Greetings from APhA-ASP!

It is hard to believe that classes are already in session and the weather is cooling! As I complete each semester, time seems to go by faster and faster! As students have been readjusting to class and studying, we have been working to get them back into being active in ASP. Our chapter kicked off the semester with the Pharmacy Student Organization Fair on September 6th. New and returning students had the opportunity to learn about the pharmacy organizations on campus and the opportunities that each offer to get involved. Students who visited all of the organization booths were entered into a drawing to win an iHome music player.

After the fair, students made a short journey over to Hillcrest Park to attend the annual APhA-ASP Welcome Back Picnic, sponsored by SDPhA. We were happy to have SDPhA President Lenny Petrik attend and speak to the students! We had a great turnout at the picnic, with many pre-pharmacy students, professional program students and faculty enjoying great food and conversation. Our chapter would like to thank SDPhA for their continued support and helping to make this event a success once again!

Our first chapter meeting was held on September 8th, with over 300 students attending! The meeting was an opportunity for students to learn all about what APhA-ASP has to offer, as well as meet other students and have fun. This year, we are continuing to have a fun, entertaining "Minute-To-Win-It" challenge at each meeting, where attending students have the chance to compete for a gift card to a local business. Our first challenge required the students to successfully stack 3 golf balls on top of each other without it falling!

At our September 22nd meeting, we will have the pleasure of hosting Keith Marciak, the Group Director for Student and New Practitioner Development at APhA. He will be visiting our

campus and meeting with members of our executive committee, as well as attending the chapter meeting and giving a presentation during the meeting. This meeting will also coincide with our membership drive, which will take place from September 19th-23rd. We hope to continue to grow our membership with many new pre-pharmacy and professional program members!

Before we know it, it will be October and American Pharmacists Month will be here! Our chapter is already busy planning events for American Pharmacists Month, including screenings, flu shot clinics, promotion of the profession, and many more events! In addition, members will be participating in a national medication adherence challenge to promote the importance and benefits of medication adherence to patients throughout the area. Members will also be making presentations to teens about the dangers of prescription medication abuse through our Generation Rx project. Finally, our members are looking forward to attending the Region V Midyear Regional Meeting later this fall. It takes place this year in Des Moines, IA on November 11-13.

We look forward to yet another busy, exciting semester filled with events! Remember, October is American Pharmacists Month! I encourage you to take the opportunity to celebrate and promote the profession of pharmacy within your community and practice setting. If you have an idea of a way to promote the profession, or even just celebrate American Pharmacists Month that you believe we could be of help for, please contact us! You can reach us at asp.sdsu@gmail.com. We also encourage you to visit our brand new website at www.sdstateasp.org!

Sincerely,

Jared Sogn, APhA-ASP President



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SD ASSOCIATION OF PHARMACY TECHNICIANS

Phyllis Sour

SDAPT President

Greetings,

We at SDAPT are in the final stages of planning our Fall Meeting/CE which should be an enjoyable plus education day with 5 hours of continuing education. I would like to thank everyone that has volunteered and helped with this event.

On behalf of the South Dakota Association of Pharmacy Technicians, I would like to welcome all new and returning members of our association and thank you for your continued support. As of September 1st we have entered the 2011-2012 membership year, if you have not already renewed your membership I would encourage you to do so. You can find the form on our website www.SDAPT.org, our dues remain at \$35.00 per year.

October is American Pharmacist Month and on October 25th we celebrate National Pharmacy Technician Day. This gives us an opportunity to plan activities and to celebrate and promote our

practices and profession. I challenge everyone to be creative and celebrate in style.

This will be my final article for the South Dakota Pharmacist Journal as I will complete my term as president of SDAPT at our Fall Meeting on October 1st. I would like to take this opportunity to show my appreciation to The South Dakota Board of Pharmacy, Sue Schaefer, SDPhA, SDSHP and my fellow officers, Twila Vavra, Bonnie Small and Diane Feiner for all of your support and help in making my 2 year term an enjoyable experience. The very capable Twila Vavra will be the incoming President and will join the new slate of officers which will be elected at our Fall Meeting, and I would like to wish them the best.

Please take the time to enjoy the beautiful fall colors.

Phyllis Sour

KAATZ NAMED DISTINGUISHED SDSU COLLEGE OF PHARMACY ALUMNUS



BROOKINGS, S.D. - Brian Kaatz, graduate of South Dakota State University, former head of the SDSU Department of Clinical Pharmacy and former dean of the State College of Pharmacy will receive the college's distinguished pharmacy alumnus award for his achievements and contributions to the profession.

A public ceremony conferring the honor will take place at 2 p.m. Saturday, Oct. 1, in the Performing Arts Center at SDSU. The ceremony is open to the public and is held in conjunction with the college's annual student scholarship award program.

The SDSU College of Pharmacy Distinguished Alumni award was created to recognize graduates who have made outstanding contributions to the profession.

"Dr. Kaatz certainly fulfills the criteria for the distinguished alumnus award, and we take great pride in recognizing him as the 24th recipient of the honor in our college's history," said Dennis Hedge, current dean of the college.

Kaatz received his bachelor's degree in pharmacy from SDSU in 1974 and his doctor of pharmacy from the University of Minnesota in 1977. He has served as clinical pharmacist and associate director of pharmacy for Sioux Valley Hospital in Sioux Falls and as senior clinical pharmacist for Rochester Methodist Hospital in Minnesota.

Kaatz also served the SDSU College of Pharmacy from 1989 through 2008, first as the head of the department of clinical pharmacy for 20 years, and then as dean of the college for six years. He left SDSU to become the dean of the University of South Dakota's School of Health Sciences retiring in June 2011.

Over his long career, Kaatz served the profession as president of the South Dakota Society of Health-System Pharmacists and was named Hospital Pharmacist of the Year and Pharmacist of the Year by the South Dakota Pharmacists' Association. He received the Excellence in Pharmacy Award from the SDPhA and the Bowl of Hygeia award, a community service award given in each state by Wyeth Pharmaceuticals and the American Pharmacists Association. Numerous other distinguished recognitions within the pharmacy profession have been awarded to Kaatz throughout his career.

COMMERCIAL AND LEGISLATIVE (C&L) & DISTRICT DUES CONTRIBUTIONS 2011 / 2012

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Email Address _____

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2011 - 2012 Commercial & Legislative (C&L) Fund (Memberships set by SDPhA C & L Executive Committee, 2007)

Pharmacy or Business Membership (\$100.00)

(Includes One Individual Membership)

Name of Pharmacy/Business _____
Name of Individual Included _____

Corporate Membership (\$200.00)

(Two or more stores of the same corporation)

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Name of Individual Included _____

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\$50 Level \$75 Level Other \$ _____

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(Circle your District)

Aberdeen-\$10.00 Black Hills-\$20.00 Huron-\$10.00 Mitchell-\$10.00 Mobridge-\$10.00
Rosebud-\$10.00 Sioux Falls-\$20.00 Watertown-\$10.00 Yankton-\$10.00

TOTAL ENCLOSED \$ _____



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AND THE LAW

By Don R McGuire Jr., R.PH., J.D

This series, Pharmacy and the Law, is presented by Pharmacists Mutual Insurance Company and your State Pharmacy Association through Pharmacy Marketing Group, Inc. a company dedicated to providing quality products and services to the pharmacy community.

WHERE HAVE YOU GONE, PERRY?

Do you remember Perry Mason? How about Matlock? OK then, Denny Crane? Depending on your age, you should be familiar with at least one of these famous TV attorneys and their court-room performances. This makes for entertaining TV, but in real life, the story is a little bit different. In most jurisdictions, the number of civil cases filed has been steady or increasing, but the number of trials has been decreasing. Why is this so?

The first reason is the discovery process. Discovery is the phase of the litigation process where the opponents share or exchange information and evidence. This includes documents, oral testimony (depositions), and written questions & answers (interrogatories). This exchange is mandated by the court rules. When discovery is complete, both parties should have all of the information that they need to evaluate the case and evaluate their chances of prevailing at trial. This typically makes at least one party reluctant to take the case to trial because they know what their chances are. No more surprise piece of evidence or last minute, surprise witness. These Perry Mason staples are virtually unheard of today. There are still some surprises at trial, but they tend to be smaller issues rather than earth-shattering ones.

The second reason is alternative dispute resolution (ADR). This ADR is different from the acronym that pharmacists are familiar with. ADR in the legal sense is a process of resolving cases without a trial. The most common forms are arbitration and mediation. In arbitration, the issues are presented to a neutral arbitrator who issues a ruling on the case. The process is greatly streamlined from that of a trial. For instance, in most cases, arbitration will not have live witness testimony. It is quicker and less expensive than a trial. The ruling can be binding or non-binding. In the non-binding situation, the parties can evaluate the ruling and compare it to their own predictions, but are not forced to accept it. Binding arbitration is considered a final ruling.

Mediation has no third party decision maker. A neutral mediator works to get both sides to agree to a mutually acceptable settlement of the case. The mediator does that by moving between the parties, sharing information where necessary, and listening to the strengths and weaknesses of each side. If no agreement is reached, the parties move on in the litigation process. Nothing that is said or offered at a mediation is admissible at trial, so parties are motivated to be as open and honest as possible with the mediator. In many jurisdictions, at least one round of ADR is required before any case can go to trial. It is not uncommon for a judge to order the parties to a second, or even a third, mediation.

In today's legal environment, the possibility, or desirability, of trial is quite different from TV lawyers. They try a case almost every week. Non-TV lawyers might have as few as two or three civil trials per year. Some commentators have actually expressed concern that we don't have enough trials. Case law is built on appellate decisions and with fewer trials, there are fewer appeals. But with all of our cards on the table and court rules that favor ADR, we shouldn't be surprised that there are more settlements and fewer trials. Maybe that is a good thing because it puts the parties in control of the ultimate resolution of their case and reduces the emotional toll on the parties. It won't be as entertaining to watch Matlock take more depositions.

© Don McGuire, R.Ph., J.D., is a Professional Liability Claims Attorney at Pharmacists Mutual Insurance Company.

This article discusses general principles of law and risk management. It is not intended as legal advice. Pharmacists should consult their own attorneys and insurance companies for specific advice. Pharmacists should be familiar with the policies and procedures of their employers and insurance companies, and act accordingly.

FINANCIAL FORUM

This series, Financial Forum, is presented by Pro Advantage Services, Inc., a subsidiary of Pharmacists Mutual Insurance Company, and your State Pharmacy Association through Pharmacy Marketing Group, Inc., a company dedicated to providing quality products and services to the pharmacy community.

COMMON FINANCIAL MISTAKES: A few things you can't afford to do

Are you making mistakes with your money? Many people do, because of inattention, a lack of knowledge or confidence, or relying of the advice of friends rather than professionals. Here are some all-too-common money errors to avoid ...

Putting off financial planning. This may be the biggest mistake of all. Procrastination does not help you save for retirement, and it will not help you reduce your taxes or transfer money to your heirs. Delaying necessary financial planning can be perilous. Some avoid planning out of fear – they simply don't know where to begin. Don't let this stop you. Decide today to do something about your financial future.

Putting all your eggs in one basket. Too many people invest everything in just one place. Try spreading your assets across multiple investments, and you'll help to insulate them against the effects of economic ups and downs.

Buying more home than you can afford. Interest-only loans, option adjustable-rate mortgages (option ARMs) and lease purchases still tantalize couples and families with small nest eggs, modest salaries and credit blemishes into taking on much more liability than they can bear. The result is often foreclosure. Speak to a professional to make sure the amount of home you purchase makes sense for you.

Making impulsive or emotional money decisions. A decision that feels good (or exciting) may not be appropriate for you financially. Avoid spur-of-the-moment financial choices, and the influences that may trigger them. The next time you're about to make a snap decision, stop and think. Will you lose the opportunity if you take a while to consider your next move? Consider and compare whenever possible.

Living above your means. In the acclaimed book *The Millionaire Next Door*, authors Thomas Stanley and William Danko found that most millionaires

drive used American cars and shun a champagne-and-caviar lifestyle. It is the middle class that is generally seduced by big-debt, big-ticket luxury items ... sometimes all the way into bankruptcy. Make wise decisions about money, take the time to consider big purchases, and be mindful of what effect they'll have on finances down the road.

Avoiding all risk. Caution is good, but being extremely risk-averse (for example, refraining from investment and just putting your money in an FDIC-insured bank account) may cost you in terms of the growth of your retirement savings and assets. If you're holding back because you're unsure, speak with a financial advisor.

Provided by courtesy of Pat Reding, CFP of Pro Advantage Services Inc., in Algona, Iowa. For more information, please call Pat Reding at 1-800-288-6669.

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Continuing Education for Pharmacists

Natural Products: Chamomile to Chitosan

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Goals. The goals of this lesson are to present information on the claims, mechanisms of action, typical dosages used, and other items of interest on natural products and nutraceuticals alphabetically from chamomile to chitosan, and to provide background information for assisting others on their proper selection and use.

Objectives. At the conclusion of this lesson, successful participants should be able to:

1. identify claims, mechanisms of action, and typical dosages for natural products and nutraceuticals presented;
2. select from a list, the synonyms for these products; and
3. describe popular uses of the products discussed.

This lesson is part of a series that presents an overview of the common uses, proposed mechanisms of action, typical dosage regimens and other information of interest on natural products and nutraceuti-



Gossel



Wuest

cals. Products reviewed in this lesson are listed in Table 1.

The paramount difference between drugs and natural products was explained in the first lesson in this series. However, since natural products are a controversial topic for some people, the authors restate that the information presented is neither a promotion of nor a condemnation against their use. It is merely an overview of what has been reported in both the public and scientific literature, and certainly not an in-depth treatise. Additional sources (websites) of information on natural products are provided in Table 2. Some of these websites require subscription.

Chamomile. There are two major forms of chamomile (*Matricaria chamomilla* and *Anthemis nobilis*). *Matricaria chamomilla* is also known as German chamomile, genuine chamomile, Hungarian chamomile and wild chamomile. It will be referred to as German chamomile when the two are differentiated in this lesson. *Anthemis nobilis* is also known as English chamomile, garden chamomile, lawn chamomile, Roman chamomile, Scotch chamomile and sweet chamomile. It is most commonly referred to as Roman chamomile.

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The flowering heads of both types of chamomile have been collected and dried for use as teas and extracts, and touted for their medicinal values as early as the time of the Roman empire. Although the two plants have different but related chemical constituents, they are used similarly. The herb is used orally to treat gas, colic, indigestion, nausea, vomiting, diarrhea, loss of appetite, gastric and peptic ulcer, gastrointestinal inflammation and spasms, motion sickness, morning sickness, insomnia, restlessness, inflammation of nasal mucous membranes, and menstrual cramps.

Chamomile is also used internally for liver and gallbladder disease, gallstones, heartburn, bloating, spastic constipation; to relieve rheumatism; for missed and irregular menstrual periods; as a tonic during puberty and menopause; and to treat parasitic infestations.

Chamomile is inhaled from a steam bath to alleviate sinus inflammation, nasal and pharyngeal swelling, hay fever and symptoms of upper respiratory infections. In aromatherapy, it is considered to have an analgesic effect when used topically or by inhalation.

The herb has been applied topically to treat anogenital, hemorrhoidal and other mucous

Table 1
Natural Products Covered
in this Lesson

Chamomile
Chasteberry
Chicory
Chinese Cucumber
Chitosan

Table 2
Representative Sources for Information on Natural Products

American Botanical Council	www.herbalgram.org
Facts and Comparisons	www.factsandcomparisons.com
Food and Drug Administration	www.fda.gov (click on Food)
National Center for Complementary and Alternative Medicine of the National Institutes of Health	www.nccam.nih.gov
PDR for Herbal Remedies	www.pdr.net
PDR for Nutritional Supplements	
Pharmacist's Letter	www.naturaldatabase.com

membrane and skin inflammation, eczema, diaper rash, burns; for bacterial infections of the skin, mouth and gums; and to speed the healing of wounds, leg ulcers and decubitus ulcers. Chamomile is claimed to be useful when applied topically for preventing and treating inflammation caused by chemotherapy and radiation therapy for skin cancers.

Chamomile extract and essential oil are used in the food industry as a flavoring agent. They are also used in cosmetics as a fragrance for soaps, perfumes and other personal care products.

Components of chamomile are claimed to have anti-allergic, anti-inflammatory, anti-ulcer, antibacterial, antiflatulent, antiseptic, antispasmodic and sedative effects. Both the German and Roman forms of chamomile have components that inhibit histamine release. Other constituents have shown anti-inflammatory and antipyretic activity in animals, as well as evidence of decreasing healing time of burns, and inhibiting the development of gastric ulcers induced by alcohol, indomethacin or stress.

Additional ingredients have demonstrated antispasmodic activity similar to papaverine, again in animal studies. Flavanoids present in the chamomiles have produced anti-inflammatory and

anti-allergic activity. Both forms contain coumarin derivatives that are reported to have antibacterial action. The studies performed with German chamomile flower heads and extracts were standardized to 1.2 percent apigenin, one of its active components.

While there is no doubt that chamomile is safe (it has GRAS [Generally Recognized as Safe] status for the amounts used in foods in the U.S.), there is insufficient proof for FDA to allow therapeutic claims as a nonprescription drug for medicinal use. The German Commission E (which oversees the use of natural products in Germany) has approved the use of chamomile by inhalation for alleviating mucous membrane inflammation and bacterial disease of the mouth and gums, as well as respiratory tract inflammation and irritation; for use in baths and by irrigation for anorectal inflammation; and for gastrointestinal spasms and inflammatory disease when ingested orally.

From a toxicity standpoint, small amounts of chamomile tea are used in herbal medicine to relieve nausea and vomiting, but high concentrations can induce vomiting. Contact dermatitis and allergic reactions are not uncommon, and cross-allergy has been seen with similar plants including chrysanthemums, daisies, marigolds, ragweed and many other herbs. The

Roman form of chamomile reportedly has abortifacient activity. Because of the coumarin-derivative components of both types, some experts claim that chamomile should not be used by patients on anticoagulant therapy.

The typical dose of German chamomile is 2 to 8 grams of dried flower heads, three times a day, or one cup of tea prepared by steeping 3 grams of dried flower heads in 150 mL boiling water for 15 minutes, then straining. Its liquid extract (prepared in a 1:1 ratio in 45 percent alcohol) is dosed at 1 to 4 mL, three times a day.

The typical dose for Roman chamomile is 1 to 4 grams of dried flower heads, three times a day, or one cup of tea made by steeping this amount in 150 mL of boiling water for five to 10 minutes, straining and drinking the tea three times a day. Its liquid extract (1:1 ratio in 70 percent alcohol) is taken in a 1 to 4 mL dose, three times a day.

Chamomile is used as a poultice or topical rinse, prepared by steeping 4 teaspoonsful of dried flower heads in 5 cups of boiling water for 15 minutes. This solution is strained, allowed to cool to a comfortable temperature and then applied to the affected areas as needed. A similar preparation is used as a mouthwash or gargle.

Chasteberry (*Vitex agnus-castus*), also known as agnolyst, chaste tree, chaste tree berry, glattilier, hemp tree, monk's pepper and vitex, is a shrub that is indigenous to Southern Europe and the Mediterranean regions, growing along river banks. It can grow as high as 22 feet. The plant blooms in summer, producing light purple flowers that develop into dark brown to black fruits. These fruits, collected in late summer/early autumn, have a peppery flavor and odor.

Use of chasteberry in folk medicine has been reported in writings from early western civilization. Hippocrates and Dioscorides wrote about the use of its dried fruits. Homer, in his *Iliad*,

stated that the plant was a symbol of chastity, capable of warding off evil. Medieval physicians knew of its effects on the female reproductive system, using it to control hemorrhage and to expel the placenta after birth.

The name for chasteberry seems to have been given to the plant because of the belief that it reduced impure thoughts in monks and reduced their sexual desires. While not present in the fruit to any significant extent, progesterone and 17-alpha-hydroxyprogesterone have been found in chasteberry tree flowers. Possibly, this is why these were chewed by medieval monks to help them maintain celibacy. No modern use for the above has been put forth.

Chasteberry has been used in folk medicine to treat menstrual irregularities such as painful menses, as well as excessive or a lack of menses. It is also used for symptoms of menopause and premenstrual tension. Claims are made that in females, it is useful in treating acne, female infertility, postpartum bleeding, preventing miscarriage and increasing lactation. In males, it is used to treat benign prostatic hyperplasia (BPH). In both sexes, claims are made that it is useful to treat nervousness, dementia, rheumatic conditions, colds and upset stomach.

FDA has not been supplied with adequate proof of safety and efficacy for approval of its use as a therapeutic agent in this country. However, the German Commission E lists the use of chasteberry tree preparations for treating the symptoms of premenstrual syndrome and menopause.

Claims are made that ingredients in chasteberry decrease breast pain and tenderness, edema, constipation, irritability, depression, cramps and headache associated with PMS (premenstrual syndrome). It is believed to normalize menstruation in women with secondary amenorrhea, as well as short cycle, too frequent or prolonged menstruation. Some

suggest that women with low progesterone levels are most likely to benefit from chasteberry.

There are also reports that chasteberry can improve acne, increase breast milk production in lactating women, and increase the chance of pregnancy in women with relatively low progesterone production.

Extensive studies have been performed to determine the potentially active ingredients in chasteberry tree fruit. These include essential oils, glycosides and flavonoids. These chemicals are claimed to modify follicle stimulating hormone (FSH) and luteinizing hormone (LH) release, which could alleviate menstrual problems and increase breast milk production. They are also claimed to have an antiandrogenic activity, leading to the herb's effects in treating BPH.

In both sexes, constituents of chasteberry fruit are reported to have dopaminergic activity by binding to dopamine-2 receptors. This is claimed to result in beneficial effects in people with depression, anxiety and nervousness.

In homeopathic medicine, chasteberry is used for male sexual disturbances, improper flow of breast milk and nervous depression.

Chasteberry is well tolerated in most people, with no significant adverse effects reported from its use. However, rarely, some individuals experience gastric/abdominal upset, nausea, headache, itching, hives, rash, intramenstrual bleeding, tiredness, agitation, dry mouth or allergic reactions.

The recommended doses of chasteberry for treating PMS vary quite a bit, depending on what form is being used. Herbalists state that products that are standardized to contain 6 percent of the glycoside constituent, agnoside, can be used in doses of 20 to 240 mg daily in two to three divided doses.

Some claim that chasteberry should be taken on an empty stomach and in the morning for best

results, but this has not been scientifically verified.

Chicory (*Cichorium intybus*), also known as blue sailor, cichorii herba, cichorii radix, common chicory root, hendibeh, succory and wild chicory, is indigenous to Europe, the Middle East, India and North and South Africa. It was brought to the U.S. for cultivation and use in the late 1800s.

Chicory is a perennial plant that has bright blue flowers that bloom from July to September. The dried root is the primary part of the plant used in folk medicine.

Chicory is also used as a food. It is listed on the FDA's GRAS list. The leaves of young plants are grown as pot herbs and cooked like spinach. Leaves of older plants are blanched and used the same as celery. Chicory roots are boiled and eaten with butter. They are also roasted, ground up and added to coffee and tea to provide a slightly bitter, mellow taste. Some people use chicory as a substitute for coffee.

In folk medicine, chicory is used internally as a diuretic, liver protectant, laxative and tonic; for loss of appetite, upset stomach and abdominal cramps, gallbladder and liver disorders, hemorrhoids, melancholy and cancer. Chicory leaves are used topically as a poultice for swelling and inflammation. In Germany, chicory is listed by its Commission E for use in treating loss of appetite and dyspepsia.

Claims are made that chicory root has a mild laxative effect and stimulates bile production. Animal studies have noted that it causes a distinct reduction of pulse rate and heart contractility, perhaps due to the presence of a digitalis-like compound. Chicory root reportedly exerts a sedative effect that antagonizes the stimulant effects of coffee and tea.

Chicory contains oligosaccharides (condensations of small numbers of monosaccharides) that resist hydrolysis by salivary and

intestinal enzymes. In the colon, these are fermented by anaerobic bacteria into compounds that selectively enhance the growth of bifidobacteria ("good guy" normal flora) that reduce the reproduction of pathogenic bacteria. This maintenance of the microbial composition in the colon is considered to be beneficial for gastrointestinal tract (GIT) health.

There have been no significantly harmful adverse effects associated with ingestion of chicory. Contact dermatitis has resulted from the handling of the plant. Cross-allergy with other members of its plant family, which include chrysanthemums, daisies, marigolds, ragweed and many herbs, has been reported.

Chinese Cucumber, (*Trichosanthes kirilowii*), also known as Chinese snake gourd, compound Q, gua-lou and tian hua fen, is a member of the large *Trichosanthes* gourd family. Its fruit, peel, seed and stem are used in folk medicine.

Chinese cucumber has a long history of use in traditional Chinese medicine for reducing cough, fever and swelling. A starch extracted from its root is used for lack of menses, jaundice, polyurea, and is used topically for treating abscesses. It is still used in modern Chinese medicine to treat diabetes and as an abortifacient.

Chinese cucumber has achieved a great deal of notoriety and use by patients infected with HIV. One of its components, trichosanthin, has been reported to have ribosome-inactivating activity and is claimed to be effective in managing AIDS. Reportedly, it kills HIV-infected T-cells and macrophages without damaging uninfected cells. Controlled clinical trials in humans have not confirmed this activity to date.

Trichosanthin and other constituents of Chinese cucumbers, karasurin and momorcharin, have demonstrated abortifacient effects in animals. Even though it has been recognized for this use in Oriental medicine for millennia, Western

medicine does not acknowledge this use.

Extracts of Chinese cucumber can be extremely toxic. Adverse effects include allergic reactions, excessive fluid accumulation in the lung, seizures, cerebral edema and hemorrhage, and heart damage.

The typical dose of Chinese cucumber root is 9 to 15 grams.

Chitosan is the deacylated form of chitin, a cellulose-like substance found to the greatest extent in the exoskeletons of shellfish including crabs, lobsters and shrimp. It is also found in other marine invertebrates such as squid. It can be produced by certain species of fungi and yeasts.

Chitin contains thousands of unbranched chains of acetyl-glucosamine. After deacetylation, the resulting chitosan is comprised of chains of D-glucosamine, which is touted to be a water-soluble dietary fiber. It is also a major source of commercial glucosamine.

Unlike plant-derived cellulose that is negatively charged, chitosan possesses positively charged amino groups. These can reportedly bind to negatively charged lipids and bile components in the GIT, and prevent their absorption. Claims have been made that when taken orally, chitosan binds to dietary fat in the GIT to prevent its absorption.

People use chitosan for weight loss and to lower blood cholesterol levels. Proponents of its use assert that chitosan, like cholestyramine, has bile acid sequestrant activity. This has not been confirmed with controlled, scientific studies. Proof of chitosan helping to reduce body weight is lacking as well.

Chitosan has many uses in the cosmetic, pharmaceutical and other industries. It has been used for decades in water purification plants to adsorb greases, oils, metals and toxic substances. It can reportedly adsorb four to six times its weight of these substances. Chitosan is used in photographic emulsions to improve coloration and to improve

dyeability of synthetic fibers in the textile industry.

In the pharmaceutical industry, chitosan is a component of the controlled-release osmotic membranes in some transdermal patches and sustained-release oral dosage forms. Chitosan ascorbate is used as a surgical cement in the treatment of periodontitis, protecting periodontal pockets from oxygen, and allowing for proliferation of periodontal tissue.

There does not seem to be any significant adverse effects associated with the use of chitosan. However, persons allergic to shellfish are not good candidates for taking it.

Chitosan is marketed as a dietary supplement in the U.S. by a number of companies, usually in dosage strengths of 500 to 1000 mg. It is sometimes combined with vitamin C, as animal studies suggest that there is a synergistic effect with respect to inhibiting fat absorption.

Two manufacturers of chitosan products as "fat burners" were sanctioned by the FDA in 1999 and another by the Federal Trade Commission in 2000. Since then, the marketing emphasis for chitosan products has reportedly switched from weight loss to cholesterol lowering. At this time, FDA will not allow any therapeutic claims to be made for the use of chitosan.

Continuing Education Quiz

"Natural Products: Chamomile to Chitosan"

1. The form of chamomile known as *Anthemis nobilis* is most commonly referred to:

- a. genuine chamomile.
- b. Roman chamomile.
- c. wild chamomile.
- d. German chamomile.

2. Chamomile is inhaled from a steam bath to alleviate:

- a. asthma.
- b. emphysema.
- c. hay fever.
- d. tobacco addiction.

3. Both major forms of chamomile have components that inhibit release of:

- a. histamine.
- b. dopamine.
- c. acetylcholine.
- d. serotonin.

4. Cross-allergy has been seen with chamomile and all of the following EXCEPT:

- a. chrysanthemums.
- b. daisies.
- c. marigolds.
- d. roses.

5. Which of the following substances has been found in chasteberry tree flowers?

- a. Cortisol
- b. Nicotine
- c. Progesterone
- d. Salicylate

6. Chasteberry is used to treat:

- a. benign prostatic hyperplasia.
- b. congestive heart failure.
- c. diabetes mellitus.
- d. erectile dysfunction.

7. The German Commission E has listed chicory for use in treating:

- a. caffeine addiction.
- b. premenstrual cramps.
- c. gastrointestinal spasms.
- d. loss of appetite.

8. Which of the following has been reported to have the same cross-allergy as chamomile:

- a. Chasteberry.
- b. Chicory.
- c. Chinese cucumber.
- d. Chitosan.

9. Extracts of which of the following can be extremely toxic?

- a. Chasteberry
- b. Chicory
- c. Chinese cucumber
- d. Chitosan

10. Manufacturers of products containing which of the following ingredients have been sanctioned by FDA of the Federal Trade Commission for claiming they were useful as a "fat burner?"

- a. Chasteberry
- b. Chicory
- c. Chinese cucumber
- d. Chitosan

This course expires on: October 2, 2014

Target audience: Pharmacists and Pharmacy Technicians



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Learning Objectives - Pharmacists: 1. Identify claims, mechanisms of action, and typical dosages of natural products and nutraceuticals presented 2. Select from a list, the synonyms for these products; 3. Describe popular uses of the products discussed.

Learning Objectives – Technicians: 1. Identify the normal use for chamomile steam inhalation 2. Name the typical use of chasteberry; 3. Identify the German Commission E listed use for chicory; 4. Evaluate chitosan's FDA status as a 'fat burner.'

"Natural Products: Chamomile to Chitosan"

(Knowledge-based CPE)

Circle the correct answer below:

- | | | | | | | | |
|------|---|---|---|-------|---|---|---|
| 1. A | B | C | D | 6. A | B | C | D |
| 2. A | B | C | D | 7. A | B | C | D |
| 3. A | B | C | D | 8. A | B | C | D |
| 4. A | B | C | D | 9. A | B | C | D |
| 5. A | B | C | D | 10. A | B | C | D |

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1 = Disagree - 7 = Agree

The material illustrated important points effectively: 1 2 3 4 5 6 7

Content was applicable/useful for my educational needs: 1 2 3 4 5 6 7

Each of the stated learning objectives (above) was satisfied:

1 2 3 4 5 6 7

List any learning objectives above not met in this course:

List any important points that you believe remain unanswered:

Course material was balanced, noncommercial: 1 2 3 4 5 6 7

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Obituaries



April 27, 1929 - July 23, 2011

Wiley Dean Vogt was born on April 27, 1929, at his grandparents' home south of Tilden, NE, to Harry and Audrey (Grubb) Vogt. He attended elementary school in Tilden, NE, and graduated in 1947 from O'Neill High School in O'Neill, NE. He

graduated from the University of Nebraska's College of Pharmacy in 1951. He was employed as a pharmacist in Tilden, NE, and Yankton, SD, before joining the staff of Saterlie Drug in Mitchell, SD.

He married Fern Schimke on November 11, 1952. In 1960, he and Garvin Bertsch purchased Saterlie Drug, and they were partners until 1986 when Wiley purchased the entire store.

He was active in many service organizations including South Dakota Children's Aid, the Lions Club, and the Elks Club. He served as president of the Mitchell Lions Club 1962-63 and had 56 years of perfect attendance. He was also a member of the South Dakota Pharmaceutical Association (SDPA), serving as president of that organization 1973-74. In 1983 he was awarded the Bowl of Hygeia award by the SDPA for his community work. He was a member of First Lutheran Church in Mitchell.

An avid sportsman who enjoyed hunting and fishing, Wiley was also a pilot.

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Dorothy Irene (Mrs. Donald) Crouse, 85, Watertown, died Wednesday, Aug. 10, 2011, at a Watertown hospital.

She was born on July 25, 1926, the daughter of Bennie and Elizabeth (Draisey) Ullyot in her paternal grandparents home at Garden City. She attended school in Clark graduating as Salutatorian. She had also served as the senior class president.

After her high school education, she attended South Dakota State University in Brookings, and graduated with a Bachelor of Science degree in pharmacy, one of only four women to graduate from the School of Pharmacy in 1948. While in college, she served as the captain of the girl's rifle team.

She married Don Crouse on Sept. 17, 1947 at Aberdeen.

While still in high school at Clark, she decided on her life career working for Wilkins Drug in Clark. Following her college education, she returned to Clark and eventually working for Al Knutson at Knutson Drug in Doland. In addition to Clark and Doland, she also worked some 50 years as a pharmacist in Kansas City, Mo., Dell Rapids, Willow Lake, Watertown and Bryant. She and her husband owned and operated the Crouse Drug and Jewelry in Willow Lake from 1952-1962. She served as the school board president for a term in Willow Lake. In 1962 they moved to Watertown and in 1963 moved to their current home on Lake Kampeska.

She was a member of the Lutheran Church of Our Redeemer. Some of her fondest moments were spent reading, gardening, bird watching, trivia - especially watching Jeopardy, and hunting in earlier years. She also enjoyed being known as "Mrs. C" in the Crouse Clown troupe. She was known to many as "Dusty." Second to none though was her delight in her grandchildren and great-granddaughter, attending many of their activities, something she and Don had been doing years before with their own children. She had a special love for children and was always concerned about their well-being.

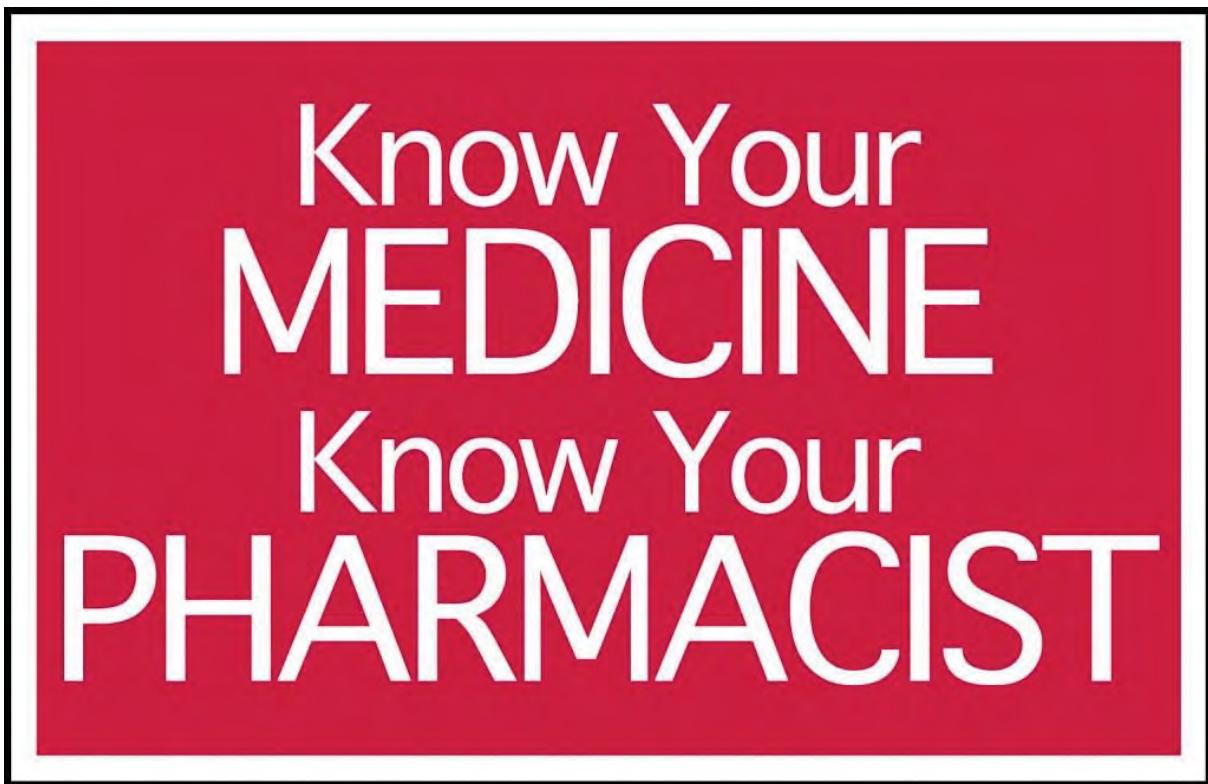
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