

HISTORY OF PHARMACY SIG NEWSLETTER

Pharmacy Chronicles: Past, Present, and Future

Welcome Message from the Chair, History of Pharmacy Special Interest Group

Welcome to the fourth annual issue of Pharmacy Chronicles: Past, Present, and Future, the newsletter of AACP's History of Pharmacy SIG. It's hard to believe that it was just three years ago, when I was previously Chair of the SIG, that I introduced the inaugural issue of this newsletter. Through the diligent work of its editors the first three years, Ettie Rosenberg and Cathy Taglieri, and those who submitted articles and comments, the SIG's newsletter has grown. Now, with Cathy at the helm and two new Associate editors, Bernie Olin and Natasha Baloch, the newsletter in its fourth year has reached two new pin-

nacles: (1) peer review of submissions and (2) two editions in the same year (the second will be this fall)! We can all be proud of what has been accomplished.

So, what of our other past and present accomplishments? First, it was also three years ago that we created and approved our first SIG Bylaws and Procedures. At last year's Annual meeting, AACP put forth a change in the position of SIG Secretary, now to be known as the SIG Secretary of Knowledge Management and having an expanded job description. Based on this, and my desire to review and update our Bylaws, an ad hoc Bylaws Revision Committee was formed, consisting of Chair -Elect Ettie Rosenberg and Secretary Roseane Santos. In addition to the Secretary position change, other changes are being considered: (1) new appointed SIG officer positions: SIG Newsletter Editor and As-

sociate Editor(s), American Institute of the History of Pharmacy (AIHP) Liaison, and Chair of the Teaching History of Pharmacy Committee; (2) that the Program Committee should include all elected and appointed officers, and the Communications Committee should become the SIG Newsletter Committee; and (3) a new standing committee, the Teaching History of Pharmacy Committee. All of these changes should better position the SIG's operations for the future. Hopefully, the opportunity to vote on these changes will occur prior to the Annual Meeting.

Second, we are planning on continuing our "Oral Histories: Preserving the Present for Future Members of the Academy" project at the Annual Meeting. The goal of this project, which was launched last year, is to collect and archive the stories of current Academy members at AACP Annual meetings. This year, an ad hoc Oral

History Project Committee was formed and we budgeted to purchase a recording device (instead of relying on borrowing one each year). Unfortunately, it is unsure whether we will be granted space for this project at the Annual Meeting; therefore, we may have to develop an alternative means of performing these interviews. As we get closer to the Annual Meeting, the Oral History Project Committee will keep in touch with you, the SIG membership – stay tuned!

Third, for the last three years I have been the Chair of the Historical Studies Committee of AIHP, which has studied the teaching of pharmacy history at U.S. pharmacy schools and recently released its "AIHP Guidelines on Teaching History of Pharmacy Education." These Guidelines are meant to assist the academy in meeting the "2016 Standards" of the Accreditation Council for Pharmacy Education. *(continued on page 5)*

INSIDE THIS ISSUE:

| | |
|---------------------------------------|------|
| Meet the Editors | 2 |
| Editor's Message | 2 |
| SIG Officers | 2 |
| News Articles | 3-4 |
| Announcements | 5 |
| Featured Articles (now peer reviewed) | 6-15 |
| ABOUT the SIG | 16 |

Meet the Editors

Editor



Catherine A Taglieri, PharmD.
Associate Professor of Pharmacy
Practice

MCPHS University School of
Pharmacy
179 Longwood Avenue,
Boston, Massachusetts 02115
Tel. 617.732.2835
E-mail: catherine.taglieri@mcphs.edu

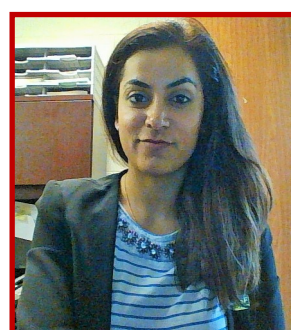
Associate Editor



Bernie R. Olin, Pharm.D.

Associate Clinical Professor
Auburn University, Harrison School of
Pharmacy
362 W. Thach Concourse
1330A Walker Building
Auburn, AL 36849
Tel. 334.844.8334
E-mail: olinber@auburn.edu

Associate Editor



Natasha Baloch

Statistical Data Analyst
Office of the Dean- College of Pharmacy
University of South Florida
12901 Bruce. B. Downs Avenue,
Tampa, Florida. 33613
Tel. 813.974.8966
E-mail: nbaloch@health.usf.edu

Message from the Editor

Welcome: As Marcus Garvey once said “A people without the knowledge of their past history, origin and culture is like a tree without roots.” A tree without roots can’t nourish itself, can’t take care of others, can’t withstand storms; it will collapse and die. The

History of Pharmacy SIG Newsletter connects us and helps us teach our students about the deep roots of our profession. This Spring 2017 issue of ***Pharmacy Chronicles: Past, Present, and Future*** is the first edition to include peer reviewed articles on topics related to

the history of pharmacy. We are excited by the number and variety of submissions to the Newsletter and are very happy to plan a second edition for Fall 2017. As pharmacy students, fellows and residents are the future of pharmacy; we are very happy to include two articles writ-

ten fully or in part by students. Our roots continue to grow deep.

Annual Meeting: I look forward to seeing everyone in Nashville.

—**Cathy Taglieri, PharmD,**
MCPHS University, School of Pharmacy

SIG OFFICERS



David Baker
(dmbaker@wne.edu)
Chair



Mike Hegener
(hegenma@ucmail.uc.edu)
Immediate Past Chair



Ettie Rosenberg,
(erosenberg@westcoastuniversity.edu)
Chair Elect



Roseane Santos,
(rsantos@southuniversity.edu)
Secretary

A Trip Down Memory Lane, Circa 1920-1933

Prohibition RX

Attached is an Rx from the Alcohol Prohibition era of the 1920's. It is very hard to read, but on the left hand side, it states Spirits Fermenti....dated 1925. The pharmacist was obligated to write the word "canceled" across the face of the Rx, so it could only be used once. As you can see, the Rx blank also has the preprinted wording: This prescription must not be refilled.....no different than C-II's of today.

—Rod Zolt, Assistant Dean, *Experiential Education, SOP, West Coast University.*



Capturing the Maryland Pharmacists Association's History

The Maryland Pharmacists Association, formerly the Maryland Pharmaceutical Association, is embarking on a collaborative effort to capture the history of the association since its founding in 1882. The project began in Spring 2016 and involves 23 Past Presidents, 2 volunteers, and the MPhA Executive Director. Murhl Flowers (wvrph@verizon.net) is chairing the History Committee. The *Maryland Pharmacist* journal was first produced in 1925, so a variety of search strategies will be needed in order to complete the history.

MPhA until recently was located in Baltimore, Maryland and therefore, its history is intertwined with the University of Maryland School of Pharmacy, also in Baltimore and founded in 1841, and the American Pharmacists Association (APhA), founded in 1852. MPhA moved loca-

tions several times, further complicating the review of artifacts such as by-laws, minutes, photos, and other keepsakes.

Current sub-committees include: MPhA Journals, Baltimore Sun Archives, Libraries (University of Maryland, Baltimore and Enoch Pratt, Oral Histories, Maryland Legislative Records, University of Maryland School of Pharmacy Archives, APhA History, Internet Resources, and American Institute of the History of Pharmacy (AIHP). It was helpful for MPhA to join AIHP as a non-profit member; AIHP provided extensive electronic records in support of the project.

The History Committee has not decided in what form the MPhA history will be published and disseminated. We know there are many nota-

bles among former MPhA presidents including A.R.L. Dohme (Merck Sharp & Dohme), George Bunting (Noxell Corporation), H.A.B. Dunning (1926 Remington Honor Medalist), Robert Swain (1940 Remington Honor Medalist), and contemporary academic and practice leaders. The journey will be fascinating. Ideas, encouragement, and suggestions are welcomed by Murhl Flowers and Cynthia J. Boyle (cjboyle@umes.edu).

—Cynthia J. Boyle, PharmD, FAPhA. Professor and Chair Pharmacy Practice & Administration, School of Pharmacy and Health Professions, University of Maryland Eastern Shore



The History of the History of Pharmacy SIG, 2007-17

Happy 10th Anniversary

The History of Pharmacy SIG was created in 2007 to solve a vexing problem among historians. There was no forum available within the AACP structure to accommodate discussion of the history of our profession: History did not “fit” into the programming of the Social and Administrative Sciences Section or the Curriculum SIG of AACP, and it was difficult to convince AACP to approve special programming for the history of pharmacy because of perceived low attendance. The same problems had led to the creation of the Health Care Ethics SIG a few years earlier. Gregory J. Higby, Executive Director of the American Institute of the History of Pharmacy (AIHP) and I petitioned Lucinda L. Maine, Executive Vice President of AACP, to create a history of pharmacy SIG in the Association. We were pleased the History of Pharmacy SIG was approved without further comment. The rest, as they say, is history.

Instruction in the history of pharmacy in American schools and colleges of pharmacy has decreased dramatically since the early 1950s when over half of the institutions offered a course in the history of pharmacy and 40 percent required one. Since that time, the expansion of pharmaceutical sciences, the introduction of clinical pharmacy and externships (five-year B.S. program) and experiential rotations (Pharm.D. program) have squeezed the history of pharmacy out of most of our curricula.

David M. Baker, History of

Pharmacy SIG chair, also serves as chair of the AIHP Historical Studies Committee. In 2015-16, the Committee developed a ten-question survey regarding teaching of history of pharmacy. The survey results, which will be published soon, indicated that 71 percent of the 100 responding schools and colleges of pharmacy devoted only one to five hours to history of pharmacy instruction, usually in an introduction to pharmacy course. Since there are very few qualified instructors in the history of pharmacy across the country, the Committee hopes to provide suggested syllabi, bibliographies, and even recorded lectures to interested institutions.

The AIHP and the History of Pharmacy SIG were able to convince the ACPE to restore its required curricular elements for the history of pharmacy. Such instruction, in my opinion, should not focus on requiring students to memorize names and dates; rather, it should focus on how—and why—American pharmacy developed as a professional enterprise, unique from any other professional practice in the world.

Despite its unfortunate acronym, HoPSIG, which sounds like the name of a craft beer, the History of Pharmacy SIG has emerged over the past decade as a vibrant and significant voice for the teaching of the history of our profession.

—**Robert A. Buerki, PhD., R.Ph., FACA., Professor Emeritus at The Ohio State University**

History Special Interest Group Meets for the first session!

The first program session of the new SIG convened in Boston on July 20, 2009. Called to order by History SIG chair Robert Buerki, the session, “Incorporating History of Pharmacy into the Curriculum: Meeting the ACPE Guidelines” was moderated by AIHP Executive Director Greg Higby. In addition to an introduction on recent trends in history of the history of pharmacy by Buerki, the session featured remarks by Jeffrey W. Wadelin of the Accrediting Council on Pharmaceutical Education concerning the history guidelines; Higby on the status of history of pharmacy at the University of Wisconsin-Madison; David W. Hawkins of California Northstate University on history of pharmacy and team-based learning; and James M. Culhane of the College of Notre Dame of Maryland on oral history projects for pharmacy students. Following the formal presentations, a lively question and answer period ensued. Over 75 pharmacy educators attended the session.

Later in the day, History SIG members discussed program ideas for the 2010 AACP meeting in Seattle. The favorite topic discussed was teaching history of pharmacy across the curriculum with a focus on developing introductory lecture materials for the various pharmaceutical disciplines.

—**Greg Higby, Executive Director, American Institute of the History of Pharmacy.**

ANNOUNCEMENTS

Guidelines for Teaching History of Pharmacy

The Historical Studies Committee of the American Institute of the History of Pharmacy has issued “Guidelines on Teaching History in Pharmacy Education: Meeting ‘Standards 2016’ of ACPE.” The Guidelines (table 1) are a set of bullet points grouped topically in six sections with suggested references that aim to assist instructors tasked with the job of teaching pharmacy history. It is understood that these guidelines can be met in a number of ways, from a distribution of the material throughout the curriculum to a portion of a single course or a stand-alone course.

Soon after ACPE announced their intention to reinstate the history section of the required elements of Standards 2016, AIHP President William Zellmer directed the Historical Studies Committee to develop guidance for teachers. A survey of teaching history of pharmacy in the USA was undertaken, which will soon be published. Based on the survey results, the Committee turned to the question of content. With this task completed, the Committee will begin developing units to meet specific needs of instructors.

The Historical Studies Committee finalized the Guidelines after putting out a draft for comments from members of academic pharmacy including the HoPSIG. The AIHP board of directors then approved the revised version. Far from being set in stone, the Guidelines will be revisited periodically by AIHP as the direction and content of pharmaceutical education continues to evolve.

The guidelines are available at: <https://pharmacy.wisc.edu/wp-content/uploads/AIHPTeachingGuidelines.pdf>

Lastly, I want to thank the Historical Studies Committee for their hard and persistent work: David Baker (chair), Robert Buerki, John Colaizzi, Gregory Higby, Robert McCarthy, and Clarke Ridgway. Comments are always welcome at Guidelines@aihp.org.

—**Greg Higby, Executive Director, American Institute of the History of Pharmacy.**



Welcome Message from the Chair, History of Pharmacy Special Interest Group

continued from front page

cation concerning pharmacy history. The AIHP Historical Studies Committee is developing pedagogical assists to be used in teaching pharmacy history, but I believe this is something the SIG could also do; hence, the creation of the Teaching History of Pharmacy Committee. So far in its initial year, the Committee has collected either updated or new pharmacy history elective course syllabi to be posted on the SIG’s webpage. My hope for this Committee in the future is that it will also develop pedagogical aids to be used by those teaching required, as well as elective, pharmacy history content.

Finally, many exciting things are planned for the 2017 Annual AACP meeting in Nashville. As noted above, we’re

hoping to continue our Oral History Project. The SIG business meeting will be held on Tuesday, 7/18, starting at the wonderful morning hour of 6:45 AM! Grab a big cup of coffee and join in the conversation as we induct our new Chair, Ettie Rosenberger, and make our plans for the next year. Then, later on that same day, come enjoy our panel presentation (with CPE credits) at 1:30 PM in the Ryman Studio ABC, Level 0 room, entitled: “What I Learned about My Students’ Writing Skills from Teaching the History of Pharmacy.” I look forward to seeing YOU in Nashville!

Yours in history,

—**David M. Baker, History of Pharmacy SIG Chair**

International Congress: Mark Your Calendars!

The 43rd International Congress for the History of Pharmacy will take place in Warsaw, Poland, 12-15 September 2017. The Congress website (<http://43ichpwarsaw.pl/>) is now up and running. Also, please take note that the 44th International Congress is planned for the Washington, DC, area in September 2019. Those interested in volunteering for the program or organizing committees of the 2019 Congress should contact Greg Higby at: Higby@aihp.org. Information for the 2019 Congress will appear in the future at www.aihp.org.

History of Opioids in America

By Jihae Lim

Opium, a natural extract derived from the poppy plant *Papaver somniferum*, is a drug that has been one of the most influential, popular, and commonly used and abused substances in human history. Morphine is one of the principal ingredients of opium, and together they belong to a larger family of drugs known as opiates. Today, opioids are still regarded as among the most effective drugs for the treatment of pain, yet widespread misuse and abuse has resulted in an opioid epidemic.



History of opium

Opium has a long history of use both recreationally and medically. The earliest reference to opium use dates back to 3400 B.C., when the opium poppy was cultivated in lower Mesopotamia. The Sumerians referred to the poppy plant as Hul Gil – the ‘joy plant.’ Opium eventually spread throughout the Ancient world to every major civilization in Europe, Asia, and North America.

In North America, early settlers used opium to relieve coughs, aches, and pains. By the middle of the 19th century, recreational opiate use became more widespread in the United States. Opium dens, which were commonly found in Asia, were established in locations such as San Francisco and New York as spots to buy and sell opium.

The discovery of morphine

In 1806, morphine was discovered by Friedrich Wilhelm Adam Serturmer, a 21-year old pharmacist’s assistant who was curious about the medicinal properties of opium. In a series of experiments performed in his spare time, he was able to



isolate a yellowish-white crystalline compound by immersing raw opium into hot water and ammonia. He found that this compound was approximately 10 times as potent as opium in relieving pain, but in sufficient doses, also produced a dysphoric feeling. He named it

morphine after the Greek god of dreams, Morpheus.



Morphine as a medicine

Morphine soon became the mainstay of medical treatment in the United States throughout the 19th century, for pain, anxiety, respiratory problems, “consumption” and “women’s ailments”. Morphine was commonly used as a pain killer during the Civil War. Because such a large number of soldiers became addicted to the opiate given to them for battle injuries, the post-war morphine addiction prevalent among them came to be known as “Soldier’s Disease.”

Heroin was synthesized from morphine in 1898. Bayer offered the drug as a cough suppressant and as a “non-addictive” morphine

substitute for medical use.

War on Drugs

By the early 1900s, the dangers of opioids were becoming more visible with increasing addiction rates. In 1909, the Opium Exclusion Act was passed, which barred importation of opium for the purposes of smoking. Following shortly, the Harrison Narcotics Tax Act of 1914 was passed with hopes of curbing drug abuse and addiction. The act placed a nominal tax and required physician and pharmacist registration for the distribution of opiates.

In 1924, The Heroin Act made the importation, manufacture, and possession of heroin illegal in the U.S. In 1938, The Food, Drug, and Cosmetic Act gave authority to the U.S. Food and Drug Administration (FDA) to oversee the safety of food, drugs, and cosmetics, with drugs needed to be proven safe to be sold.

The increase in recreational drug use in the 1960’s gave rise to the Controlled Substances Act in 1970 and the creation of the Drug Enforcement Agency in 1973. Both of these events were

(continued on page 10)

Executive Order 9066 and the Corner Drugstore of the 1940s

By Megan R. Undeberg

In the early decades of the 20th century, the corner drugstore was vital to the health--both physical and constitutional--of the community it served. Not only were medications prepared and dispensed, but the pharmacist and staff of the store provided advice, non-prescription products, and miscellaneous sundries. During the years of World War II, community pharmacies also discovered that service to their patrons expanded beyond that of their typical neighborhoods; some pharmacists now found themselves sending medications to far-off, desolate locations.

Executive Order 9066, signed and issued by President Franklin D. Roosevelt on February 19, 1942, gave the Secretary of War and designated appointees the authority to forcibly evacuate and relocate any person deemed a threat to national security.¹ While certain German Americans and Italian Americans were detained and imprisoned in camps, for those of Japanese American descent living on the West Coast after the crippling blow of the Japanese attacks on Pearl Harbor on December 7, 1941, life was

soon to become incredibly difficult. Starting in March 1942, "voluntary" evacuation occurred; within the next six months, upwards of 120,000 men, women, and children, including those born and raised in the United States, were forcibly removed from their homes, transitioned to detention and registration camps, and then transferred to one of 10 "relocation centers" in some of the most desolate areas of the United States. Places such as Heart Mountain, Tule Lake, Manzanar, Topaz, Poston, Gila River, Granada, Minidoka, Jerome, and Rohwer saw all ages housed in primitive barracks, surrounded by razor wire and guarded by armed patrols.²

These concentration camps were hastily constructed by the War Department and based on the design utilized by the military with their army field training quarters.³ While designed in a series of blocks, and containing housing units, mess halls, latrines, and showers, each camp was also supposed to have hospital facilities. Laid out in a long line, the health care

facilities were to have an outpatient clinic, operating rooms, lab, patient wards, a pharmacy, a morgue, nurse and physician quarters, and an administration office.⁴ Whether by intent or design, the reality was the hospital facilities were poorly supplied, inadequately stocked, and lacked the ability to provide care to the residents of the camps.

This disparity of care was revealed in 2012 when a developer group renovating a long-defunct pharmacy in Denver, CO found tucked behind the walls between the 2x4s stacks of paperwork, letters, receipts, and newspaper articles from the years spanning World War II.⁵ From this emerges a different tale of the situation those Japanese Americans who found themselves unfortunate enough to be imprisoned in the concentration camps here in the United States.

The relevant pharmacist central to these specific wartime correspondences was Yutaka "Tak" Terasaki. Tak became a pharmacist in 1938 following graduation from the Denver-area Capital College of Pharmacy and supported the Terasaki family after their father endured

bankruptcy as a result of the Great Depression. Above the street-level T.K. Pharmacy was a medical clinic manned and operated by his brother-in-law, Dr. Thomas Kobayashi, who owned both the clinic and the pharmacy. Being inland, away from the western Pacific coast states of Washington, Oregon, and California, the Terasaki family was not subject to the conditions of forced internment as dictated by the executive order.^{6, 7} From near and far, Japanese Americans wrote to Tak, imploring him to send various goods. One letter from April 19, 1943 speaks of the desperation of the situation even a year after the camps' initiation:

Dear Sir:

Again I make you trouble.

*Kindly send me a Soap (sic).
(A) good one or coffee, candy,
shaving blade.*

*Iron and wine, smoked fish or
something. One of them. Please
don't send*

*back my check. Send me
anything.*

*~~From a resident in the
Manzanar camp⁸*

Residents of the Poston camp, located in southwestern Arizona, sent numerous requests for quinine; the question is why a basic med
(continued on page 10)



AN ELECTIVE COURSE FOCUSED ON MEDICATION USE IN THE 15TH AND 16TH CENTURIES

By Terri M. Wensel

Introduction

Various approaches have been taken to teach the history of pharmacy among schools located in the United States. A review of syllabi from several schools and colleges of pharmacy show that while many core concepts are included, many instructors take liberty in inserting particular regional and or period specific focuses to the course.¹ “Medication Use in the 15th and 16th Centuries” is a unique elective that exposes students to medicinal practices during a particular timeframe. This course captures a portion of the history of pharmacy learning outcome as outlined in Appendix 1 of the Accreditation Council for Pharmacy Education’s “Standards 2016.”² The purpose of this manuscript is to briefly describe this elective offering.

Design

This course is a 2 credit hour elective designed to provide students with an overview of the treatment of disease states that were prevalent during the 15th and 16th centuries. The course seeks to compare and contrast the prevalence and treatment of those disease states with modern day. The religious and social constructs through which these afflictions were viewed is also explored. The overall goal of the course is to provide the student with a foundation in the earliest origins of pharmacy practice.

As a 2-credit hour elective, the course

meets one day a week for one hour and 50 minutes. Active learning and case discussions are heavily used. Second- or third-year pharmacy students enrolled during the spring semester are eligible to register for the course. A minimum of five students is required and enrollment is capped at approximately 30.

There are four course learning objectives: 1) describe the practice of pharmacy prior to the formal development of the profession, 2) discuss the presentation and treatment of common diseases of the time, 3) compare and contrast treatment of common diseases of the time with present day, and 4) discuss the implications of social and cultural influences on the practice of pharmacy.

The course begins with an overview of the development of pharmacy and a discussion of the cultural environment that existed in the 1400 and 1500s. This discussion lays the foundation for the construct through which each disease state is to be viewed. Notable events, persons, and inventions are briefly reviewed with a larger discussion of approaches to medicine. An effort is made to have the student understand the mentality of the people of the day and how medicine moved from a foundation in the clergy to the physician. The use of coca is highlighted during this session. Pharmacokinetic properties of coca, or cocaine, are reviewed along with the history of the

coca plant that includes failed attempts to export the coca leaves to England and its use in Coca-Cola. Students in the course are generally surprised that cocaine remains available as an ingredient for compounding.

Once the foundation for the course is in place, we then quickly journey through three ages of medicine: Galenic, Middle Ages, and Monastic. This further solidifies the course foundation and gives a pre-history of sorts for the time period the course focuses on. Now, with a clear understanding of what has transpired thus far, the course delves into specific disease states. Disease states and topics reviewed are included in Table 1.

Table 1: Diseases and topics discussed

| |
|----------------------|
| Cholera |
| Dropsy |
| Leprosy |
| French disease / Pox |
| Plague |
| Rickets |
| Scurvy |
| Migraines |
| Ergotism |
| Smallpox |
| Depression |
| Abortifacients |
| Gout |
| Pain |

Each topic generally follows a presentation format of general disease state information (e.g. cause, symptoms, and transmission), historical overview, and

(continued on page 12)

THE UNIVERSITY OF FINDLAY AND THE GOOD WALL: THE EVOLUTION OF MEDICINE

By Dylan Atkins, Kyle Gildow, Deborah Berlekamp, Chris Hart

The University of Findlay recently unveiled a work of art. The History of Pharmacy mural, formerly unremarkable in the hallowed halls of the Davis Street Building, which is home to the College of Pharmacy, was completed by two 5th year pharmacy students in March of 2017. The idea took shape when pharmacy Dean Debra Parker and Assistant Director of Communications Amy DePuy, were brainstorming ideas for how to liven up the hallway, through which hundreds of students travel daily. Dylan Atkins, a student well known for his artistic talents and creativity enthusiastically agreed to design the project. Because the building houses the departments of chemistry, biology, and many laboratories used by the nursing and physicians assistants, they agreed that any artwork should pertain to medicine. Dylan decided to do a history of pharmacy mural and began to reflect and research.

Over several weeks, Dylan worked on creating a timeline with “The Rainforest” at the College of Pharmacy side of the hallway and ending with “The Future of Medicine” at the more modern part of the hallway because it fit with the setting of the building with ten different sections depicting eras in the history of medicine in between. Dylan stated “I always pictured the mural spanning the whole wall top to bottom as well because I wanted it to be interactive, in which it felt like you were

actually walking through time or standing in that era.” Dylan came across a mural in London, England, that was made up of multi-colored tiles. As the wall was originally of traditional painted block, the tile theme stuck with him. The block is similar to the tile which has made the mural more colorful, eye-catching, and unique. Kyle Gildow, another 5th year pharmacy student, helped Dylan complete the project. Photography and educational narratives that fit each time period were placed into Plexiglas™ placards and were added to each section of the mural.

Walking down this hallway now takes students, faculty and visitors through a colorful, museum quality experience of the history of medicine. Each section



advances the observer into a new era. “The Rainforest,” depicts an era approximately 3000 B.C. Nature has played a large role in the pharmaceutical industry. Many rainforest plants are

rich in alkaloids, proven to be of medicinal benefit. Today, nearly 121 prescription drugs originate from the roots, leaves, the bark of some plants, and some fungi.

The section on “Ancient Egypt” (~1500 B.C.) describes the significance of the Ebers Papyrus, containing recipes for 811 prescriptions and referring to 700 drugs. Those who fell ill were said to be out of harmony with the world, having irked the gods. One of the most important Egyptian symbols, the Eye of Horus, implicated to give rise to the Latin “Rx” symbol in use today, represents royal power, protection, and good health.



“Ancient Greece” (~700 B.C.) illustrates that the Greeks made many important advances in medicine, and were first to speculate disease was a matter of natural causes. The Greeks had many deities which reigned over the world including medicine. Hygeia, *(continued on page 14)*

(continued from page 6)

History of Opioids in America

designed to limit access to opiates. By the mid- and late-1970's, when Vicodin and Percocet came on the market, physicians were long taught to avoid prescribing opioids to patients. During the 1980's, the American pain landscape was characterized by "opiophobia," fear of prescribing opioid painkillers.

However, the prescription opioid landscape shifted again in the 1990s with physicians making pain treatment a priority for all patients. Undertreatment of pain was a catalyst for clinical and pain societies to successfully lobby for increased use of opioids for all pain types. In the early 1990's, the number of opioid prescriptions filled at U.S. pharmacies increased by an average of 2-3 million each year.

In the United States today, opioid painkillers are the most abused prescription medication. According to the American Society of Interventional Pain Physicians, Americans represent just 5% of the world's population, but consume 80% of the world's opioids. In 2014, 52,404 deaths involved drug poisoning, with 40% of these deaths involving opioid analgesics.

As a result of the increase in misuse, abuse, and consequences of opioids, pharmaceutical manufacturers and the FDA have responded with product formulations that contain abuse-deterrent properties and have supported education on proper opioid prescribing and use. Pharmacists are also equipped to play an important role in

reducing opioid misuse and abuse. Pharmacists have unique clinical knowledge, as well as an obligation to ensure that all efforts are made to prevent substance abuse in their communities by providing education and using prescription drug monitoring programs.

—*Jihae Lim PharmD*
Biopharmaceutical Fellow, Biogen & MCPHS University, School of Pharmacy, Boston

References

1. Busse, Gregory. "Morphine." Available <http://iftandcs.org/Addictions/Drugs%20The%20Straight%20Facts,%20Morphine.pdf>
2. Drug Enforcement Administration (DEA). "Cannabig, Coca, and Poppy: Nature's Addictive Plants." Available <https://www.deamuseum.org/ccp/opium/history.html>
3. Mandal, MD, Dr. Ananya. "Morphine History." October 27, 2013. Available <http://www.news-medical.net/health/Morphine-History.aspx>
4. National Institute on Drug Abuse (NIDA). "What Is the History of Opioid Addiction In the United States?" January 2013. NIDA International Program. Available <https://www.drugabuse.gov/sites/default/files/pdf/parta.pdf>
5. The Atlantic. "A Brief History of Opioids." Available <http://www.theatlantic.com/sponsored/purdue-health/a-brief-history-of-opioids/184/>
6. Rudd RA, Seth P, David F, Scholl L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015. *MMWR Morb Mortal Wkly Rep* 2016;65:1445–1452. Available <https://www.cdc.gov/mmwr/volumes/65/wr/mm655051e1.htm>.

(continued from page 7)



Executive Order 9066...

ication such as this was not supplied by the camp infirmary, requiring people to write to providers outside the camps.⁹ Many writers asked for digestive products; today, in hindsight, analysis of the wartime meals provided by the government did not take into account the typical daily diet of their incarcerated population. One gentleman wrote:

Dear Sir,

Will you please send me, by C.O.D., the remedies listed below:

- Strontium bromide
- Sodium bromide
- Essence of pepsin

I want them in quantity of 4 to 5 oz in each remedies.¹⁰

One product asked for repeatedly was "Wakamoto" tablets. Tak was able to supply these to those who ordered them. Today, Wakamoto tablets are still available for purchase through suppliers such as Amazon. Whether in the 1940s or 2017, this product claims to provide "digestive support" with components of *Lactobacillus*, *aspergillus*, vitamins, amino acids, and minerals.¹¹

The desperation of the overall situation is echoed through correspondence after correspondence. One acquaintance wrote to Tak the following:

Dear Tak:

Sorry I was unable to see you before I left. Arrived safely but half dead. Had to wait twenty hours in middle of the desert, a small junction, no place to go, just wait.

Say Tak, can you send me some Bente Chocolate Candies? If you can please send me 4 boxes, 6 boxes of Bente coffee, and all candy bars you can share. Will you send it collect? Thanks.

(continued on next page)

Tak obliged, with notes in red grease

pencil “sent 4 boxes candy, 6 coffee, 1 ctn candy, #3297, 10/18/43”¹² Another gentleman requested “Nyal Company Nyalgesic, Manzan, and Snickers.” Tak sent “1 Nyalgesic large bottle (made by Nyal Co), 1 Manzan large gram, and 1 dz Snickers bars.”¹³ Others asked for cod liver oil with vitamin B, athlete’s foot medication, milk of magnesia, Hoover Powders for Simple Headaches, irons for ironing clothes, toothbrushes, tongue scrapers, radios, film for cameras (photographs from inside the camp were initially forbidden), tablets of writing paper, sketch pads and aspirin compound.¹⁴

One family wrote for advice: “Ask TK-5 year old and baby. Feels itchy on rectum, find worms in AM.” Tak’s notes were “Ascaris”, or what we know of as parasitic worms commonly acquired through playing in contaminated dirt where sanitation is poor. Within the camps, initial sanitation facilities were lacking, not only in privacy, but also in overall capacity and cleanliness. It would not be an impossibility that intestinal parasitic infections would occur.¹⁵

New and recurring patrons also queried Tak about the purchase of a particular hair dye, that of the Larieuse brand name. In particular, both men and women in the camps requested Larieuse “Jet Black”, with no substitution accepted. By March 1943, Tak wrote a letter of inquiry directly to the Godefroy Manufacturing company in St. Louis, MO to negotiate a business arrangement in which to encourage advertising the hair dye product within the camp newspapers, and to promote its use. Initially, C.W. Godefroy, President of Godefroy Manufacturing Company, wrote directly to Tak on March 23, 1943. While they were sympathetic to the plight of the Japanese Americans

in the camps, they stated they were “unable to go into a specialized promotion at this time due to the raw material conditions.”¹⁶ Mr. Godefroy wrote “The whole cosmetic question is now being reviewed in Washington and there is talk of another limitation similar to what the industry experienced for the six weeks that Limitation Order L-171 was in effect last year. . . . The present outlook, however, is that manufacturers in this line may not be able to supply the existing customers with all they wish to purchase.”¹⁷ On January 16, 1942, President Roosevelt signed Executive Order 9024, establishing the War Production Board (WPB), which replaced the War Resources Board created by the President in 1939.¹⁸ The essential role of the WPB was to ration and requisition as many civilian products and supplies as deemed reasonable, and to convert the resultant base resources such as aluminum, rubber, silk, cotton, glycerin, coconut oil, among other items, to war-related goods and machinery.¹⁹ In July 1942, the WPB announced Limitation Order L-171, which began limitation of cosmetics manufacturing and packaging, and banned new products from the market.²⁰ The goal was to implement a 20% reduction in production of these products for civilian use, and reallocate the base supplies into production of ammunition, bombs, planes, parachutes, and war needs.²¹ From the September 29, 1942 Federal Register, clarification of the general limitation of Limitation Order L-171 included three lists: List 1, List 2 and List 3.²² Included in List 2 was “hair dye and tint”, which led to a reduction in the production and availability of these products.²³ On April 6, 1943, a separate letter came to Tak from the Godefroy Manufacturing Company, with an

additional reply of their concern in not wanting to violate federal statutes for distribution, particularly the Robinson-Patman Act. The Robinson-Patman Act of 1936 was designed to protect small stores from large retail stores, particularly in the area of pricing.²⁴ The Godefroy company proposed Tak sending the orders he received from camp patrons directly to them; they would ship directly to the individuals and bill Tak at the regular wholesale price of \$9.24 per dozen bottles of hair dye.²⁵

Most of the letters were from 1942 and 1943, with less frequent correspondence in 1944. With the tide of the war changing in favor of an Allied victory, in December 1944, President Roosevelt suspended Executive Order 9066.²⁶ Those Japanese Americans in the camps were resettled. Some returned home and restarted their lives where they left off, due to friends and associates who preserved their belongings and properties. Others discovered they were betrayed and had nothing left; when forced to leave with only what they could carry, now they were starting over with no home, no business or job, and no assets.

While the community pharmacy has always been a cornerstone in the community, T.K. Pharmacy from 1942-44 opened their doors and their services to those citizens of the United States who found themselves behind wire, imprisoned against their will. Tak and his employees provided not just medicine, but also moral support. It is yet another example of the vital nature of the profession of pharmacy in trying times.

—**Megan R. Undeberg, PharmD, RPh, BCACP, Assistant Professor, Practice Section Head, University of Minnesota**

(Continued on page 12)

References are listed on the next page

(continued from page 11)

Executive Order 9066...

References:

1. "Executive Order 9066: Resulting in the Relocation of the Japanese (1942)." Our Documents: 100 Milestone Documents from the National Archives. Accessed September 12, 2015. <http://www.ourdocuments.gov/doc.php?flash=true&doc=74>.
2. "Instructions to All Persons: Reflections on Executive Order 9066." Japanese American National Museum. Accessed March 14, 2017. <http://www.janm.org/exhibits/instructions-to-all/>.
3. Jensen GM. System failure: Health-care deficiencies in the World War II Japanese American detention centers. *Bulletin of History of Medicine* 73.4 (1999): 602-28.
4. Ibid.
5. Slevin C. "Internment camp letters found in Denver building." *The Denver Post*, November 21, 2012. Accessed June 9, 2015.
6. "F.M. Hall Building, 1979," Digital Denver Library, accessed June 8, 2015.
7. Sam Terasaki, interview by author, phone. Duluth, MN and Denver, CO, June 26, 2015.
8. Letter to Yutaka Terasaki. From Densho Museum file, Manzanar file folder. Accessed November 18, 2015.
9. Letter to Yutaka Terasaki. From Densho Museum file, Poston file folder. Accessed November 18, 2015.
10. Ibid.
11. Wakamoto product description. Accessed March 14, 2017. <http://www.wakamoto-pharm.co.jp/english/product/index.html>.
12. Letter to Yutaka Terasaki. From Densho Museum file, Poston file folder. Accessed November 18, 2015.
13. Letter to Yutaka Terasaki. From Densho Museum file, Poston file folder. Accessed November 18, 2015.
14. Letter to Yutaka Terasaki. From Densho Museum file, Poston, Manzanar, Jerome, Rohwer, Minidoka, Amache, and Gila River folders. Accessed November 18, 2015.
15. Letter to Yutaka Terasaki. From Densho Museum file, Poston file folder. Accessed November 18, 2015.
16. Letter to Yutaka Terasaki. Correspondence to and from Godefroy Manufacturing Company. From Densho Museum file. Accessed November 18, 2015.
17. Ibid.
18. "Records of the War Production Board [WPB]." National Archives Guide to Federal Records. Accessed April 21, 2017. <https://www.archives.gov/research/guide-fed-records/groups/179.html>.
19. "War Production Board." Accessed April 17, 2017. https://en.wikipedia.org/wiki/War_Production_Board.
20. Peiss K. "Hope in a Jar: The Making of America's Beauty Culture", p. 244. Accessed April 17, 2017. https://books.google.com/books?id=hrABGih4X6wC&pg=PA244&lpg=PA244&dq=kathy+peiss+L171&source=bl&ots=wUK4G6iXYd&sig=qlOgiD5iLe15RntB1ci_uDpxS0&hl=en&sa=X&ved=0ahUKEwiAgPGOtLbTAhVnyoMKHWn7DLAQ6AEIMzAD#v=onepage&q=kathy%20peiss%20L171&f=false.
21. Mower J. "Pretty and Patriotic: Women's Consumption of Apparel in WWII." Oregon State University PhD student dissertation. Accessed April 17, 2017. <https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/25298/MowerJenniferM2011.pdf?sequence=1>.
22. "Part 3019—Toiletries and Cosmetics, Section 3019.2" Federal Register, September 29, 1942, p.7661. Accessed April 17, 2017. <https://cdn.loc.gov/service/ll/fedreg/fr007/fr007191/fr007191.pdf>.
23. Ibid.
24. The Robinson-Patman Act. Accessed March 15, 2017. http://www.americanbar.org/groups/young_lawyers/publications/the_101_201_practice_series/robinson_patman_act.html.
25. Letter to Yutaka Terasaki. Correspondence to and from Godefroy Manufacturing Company. From Densho Museum file. Accessed November 18, 2015.
26. "Relocation and Incarceration of Japanese Americans During World War II." University

of California – Japanese American Relocation Digital Archives. Accessed March 14, 2017. <https://calisphere.org/exhibitions/essay/8/relocation/>.



(continued from page 8)

AN ELECTIVE COURSE ...

concludes with a discussion of the current prevalence and treatment of the disease today. For example, when pox is discussed, terminology is first reviewed as this disease state has had a multitude of names throughout time. Next societal approaches to disease, such as humors and the effect a body's temperament had on disease are discussed. Thoughts of how the pox originated and was transmitted by soldiers is covered, followed by symptoms, theories of pathology, and treatment. Bloodletting and the application of mercury ointments were commonly used, so the mechanisms and adverse effects of these practices are covered. While some debate exists, the theory that the pox was, or is similar to syphilis leads to the review of syphilis in the current day and how it is treated.

More times than not, the disease states reviewed relied heavily on herbal concoctions for treatment. For each class, the herbal products (in plant based form if available) are brought to the class for students to inspect. If possible, the class recreates the product historically used for treatment (e.g. making an oral rehydration solution for

(continued on page 13)

(continued from page 12)

AN ELECTIVE COURSE ...

cholera). Additionally, our campus has a medicinal plant conservatory. After several disease states have been discussed in the course, one class session is devoted to visiting the conservatory. During this session, students are to identify plants previously discussed, but also identify a plant not yet covered. For this, the student writes a brief report detailing the usage of that plant. The course concludes with a broad overview of key pharmacy developments throughout the 17th century to modern day.

Assessment

The major assessment of the course is a group presentation. Depending on the class size, students are placed into groups of 3 or 4 students and select a topic to present to the class. Popular topics have been surgical practices, Egyptian medicine, and Native American medicine. Course attendance and participation in class activities complete the assessment requirements for the course.

While the course has not been formally evaluated by students, anecdotally, students enjoy the structure of the course and the learning activities associated with it. Unfortunately due to workload constraints, the course has not been able to be offered for the past two semesters; however, as the

content is enduring, the course will be modified to move to an online offering over the summer of 2017.

Conclusion

The "Medication Use in the 15th and 16th Centuries" elective offers students a unique insight to a particular time period in our profession's history. Active learning and connecting past disease states to the present day has helped maintain student interest and engagement in the course. Developing the course as an online offering will allow the course to be offered more frequently in the future. Additionally, collaboration with professors in other departments such as History, is currently under consideration. This collaboration would not only strengthen the perspective and analysis of social constructs during that time, but would potentially allow for the course to be offered to a wider cohort of students.

— *Terri M. Wensel, Pharm.D., BCPS, TTS, Associate Professor Pharmacy Practice, Samford University, McWhorter School of Pharmacy*



References:

1. American Association of Colleges of Pharmacy History of Pharmacy SIG. History of Pharmacy Elective Course Syllabi. <http://www.aacp.org/governance/SIGS/history/Pages/default.aspx?RootFolder=%2fgovernance%2fSIGS%2fhistory%2fDocuments%2fHistory%20of%20Pharmacy%20Elective%20Course%20Syllabi&FolderCTID=%26View=%27b4c36ed4a-f434-43b1-9155-a3e774ca5943%7d>. Accessed April 3, 2017.
2. Accreditation Council for Pharmacy Education. Accreditation Standards and Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree. January 2015. <https://www.acpe-accredit.org/pdf/Standards2016FINAL.pdf>. Accessed April 3, 2017.

HOSPITAL PHARMACY, CIRCA 1920's



(Continued from page 9)

THE UNIVERSITY OF FINDLAY AND THE GOOD WALL...

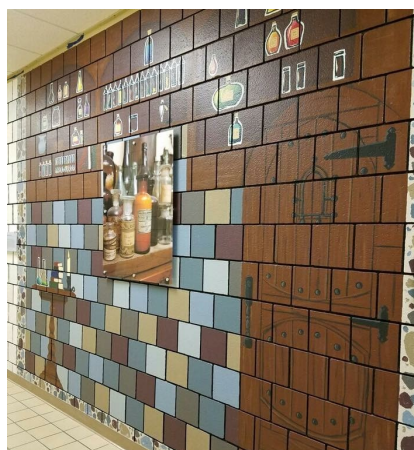
the goddess of health, is depicted as holding a bowl (patera), with a serpent wound around the base and its head poised above it. The Bowl of Hygieia has been used as the symbol of pharmacy as early as 1796. The four humors (fire, phlegm, black bile, and blood) are also described.



“The Apothecary” section (~1500) depicts medieval times when alchemy was practiced throughout the Eastern world. Alchemists experimented with the elements, chrysopoeia (transforming base metals into gold), and purportedly creating the philosopher’s stone. In the early 1500s, an alchemist, Paracelsus, cast alchemy into a new form by using the same elements and chemicals to create medicines. Many alchemists began to realize their knowledge of inorganic acids and salts could be used for medicine, and so they became apothecaries. In medieval Europe, pharmacists were required to join a guild in order

to practice within a town. This guild was comprised of apothecaries, spicers, and pepperers. It was not until 1617 that apothecaries were recognized as independent entities.

The era of “Drug Discovery, Development, and Design” (~1800) describes the discovery of drugs by isolating the active ingredient from traditional remedies or by good fortune. In the early 1800’s, chemical molecules and elements that make up living beings gained increasing attention. As technology improved, so did understanding of the chemistry of medicine, and the how the body functions. With modern biotechnology, researchers learned how to impact diseases with medicine. Medicinal chemistry paved the way for drug development, allowing scientists to identify compounds as potential drugs for research. With medicinal chemistry, drug structures were better understood, structure-activity relationships were identified, and new drugs were designed, based on knowledge of these relationships, to make them safer, more potent, and more effective.



The wall continues into the 1850’s era of the Pharmaceutical Industry. The pharmaceutical industry can be traced as far back as the middle ages with the advent of the apothecaries, but did not gain momentum until the second half of the 19th century. Merck is considered the oldest pharmaceutical company, dating back to 1668, however, it wasn’t until 1827 that Merck began manufacturing and selling alkaloids. In 1859, Beecham, the predecessor to GlaxoSmithKline became the world’s first factory producing only medicines. After World War II, the industry saw many promising drug developments including the birth of the contraceptive pill in 1960 and a novel class of blood pressure medications, ACE inhibitors, in 1975. The first ever “blockbuster” drug, cimetidine, earned over \$1 billion a year and garnered a Nobel Prize. Advancements in technology provide a promising future for the pharmaceutical industry, and new medications continue to improve patient outcomes.

In “Tablets and Capsules” the first evidence of pills was described on papyri found in ancient Egypt. These pills were made of plant powders or spices mixed with bread dough, honey, or grease. Significant progression was made to create today’s tablets and capsules, from the early 1800’s, with coating tablets in sugar and gelatin capsules, allowing medications to be easily swallowed and protected as they passed through the gastrointestinal tract. By the late 19th century, machines manufactured drugs into tablets of many different shapes and sizes without the use of an adhesive. As

(Continued on page 15)

(Continued from page 14)

knowledge of the human body enhanced, more dosage forms have become available to suit a patient's specific needs including tablets and capsules, ointments, topical medications, and injections, to name a few.

"Vaccines and Monoclonal Antibodies" (~1950) depicts technological advancements that allowed new discoveries throughout the 18th, 19th and 20th centuries. In 1796, Edward Jenner discovered the first vaccine in history for smallpox, a disease successfully eradicated in the 1960's. Many other vaccines have since been developed including diphtheria, measles, mumps, rubella and the polio vaccine by the 1950's. The concept of vaccines and their mechanism of action sparked the interest of Paul Ehrlich in the early 20th century, who postulated that if a compound could be made that selectively targeted a pathogen, then a toxin for that organism could be delivered along with the agent of selectivity. In the 1970's, research on multiple myeloma began in which antibody structure and function was studied. It wasn't long after the first knowledge of antibodies that scientists were able to fuse human antibodies with toxins, synthetic drugs, or even antibodies from mice to create humanized, recombinant, or chimeric monoclonal antibodies – antibodies directed at not just preventing disease, but also treating disease. These advancements in medicine have helped move the medical field to a new area of research and treatment for many acute and chronic disease states.

"Pharmacogenomics" (~1960). From

the first isolation of DNA in 1869 to the discovery of the double helix in 1953, the understanding of the human genome enhanced greatly. Despite being first recognized by Pythagoras in 510 B.C., the study of pharmacogenomics didn't officially begin until the 1960's. Pharmacogenomics studies the role of a person's DNA



profile to help optimize drug therapy, with the goal of maximizing benefits while minimizing adverse effects of medications. This field led to the discovery of chemotherapy medications, that incorporate themselves into the DNA of the cancer cells to prevent them from replicating. With pharmacogenomics, we are learning to tailor medications to the needs of specific patients. Today, researchers are using pharmacogenomics to create new medications, and are working to find the cure for many chronic diseases.

The last section of the wall depicts "The Future of Medicine" from the present day forward. The care of patients has broadened over the centuries to include a medical team that consists of not just a prescriber and a pharmacist, but also the many allied health professions to care for the whole patient. Medical advances continue to

occur daily and it is quite possible that many diseases currently believed to be incurable will have a cure in the future.

Please be sure to stop in to the Davis Street building and see this work of art in person. While you are there, be sure to see if you can locate the "Rx" symbol in each of the eras depicted. It will be a fun and interesting experience.

—Dylan Atkins & Kyle Gildow,
PharmD Candidates 2018
Deborah Berlekamp, PharmD,
BCPS., Assistant
Professor of Pharmacy Practice,
Chris Hart, B.S. Pharm.,
Adjunct Professor
University of Findlay

References:

Cowan, D.L., Helfand, H.H. (1990). Pharmacy: An illustrated history. New York, NY: Harry N. Adams Incorporated.

The Rainforest

<http://jrscience.wcp.muohio.edu/fieldcourses03/PapersCostaRicaArticles/FinalPaper.TheMedicinalVa.html>

Drug Discovery, Development, and Design
<https://www.ncbi.nlm.nih.gov/m/pubmed/18600572/>

Tablets and Capsules

<https://archive.org/stream/b19974760M4060#page/n45/mode/2up/search/brockedon>

Monoclonal Antibodies and Vaccines

<https://www.cambridge.org/core/journals/medical-history/article/monoclonal-antibodies-a-witness-seminar-in-contemporary-medical-history/59C9F44E333A718E46AFD0D22AA0FCD3>

Monoclonal Antibodies and Vaccines

<http://m.content.healthaffairs.org/content/24/3/611>

Chemotherapy

[http://www.journalacs.org/article/S1072-7515\(10\)01211-1/abstract](http://www.journalacs.org/article/S1072-7515(10)01211-1/abstract)

Pharmacogenomics

<https://www.ncbi.nlm.nih.gov/m/pubmed/13697554/>

Pharmacy Chronicles



HISTORY OF PHARMACY SIG NEWSLETTER

Published by:
History of Pharmacy Special Interest Group, American
Association of Colleges of Pharmacy
1727 King Street Alexandria, VA 22314

**"THE HISTORY OF PHARMACY LIVES
HERE...**

**...THE FUTURE OF PHARMACY BEGINS
HERE."**

—UNIVERSITY OF KANSAS, AT LAWRENCE, SCHOOL OF
PHARMACY MUSEUM

About the History of Pharmacy SIG

The upcoming academic year (2017 – 2018) marks the tenth year since the History of Pharmacy Special Interest Group (SIG) was formalized as an AACP SIG.

As an open academic forum, the SIG strives to facilitate the exchange of ideas and innovation among pharmacy faculty across disciplines; to serve broadly as an accurate information resource for teaching, learning, and scholarship pertaining to the evolution and history of the pharmacy profession; to develop and maintain historical collections of artifacts and school or college museums; and to ensure the lessons, the message, and the legacy of the pharmacy profession is preserved to educate future generations of pharmacy students.

The SIG's mission rests on the premise that the history and legacy of the pharmacy profession will always be relevant to all pharmacy practice areas, including current and future scopes of practice. The History of Pharmacy SIG is relevant to you too! Join the History of Pharmacy SIG!!

Advertisements Through Time

STUDY AT HOME!

A COMPLETE PREPARATION
FOR THE BOARD OF PHAR-
MACY EXAMINATION.

Instruction in Pharmacy, Chemistry, Materia Medica,
Toxicology, Prescription Compounding, etc.

AFFORDS A SOUND

PHARMACEUTICAL EDUCATION AT SMALL EXPENSE

Write for Terms, sample lecture, and explanatory literature, to
THE PRACTICAL DRUGGIST INSTITUTE, 55 Gold Street, New York

A Home Study Correspondence Course

which effectively trains the student for
advancement and higher remuneration.

Instruction is individual. Lectures prepared and recitations rated by experienced teachers.

nyamcenterforhistory.org

Ad published in *The Practical Druggist and Review of Reviews*, volume 35, number 2, February 1917

A vintage advertisement for 7UP. At the top is the 7UP logo in a red box. Below it, the text reads "LITHIATED LEMON SODA". To the right, it says "Seven-Up Settles the Stomach For Hospital or home use." At the bottom, a paragraph describes the drink: "The added citrates neutralize free acid. The sugar is inverted... burns clean. 7-Up is more than a mixer... It blends out the harsh features... Disperses hangovers... takes the 'ouch' out of grouch." On the left, there is a silhouette of a person and the word "Slenderizing". At the very bottom, it says "PRINTED IN U. S. A."

Through 1950, the ingredients for 7UP included lithium citrate, a mood-enhancer—this ad is from the 1930s.