

HISTORY OF PHARMACY SIG NEWSLETTER

Pharmacy Chronicles: Past, Present, and Future

WELCOME MESSAGE FROM THE CHAIR, HISTORY OF PHARMACY SPECIAL INTEREST GROUP

Welcome!

On behalf of the officers of the History of Pharmacy Special Interest Group (SIG) I would like to extend greetings to all of our members. We hope that you and your loved ones are safe and healthy. This year has been a historic time for all of us. The COVID-19 pandemic has forced our schools to close their campuses and transition to full online learning. In many parts of the country, our faculty and students have faced unprecedented chal-

lenges within the patient care settings they practice and learn. All of us mourn the loss of so many. Yet in the midst of these trials, members of the profession are providing important leadership and service. Pharmacists in all practice settings are ensuring that patients are getting necessary medications and care, playing a key role in COVID-19 testing and are poised to play an integral role in a nationwide vaccination campaign. Pharmacy faculty across the country are involved in important research aiding the efforts to develop a vaccine. Pharmacy schools across the nation are embracing new technologies and modes of teaching to ensure that the next generation of pharmacists can complete their education and enter into practice. These are just some of the many contributions that the members of our profession

are making and they humble me.

In order to document these contributions and our experiences during the pandemic, the American Institute of the History of Pharmacy the United States. His (AIHP) has launched their COVID-19 Pandemic Pharmacy Historical Documentation Project. This initiative aims to record, document, and preserve the COVID-19 related stories and firsthand experiences of pharmacists. AIHP is encouraging pharmacists to submit written, video or audio recordings and artifacts that document their COVID-19 experiences. Information about the project can be found at: <https://aihp.org/collections/aihp-covid19-project/>

For the first time, the AACP annual meeting is being held virtually. Despite not being together physically, all SIG business and programming will continue. We are de-

lighted this year to have former Executive Director of AIHP, Dr. Greg Higby, present his talk entitled Five Hundred Days that Shaped the Future of Pharmacy in the United States. His presentation details the events that lead to the establishment of the U.S. Pharmacopeia and the nation's first college of pharmacy, the Philadelphia College of Pharmacy. This talk sets the stage for next year's important milestone for the Philadelphia College of Pharmacy's bicentennial celebration. The SIG leadership will send out, once available, specific dates and times for Dr. Higby's presentation and the business meeting via AACP Connect. Please plan to join us!

Continued on page 4



INSIDE THIS ISSUE:

Meet the Editors	2
Editor's Message	2
SIG Officers	2
Announcements, News	3, 4
Featured Articles (peer reviewed)	5-17
ABOUT the SIG	18

Meet the Editors

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Reviewers...

The Editors would like to thank the volunteers who performed the peer reviews and final editing for this edition of the newsletter.

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Message from the Editor

Welcome

Welcome to the eighth edition of the History of Pharmacy SIG Newsletter in the seven years since its inception. This is the fourth edition containing peer reviewed manuscripts and

we anticipate publishing a second edition this fall! We are especially proud to welcome and publish submissions from students!

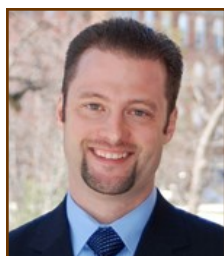
Yes, history is alive and well! To continue keeping history alive and well, we

need your submissions. We welcome writers, reviewers and contributors to the newsletter and we welcome volunteers to help with editing and formatting the newsletter.

Please reach out to me or the Chair of the HOP SIG to volunteer.

—Cathy Taglieri,
PharmD, MCPHS
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ANNOUNCEMENTS

BOOK AVAILABLE CLINICAL PHARMACY IN THE UNITED STATES, TRANSFORMATION OF A PROFESSION

Clinical Pharmacy in the United States, Transformation of a Profession is a comprehensive account of the evolution of clinical pharmacy and is an insightful must-read for anyone who cares about the profession of pharmacy.

Beginning with an overview of the profession's evolution and proceeding through the decade-specific chapters that follow, the authors trace the clinical pharmacy movement from its beginnings to the present day. The book's unique organization provides important context beyond the profession of pharmacy by providing a concise overview of U.S. culture, politics, economics, technology, health, and other events, melded with major clinical pharmacy-related events. A timeline that chronicles the key events flows across the bottom of the pages. Distributed through the book are reflective essays—personal accounts that provide an on-the-ground perspective.



The second edition of this indispensable work includes events from the last decade and updated reflections on the future of the profession. Pharmacy students, residents, and fellows should all read this book... as should those who have lived through this rich history.

Author(s): Robert M. Elenbaas, Pharm.D., FCCP; Dennis B. Worthen, Ph.D.; and C. Edwin Webb, Pharm.D., MPH, FCCP

ISBN: 978-1-939862-90-7

Publication Year: 2019

Format: Softcover; 201 pages

Also available as an e-book



AIHP WANTS TO DOCUMENT YOUR HISTORY...RELATING TO COVID-19

Pharmacists across the country are making history as they confront the healthcare challenges arising from the COVID-19 pandemic. The American Institute of the History of Pharmacy (AIHP) wants to record and preserve that history for the benefit of future historians and scholars.

AIHP has launched the AIHP COVID-19 Pandemic Pharmacy Historical Documentation Project to record, document, and preserve the COVID-19-related stories and firsthand experiences of pharmacists. We have established a special portal on AIHP's website -- [available at this link](#) -- through which pharmacists and others can contribute materials for our archives.

Contributions may take the form of written or video journals, or audio recordings, that memorialize stories and experiences. We are also interested in collecting photos, videos, artifacts and documents related to the COVID-19 pandemic. Our website portal will allow participants to immediately record their COVID-19 experiences in a textbox and/or upload up to three digital items for preservation in AIHP archives. Participants can also indicate that they would like to be contacted in the future to share their stories.

We are especially interested in having pharmacists address such questions as:

- How did the public health emergency affect your work as a pharmacist?
- How did pharmaceutical treatment options change and evolve over the course the crisis?
- How did social distancing and self-quarantine affect pharmacy practice, pharmacy education, or pharmacy customers?
- What were the most difficult challenges you confronted?

Please share this announcement with your colleagues and share on social media.

We have a unique opportunity to record and document for posterity the significant role that pharmacists, and the pharmacy profession, are playing during this historic public health crisis. We appreciate how busy you undoubtedly are at this time, but we hope you will take a few minutes to help us contribute to and about this important project.

WELCOME MESSAGE FROM THE CHAIR

Continued from page 1

Please join me in congratulating our newly elected SIG Officers! Tony Dasher, Pharm D., Assistant Professor and Experiential IPPE Coordinator at the University of the Incarnate Word Feik School of Pharmacy is our new Chair-elect and Michael Hegener, Pharm D., BCACP, Director of the Pharmacy Practice Skills Center and Associate Professor of Pharmacy at the James L. Winkle College of Pharmacy is our newly elected Secretary of Knowledge Management. A big thank

you also needs to go out to our current officers, Dr. Megan Rosine Undeberg, current Chair-elect and Dr. Michael Hegener, Immediate Past Chair for their hard work and service to the SIG this year.

The HOP SIG newsletter would not be possible without the hard work and dedication of so many of you. Please join me in extending a special thanks and gratitude to our editors Cathy Taglieri and Bernie Olin. We appreciate your hard work and dedication to this publication! I would also like to thank all of you who submitted content for this issue and to our reviewers. Without you, this newsletter would not be possible.

As my term as SIG Chair comes to an end I am encouraged by the energy and enthusiasm of the SIG membership. Over the past three years we have sponsored outstanding programming at the annual meeting, engaged our membership through AACP connect and our annual newsletter and promoted the history of our profession throughout the academy. I look forward to continue to serve the SIG and hope to “see” you at this year's AACP annual meeting!

Sincerely,

-James Culhane, SIG Chair



PLEASE JOIN US FOR THE HISTORY OF PHARMACY SIG BUSINESS MEETING ON JUNE 25TH!

Please plan on joining us for the History of Pharmacy SIG business meeting on Thursday, June 25 from 3:30-4:30 pm EST. We will be recapping the past year's events, discussing programming for next year's meeting and new SIG initiatives and installing new officers.

Register for the meeting at the following link. <https://register.gotowebinar.com/register/7059926086436973328>

AMERICAN INSTITUTE OF THE HISTORY OF PHARMACY UPDATE

AIHP has had a very productive year!

AIHP hosted the International Congress for the History of Pharmacy in Washington DC, in September, 2019. Attendees from 24 countries participated, attending fifty-six paper presentations, along with thirty-three poster presentations, four plenary lectures, two plenary panels, and seven optional scientific tours. The United States Pharmacopeial Convention (USP), celebrating its 200th anniversary in 2021, generously supported the conference

AIHP welcomed a new Historical Director, Lucas Richert in 2019 who is working closely with the executive director, Dennis Birke to increase programing and access to the Institute's archives. Long time executive director, Greg Higby retired at the end of 2018 and now is working on a part-time basis with the title of Fischelis Scholar.

The American Institute of the History of Pharmacy and the University of Wisconsin–Madison School of Pharmacy presented the inaugural **Edward Kremers Seminar in the History of Pharmacy and Drugs**, with five sessions this spring on the history of cannabis. The final “Kreminars” are scheduled for June 18th and 25th. For more information and to register, click this link: <https://aihp.org/kreminar/>

Now is an exciting time in the History of Pharmacy and AIHP welcomes new and returning members. Please consider joining, or renewing your membership now. <https://aihp.org/join-support/membership/>

THE AMERICAN REVOLUTION'S IMPACT ON PHARMACY IN AMERICA

By Kaitlyn Ledet
and Victoria Miller

The American Revolution is remembered for bringing about America's independence. However, many forget that the War also brought about events changing various aspects of the common person's daily life. Before the American Revolution, medicine practice in the American colonies was modeled after British methods, and there was little desire for the colonies to change those existing practices. Yet, during the American revolution, colonies were forced into a novel way of thinking in order to provide medications for its military.

Prior to the American Revolution, physicians and surgeons typically acted as their own apothecary rather than relying on trained apothecaries. The physicians or surgeons would compound medications needed to treat their patients as well as sell Britain patented medications when needed.¹ This type of practice was especially common in rural areas. In larger cities, there were established apothecary shops where one person acted solely as the apothecary.

During the war, the amount of sick and injured military personnel needing treatment began to overwhelm the doctors serving in the Continental Army. There were approximately 1,200 physicians serving the Continental Army and roughly 3,500 physicians serving the colonies' general public throughout the seven-year long war.^{2,3} These physicians were responsible for the care of about 29,900 soldiers over the years.⁴ The ratio between physicians and soldiers requiring attention became too disproportionate for adequate care to be given. A solution was

desperately needed, and the apothecaries were there to help. Hence, the American colonies began to see a shift in responsibilities from physicians to pharmacists for the first time. With some of the physician's responsibilities being delegated to pharmacists, the physicians were able to focus more on the cause of a patient's ailment while leaving the selection, compounding, and dispensing of medications to the pharmacists. The shift in power aided pharmacy's growth as a profession in America.

Pharmacy started to be recognized as an essential part of healthcare in the military during the war, and for the first time, pharmacists' duties were clearly defined which led to pharmacists obtaining official status as a profession.^{1,5} Congress then created a specific division of the military devoted to pharmacy duties, and there was an Apothecary General appointed to each of the four districts of the country to run the division.¹ The Apothecary General had a duty to "receive, prepare, and deliver medicines, and other articles of his department to the hospitals and army" as well as supervise activities of apothecaries working under him.² The creation of the Apothecary General title marked two first time historical events for the pharmacy profession: one in which apothecary was recognized as a commissioned officer in the American Army and the other in that the job description for an apothecary was clearly distinct from that of a physician. The events taking place set a precedent for pharmacy gaining professional recognition in centuries to come.⁶

The first Apothecary General appointed was Andrew Craigie over the Northern Department in 1777 (See figure 1). Craigie had the full support of physicians with the Continental Army's Director-General and Chief Physician John Morgan being one of his leading supporters. Morgan issued the statement, "Without such a one I know not how you could either procure sufficient Medicine for your Department or dispense them when got" in regard to Craigie's appointment. Morgan recognized the strong need for pharmacy to become a separate entity from the rest of healthcare.



Figure 1. One of the few portraits in existence of Andrew Craigie. This watercolor portrait was painted around 1800. Courtesy of: <https://harvardmagazine.com/2011/11/andrew-craigie>

Craigie was born in Boston, Massachusetts, where he later attended the Boston Latin School to learn most of his profession-related knowledge. Before accepting the position of Apothecary General, Craigie was commissioned by the Committee on Safety to tend to the medical stores and deliver them as needed. He also took on the responsibility of tending to the wounded at the Battle of Bunker Hill.⁷ Then in 1775, he was chosen to be the medical commissary and apothecary of the Massachusetts army.^{7,8} In the years

-continued on page 10

HEALING NEEDLES: THE HISTORY OF ACUPUNCTURE AND A ROLE FOR PHARMACISTS

BY LUNING SHI AND MICHAEL HEGENER

Gao Xiaojun, spokesperson for the Beijing Health Commission, announced in March 2020 that acupuncture may be effective for the treatment of COVID-19 (Coronavirus disease 19). Traditional Chinese medicine (acupuncture and herbals) was administered to 87% of COVID-19 patients in Beijing and effectiveness in reducing the length of symptoms was documented.¹ Acupuncture was administered to strengthen the “Zheng Qi”, or healthy energy, of these patients, and to improve lung and spleen functions to combat foreign pathogens.²

What is “Zheng Qi”? How did this thousand-year-old medical technique become the valuable therapy it is today? Can this ancient Chinese medical technique prove efficacious in the treatment of COVID-19? With a multitude of clinical trials evaluating its effectiveness for treating chronic pain, stress and anxiety, acupuncture is no longer considered “witch-doctor” therapy; It is an evidence-based clinical tool used by healthcare workers to improve the wellbeing of patients.

Zheng Qi, its connotation translating to “vital energy”, is one of the unique and fundamental concepts of Chinese medicine. The abstract word “Qi” embraces all manifestations of energy, whether it be a material aspect such as blood flowing through veins, or the immaterial thoughts and emotions of an individual.³ It is difficult to describe Qi with scientific and medical terminology, and the concepts of Qi, Ying, and Yang seem metaphysical to many western practitioners. However, the meaning of Qi does express physical and emotional wellbeing. Qi was first mentioned circa 100 BC in *The Yellow Emperor's Classic of Internal Medicine*. Two thousand years ago, physicians did not have the technology for precise dissection and evaluation of biochemical processes. The superstitious terminology surrounding acupuncture is ancient physicians' attempt to describe the physiology we now understand today.

The roots of acupuncture date back even further than the concept of metaphysical energy. Over 8,000 years ago, physicians used sharpened rocks to prick the body in a treatment process called

“Bian.”⁴ In Chinese, this means the piercing or use of stone to treat. While “Bian” might sound like a stone-age legend, this technique is still used today. For example, the mechanism of “Bian” is used by physicians when cutting open infection sites and drain abscesses to expedite recovery. “Bian” is also practiced when massage therapists use hot stones to relieve muscle pain. The earliest known literature of meridian doctrine in ancient China is two silk scrolls from 198 BC.⁵ These scrolls described the acupuncture meridian pathways and their association to pathologic symptoms, which are shown in the figure 1.



Figure 1

Acupuncture was not introduced to the United States until the 20th century. American acupuncture practice began in 1971

when James Reston, a New York Times journalist, wrote a news report about his experience with acupuncture in China. He was rushed into the emergency room of a hospital located in Beijing, China. Mr. Reston had an appendix rupture and underwent emergency surgery. After surgery, the anti-imperialist hospital physicians treated Reston's post-operational pain by inserting three long, thin needles into the outer part of his right elbow, below both knees, and manipulated them in a specific order. After only 20 minutes, Mr. Reston described that his pain was relieved.⁶

Acupuncture has gained rapid acceptance by the US public after Reston's story. In 1973, the Internal Revenue Service (IRS) first allowed acupuncture to be charged as a medical expense. In the 1990s, the National Institutes of Health (NIH) declared support for acupuncture and established the National Center for Complementary and Alternative Medicine. In the last 10 years, 39 randomized clinical trials were included in a meta-analysis of non-pharmacological treatment in reducing pain

-continued on page 12

Factors Influencing Changing Gender Demographics in Maryland Pharmacy

from World War II through the 21st Century

By Catherine Botescu, Brittany Botescu,
Cynthia Boyle and James M. Culhane

Background

The profession of pharmacy in America is generally perceived as female-dominated. The Women's Bureau of the United States Department of Labor reports 53% of all pharmacists in 2017 were women.¹ According to Census data comparing employment in the years 2000 and 2016, pharmacists as a profession saw the third highest rise in women.² While there has been a relatively steady increase of women in many professions over the twentieth century, pharmacy has experienced a significant increase in the past twenty years. Understanding the root cause of these demographic changes can help the profession better recruit talented individuals from diverse demographic groups. An examination of graduation trends in the state of Maryland as compared to national can provide us with important insights about effective strategies to accomplish this goal. It turns out the messages and initiatives we promote through our state and national pharmacy associations might play a greater role than we realize.

The State of Maryland

The state of Maryland has a rich, well documented role in the history of the profession. Two important organizations and their archives served as primary sources for this study. Founded

in 1841, the University of Maryland School of Pharmacy (UMSOP) is the fourth oldest pharmacy school in the country, and offers a great wealth of historic documents that can be used to characterize the role of women in Maryland pharmacy. Likewise, the Maryland Pharmacists Association (MPHA) established in 1882 has provided important leadership and helped to shape the profession in the state. Their archives and meeting minutes were also important resources for this project. By the mid-twentieth century, the profession was firmly organized across the United States. Significant numbers of state and national pharmacy organizations flourished and provided important direction for the evolving profession. Schools of pharmacy were well established and a national review of pharmacy curricula was underway that would eventually help move the profession towards a more direct patient care role.

University of Maryland School of Pharmacy Graduation Data ³

Up until 2008, the UMSOP was the only pharmacy school in the state -- making it the only school to graduate pharmacists until 2013. While official University historical graduation data was difficult to obtain, another source, albeit less reliable, was available providing data as far back as 1940.

Using the school's archives of yearbooks, data was collected from the graduating classes 1940 through 2010 to determine the male and female graduates per year. Yearbooks for the graduating classes of 1983, 1988, 1989, 1994, 2006, and 2007 were unavailable in UMSOP's archive, and therefore omitted (Figure 1).

In order to provide context to the Maryland data, data from the American Association of Colleges of Pharmacy (AACP) was collected to represent national patterns. This was limited to 1965 onward.

The Impact of WWII on Women Pharmacy Graduates

While the available national data from AACP follows a steady upward trend from 1965 onward (Figure 2), the Maryland trend is not quite as straightforward. One will notice a spike in the percentage of women graduates from UMSOP in 1946 when the graduating class consisted of 37.5% women, a percentage that is not matched again until almost twenty years later. (Figure 1) This rapid rise and fall in female Maryland graduates may be attributed to several important factors. First, the shortage of men in the workforce due to World War II provided women an opportunity to step out of traditional household duties to pursue degrees

-continued on page 13

Pharmacy Filmography History Series — The “Pharmacy Through the Lens of Hollywood”

By David M. Baker, Nina M.
Devine and Eric C. Nemec II



Culture, in the modern age, is often documented through its popular media. It is our belief that media portrayals of the pharmacy profession have been and continue to be a surrogate marker for the public's perception of pharmacy's place within society. Popular media, e.g., movies and television shows, mirror the evolution that occurred in pharmacy practice during the last century and into the current one. Thus, through study of that media over the last century or so, the public's view of the profession can be discovered. Whether the popular media's depiction and the public's perception are contrary to the profession's own make pharmacy filmography research interesting to both the amateur and the professional pharmacy historian.

Unfortunately, pharmacy filmography is an area of pharmacy history that has remained largely ignored by both the profession and the film industry, with only a few rare exceptions.¹ However, within the last few years, interest in pharmacy-related media began to surface within the profession.^{2,3} Pharmacy academicians are designing courses utilizing modern media depictions.⁴ Knowing that the first known depiction of pharmacy appeared in a short movie over a century ago, it is only appropriate that such historical study should begin now.⁵

With their historical interests piqued, about a decade ago the authors performed and continue to perform systematic reviews of the following internet movie databases: Internet Movie Database, Turner Classic Movies database, the Ameri-

can Film Institute database, Internet Archive, Complete Index to World Film, and the National Library of Medicine Film Guide. The authors reviewed various trade and pharmacy journals to find references to pharmacy movies, including several no longer published like American Druggist and Pharmaceutical Record, Meyer Brothers Druggist, and The Moving Picture World. In addition, the authors read several film reference books, like American Silent Film and Doctors in the Movies: Boil the Water and Just Say Ahh, seeking discussions or mentions of pharmacist characters or pharmacy depictions.^{6,7} In casually viewing movies, the authors identified even more. As of today, about 500 videotapes, DVDs, or Blu-rays have been collected, and over 870 television episodes or movies have been identified depicting pharmacists or pharmacies.

It is for all these reasons that this series of movie articles was proposed. For many classical pharmacy historians, the idea of the study of modern history, like cinema over the last century, may seem inappropriate or premature. Yet, for the typical practicing pharmacist or pharmacy student with a general interest in history, this may be the lure that draws them into the study of pharmacy history. Through review of this modern history media, they may also learn of pharmacy practice during the last century. In this way, the goal of this series is to nurture an existing interest in modern history into a broader desire to learn pharmacy history over the millennia.

To instill an interest in pharmacy filmography history, the au-

thors show the evolution of pharmacist characters and pharmacy depictions in movies over the last century. Approximately 325 movies depicting pharmacies or pharmacists are available for review; of these, a pharmacist character is a leading role in about 50. Accordingly, each article will review one film from each decade (1920s to 2010s – ten in all) that has a pharmacist character in the lead or starring role. Besides the pharmacist character in a lead role, other criteria used to select the movies include: depth of character development, number of pharmacy scenes, quality of production, and ability to review the film. By selecting such movies, the depiction of the pharmacist and his/her place of business will both be available for review.

Without further ado, welcome to our series on pharmacist/pharmacy movies – pharmacy through the lens of Hollywood!

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-continued on page 14

Pharmacy Through the Lens of Hollywood I: “It’s the Old Army Game”

By David M. Baker, Stephen J. Dias
and
Eric C. Nemec II



The Elmer Prettywillie Drug Store, showing a soda fountain, glass cases, hardwood wall cabinets filled with bottles, and show globes – all typical of the 1920s.¹

“This is the epic of the American druggist – a community benefactor. His shop is at once the social center, the place of countless conveniences and the forum of public thought. It is the druggist we seek in the hours of suffering and adversity, and day and night he is oft the agency between life and death.”²

Released: July 11, 1926

Availability: Online, DVD, Blu-Ray.

Production Company: Famous Players – Lasky Corporation

Director: A. Edward Sutherland

Photographer: Alvin Wyckoff

Titled by: Ralph Spence

Writers: J.P. McEvoy (play), W.C. Fields (play), and William LeBaron (adaptation)

Cast:

W.C. Fields – Elmer Prettywillie (druggist)

Louise Brooks – Marilyn Sheridan (Elmer’s assistant)

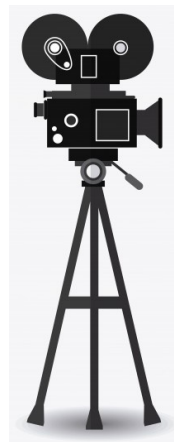
Blanche Ring – Tessie Gilch (train station manager)

William Gaxton – William Parker

Mary Foy – Sarah Pancoast (Elmer’s sister)

Mickey Bennett – Mickey (Elmer’s nephew)

Eugene Pallette – A Sucker^{2,3}



“It’s the Old Army Game” is a silent, black and white film starring W.C. Fields as Elmer Prettywillie, a town druggist who is the main protagonist at his eponymous pharmacy, the Elmer Prettywillie Drug Store, located somewhere in Florida.² While this is a classic W.C. Fields comedy centered around a blundering pharmacist, the movie goes out of its way to show his dedication to the community. This Hollywood perspective is interesting since it contrasts the community benefactor role of the druggist with the bumbling role of a comic.

Movie Summary

The film begins with a reckless race scene between a woman driving a car and a speeding train – the train just missing the car at a crossing. The woman proceeds to a drug store where she rings the night bell, awakening the entire household of Elmer Prettywillie, an “apothecary and humanitarian.”² The viewer is then exposed to Fields’ classic shtick comedy: putting both slippers on one foot and looking for the other, being nagged by his resident sister to answer the bell, and then, slipping and sliding on his nephew’s roller skates left at the bottom of the stairs. And what was the emergency? The train-racing woman needed a postage stamp for which she did not even pay! Thus begins the campy story of Elmer Prettywillie, community druggist.²

As the story continues, Prettywillie’s daily trials and tribulations as a druggist are comically shown. His restful sleep is disturbed by a fire department false alarm, his nephew’s incessant crying, a vegetable salesman selling his wares, and an iceman delivering a block of ice for him to put away. The following day, after

-continued on page 15

THE AMERICAN REVOLUTION: IMPACT ON PHARMACY...

-continued from page 5

leading up to his appointed position of Apothecary General, Craigie proved to have leadership skills which caught the attention of General George Washington. Washington admired Craigie's loyalty to the patriots of the American Revolution, and Craigie was seen as the ideal candidate for the position.⁹ Nonetheless, soon after accepting the position, Craigie began battling an exigency happening across the colonies.

Prior to the American Revolution, Britain provisioned the colonies with supplies like food, medicine, and medical instruments to sustain the population. Once the colonies began to rebel against Britain, Britain banned shipment of supplies. The British started mixing poisons like arsenic with drugs left behind in cities being evacuated by British troops to prevent the colonies from salvaging supplies. Despite the embargo put in place by the British government, certain pharmacies within the colonies remained loyal to Britain and were still importing medicines from Britain; however, the owners refused to sell any amount of their stock to the Continental Army. The consequence was a drug shortage in the American Army and areas supporting the revolution. The demand for drugs only increased during this time because new troops were arriving daily and needed treatment. A few medicines were being obtained from the West Indies and France while other supplies were being acquired from ransacked British ships and strongholds. Even with these efforts, the procurements were not meeting the needs of the Continental Army. Journals kept during the summer of 1782 tell accounts of how the shortages affected troops led by General Nathanael

Greene. His troops were stricken with fevers resulting from malaria. Hospitals were overcrowded, and soldiers were dying quickly and frequently. Malaria was often treated with bark; however, over half of the surviving men in camp were ill, and there was little bark available. As a result, men began to self-treat with emetics. A diarist recorded an entry of one man who fell ill on September 29, 1782. He tried to self-treat with an emetic the day after the fever and aching started. Two days passed by, and he was still feeling feverish. At this point, he tried taking bark which seemed to make his symptoms go away within a week. The man had 10 days of relief and then relapsed with violent fever and pain. He turned to treatment with an emetic once more and experienced some relief. Ultimately, his fever returned in November, and this was the last mention of him in diarist's entries.² Instances like the ones described in the journal entries showed how imperative it was that alternatives to common Britain patented medications be developed which made the knowledge and experience of apothecaries crucial. Across the colonies, apothecaries helped to create substitutions for British medications to help supply Continental troops. Due to these newly formulated products, America's first pharmacopoeia was developed.

The *Lititz Pharmacopoeia* was written in 1778 by Physician-General William Brown. He wrote the formulary in Lititz, Pennsylvania, which is where the common name of the pharmacopoeia is derived (See figure 2).^{11, 12}

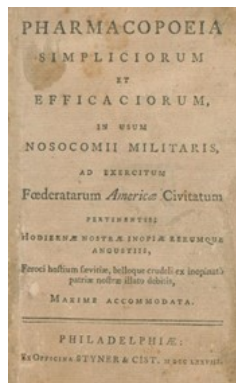


Figure 2. *Lititz Pharmacopoeia* in Latin, photo from an original copy located in the U. S. National Library of Medicine. English translation: "Formulary of simple and yet efficacious remedies for use of the military hospital, belonging to the army of the Federated States of America. Courtesy of: <https://archive.org/details/2544034R.nlm.nih.gov/page/n3>

Brown was aware of previously published European pharmacopoeias; however, the *Lititz Pharmacopoeia* contained North American herbs in which the European issues were lacking.⁶ There were five North American drugs the European issues were missing: sassafras, serpentaria, senega, resin from pine and fir trees, and butternut.¹³ This publication became the first formulary in America to standardize medicine formulas.¹⁴ Brown included 100 medicinal formulas in his pharmacopoeia: 84 formulas were meant for internal use and 16 were meant for external use (See figure 3).⁶

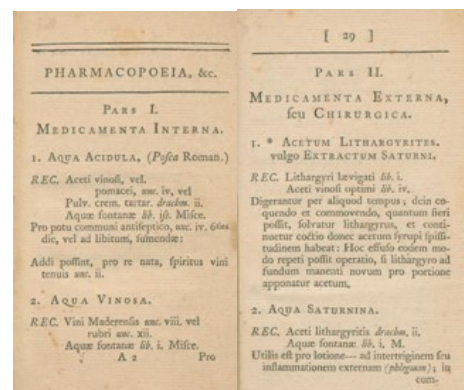


Figure 3. A side-by-side comparison of the sections of medication formulas labeled for internal use and external use in the *Lititz Pharmacopoeia*. Courtesy of: <https://archive.org/details/2544034R.nlm.nih.gov/page/n57>

The pharmacopoeia also listed similar medicinal and herbal substances that could be used in place of common medications when there was a shortage. For example, Peruvian bark was one of the drugs most desired by American army physicians, and it seemed to always be undersupplied. Brown listed bark of butternut to be a sufficient substitute for Peruvian bark in his pharmacopoeia.¹⁰ Brown also included the directions for use for medications which became a priceless resource for physicians working with the Continental Army.¹¹ Of the 3,500 physicians operating in the colonies, only about 400 of the physicians had a M.D. degree from a medical college.² The number of physicians who were self-taught or trained through appren-

-continued on page 11

THE AMERICAN REVOLUTION: IMPACT ON PHARMACY...

-continued from page 10

ticeships created a game of chance when it came to medical care being received.¹¹ With the standardization of drug formulas and directions for use available in print for easy access, the practice of medicine became more uniform. In addition to these benefits, the *Lititz Pharmacopoeia* also introduced the idea of large-scale drug manufacturing to America.

The concept was first revealed in the introduction of the *Lititz Pharmacopoeia* which stated, "There are distinguished by an asterisk the formulas of medicaments which must be prepared and compounded in a general laboratory; the others are to be mixed, as needed, in our hospital dispensaries."¹² In other words, Dr. Brown noted that the medications listed in the pharmacopoeia marked with an asterisk needed to be made with certain instruments and equipment found in a large-scale manufacturing setting versus other medications which could be compounded in a hospital or out in the field. There were two apothecaries from the American Revolution period that stood out as leaders who pushed the boundaries of large-scale manufacturing of medicines: Christopher Marshall and Andrew Craigie. In Philadelphia, Pennsylvania, Marshall was the owner of an apothecary shop that was founded in 1729 and expanded to include manufacturing of pharmaceuticals in 1735. His pharmacy played a predominant role in the American Revolution by supplying General George Washington's troops located in Pennsylvania, Maryland, Virginia, Delaware, and New Jersey. In 1776, Marshall was ordered to tend to the sick and injured at the hospital in Philadelphia. Because of this, Marshall's sons initiated a large-scale manufacturing venture in order to allocate medicine chests to the Continental Army. About

two years after Marshall's sons' endeavor, Andrew Craigie began working on an idea for large-scale drug manufacturing. In 1778, Craigie organized the building of the Elaboratory located in Carlisle, Pennsylvania. He intended to use this structure to house a large-scale manufacture that would store medications and distribute medicine chests to the American Army. The inventory in the medicine chests was determined by their intended destination. The majority of the medicine chests contained the most frequently used medications and instruments: Epsom salt, calomel, tartar emetic, mortar and pestles, pewter syringes, opium, paregoric elixir, jalap, rhubarb, and Glauber's salts. The Elaboratory was unique in its ability to substitute the unavailable British patented medications with drugs found in the colonies.⁶ With this progressive movement of manufacturing came a decrease in the amount of drug shortages. The patriots of the American Revolution now had the capability of producing massive quantities of products which were previously unobtainable like lint, purging salts, and nitre. As drug supplies were on the rise, the Continental Army fell victim to another predicament. There was a scarcity of glass vials used to house compounded medications. Medications were getting tough to dispense without the proper containers. Apothecary General Craigie proposed a solution to the limited inventory of glass vials. He wanted glass work manufacturers to expand into large-scale manufacturers in places like Manheim, Pennsylvania. Due to this solution, numerous glasshouses were able to produce a sufficient stock of vials.¹⁰ Ultimately, large-scale manufacturing was a product of the War, and future generations were able to build on the idea to establish pharmacy manufacturing processes used presently.

Before the American Revolution, pharmacy practices in the colonies were identical to those practiced

in Britain. The standard apothecary had no distinct duties, and it was not seen as a true profession; therefore, there was no consistent distinction between physicians, surgeons, and apothecaries. There also was a lack of uniformity when medical treatment was provided. Furthermore, the American colonies never had a need to push themselves to mass produce any medications. The War changed these aspects of pharmacy which advanced the profession in a positive direction. The War is mainly remembered for America's independence from Britain, but it was also a War that brought change, growth, and evolution to pharmacy practice.

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Healing Needles...

Continued from page 6

after total knee arthroplasty. Acupuncture delayed opioid use by 46 minutes for the first request for patient-controlled analgesia.⁷ According to a meta-analysis of 20,879 patients from 39 trials, acupuncture is also a viable treatment for chronic pain, with pain relief persisting over time.⁸ Acupuncture has a better adverse effect profile than opioids. In a trial involving 454,920 patients, only 0.03% (13 patients) experienced severe adverse events from acupuncture.⁹ Moreover, a meta-analysis of randomized controlled trials on acupuncture for perimenopausal depression has showed acupuncture is not only safe and effective, but also showed more stable long-term effects than antidepressants and hormone replacement therapy.¹⁰

The Chinese government recently published a guideline on how to use acupuncture and herbal medicine as treatments for COVID-19. The guideline recommends stimulating the Shao Shang and Yinbai points, along with Lieque, Zhaohai, Neiguan, and Wai-guan. These points are located at the end of the lung and at the beginning of spleen channels, and when

stimulated may reduce cough and dyspnea. The guideline recommends leaving the needles on each point for 20 to 30 minutes, with the treatment applied once daily.²

Will acupuncture become a part of pharmacy practice in the next 10 years? The lack of primary physicians in America has impacted patient outcomes, especially in managing chronic conditions. Military pharmacists at Blanchfield Army Community Hospital (BACH) in Fort Campbell, KY have already added acupuncture to their clinical tool box. Patients who suffer from pain are turning to pharmacists at the hospital for a therapy known as battlefield acupuncture (BFA). After a short 10 to 20 minute visit with an acupuncture certified pharmacist, some patients have found relief of their cervical disc and neuropathic pain with BFA after unsuccessfully trying prescription drug therapies.¹² The pharmacists' role has changed dramatically in the last 50 years, from solely dispensing to being actively involved in clinical patient care. Acupuncture may open yet another door to further expand the care pharmacists provide to their patients.

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Figure 2: File:Acupuncture1-1.jpg. (2019, September 17). Wikimedia Commons, the free media repository. Retrieved 02:28, May 15, 2020 from <https://commons.wikimedia.org/w/index.php?title=File:Acupuncture1-1.jpg&oldid=366531179>

Factors Influencing Changing Gender Demographics...

Continued from page 7

such as pharmacy. Second, the newly emerging concept of educational deferment. At the 1943 MPhA Annual Meeting, members urged the association to pass a resolution allowing pharmacy students to defer their education in order to enlist in the armed forces, and prevent jeopardizing public health with a shortage of pharmacists after the

war.⁵ This combination of male enlistment in the armed forces, and higher female student enrollment meant that Maryland gender dynamics both in pharmacy school and community practice would shift in favor of women during the war.⁶ Unfortunately this temporary spike of 37.5% female UMSOP graduates in 1946 was not sustainable and fell back to 6.67% the following year upon the return of previously deferred male veteran students. (Figure

1) The MPhA seemed to play a key role in this trend. Not only did they endorse the Durham Bill at their 1943 annual meeting, but they also had a hand in directing UMSOP postwar admission priorities, as discussed in their 1947 annual meeting. Priority for admission was given to veteran applicants returning from the war, followed by applicants with drug store experience and exceptional grades.⁶ Although neither of these MPhA initiatives explicitly intended to change the profession demographics, they did ultimately favor male veterans who had either interrupted their pharmacy education to enlist, or pursued pharmacy education once they returned.

A Period of Steady Rise

Despite the rapid decline in Maryland female pharmacy graduates after World War II, a second period of sustained growth for female graduates began in the mid-1960's. This rise occurred both in Maryland and nationally before leveling off in the mid-1990s (figures 1 and 2). Many cultural and economic changes during this time helped cultivate this positive trend. One important example is the women's movement of the 1960s. Hormonal contraception was introduced early in this decade as a convenient new form of birth control, giving women more flexibility to start families later in order to pursue careers.⁷ While women were encouraged and empowered to pursue a variety of fields at this time, pharmacy was specifically advertised as an ideal career for women to balance both work and family.⁷ The profession itself also evolved, creating new opportunities for practitioners and contributing to changes in the workforce demographics. For

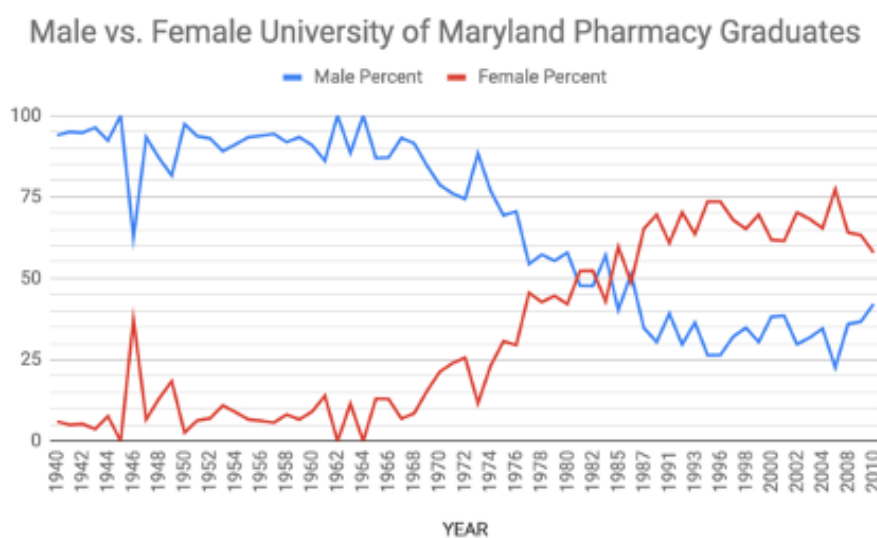


Figure 1. Linear data of gender among graduating pharmacy classes from UMSOP, from the available data 1940 onward.

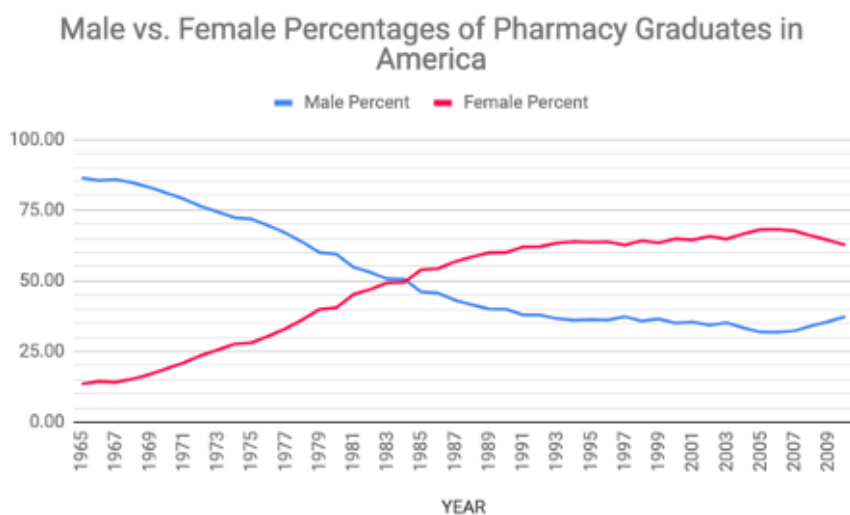


Figure 2. Linear data of gender among graduating pharmacy classes in the United States, per AACPP from 1965 onward. *American Association of Colleges of Pharmacy Data*⁴

-continued on page 14

Factors Influencing Changing Gender Demographics...

Continued from page 13

example, the rapid expansion of chain drug stores in the 1970's, created a new demand for community pharmacists.⁸ Following the inception of the clinical pharmacy movement in the late 1960s, pharmacists also saw themselves in demand in newer settings such as hospitals. The growing demand for pharmacists in general worked in women's favor, creating more and more opportunities for them to pursue pharmacy careers. Hence, the sustained rise we see in women graduates in both Maryland and national data.

The Power of Pharmacy Associations

Individual states often set precedents for national practices before they circulate out into the larger national picture. During the latter half of the twentieth century the national number of female pharmacy graduates slowly increased, however, it is not until the early 1980's when the ratio of male to female graduates seems to shift permanently in favor of women. This may be at least partly attributed to initiatives developed by the American Pharmacists Association (APhA) during this time. In 1974, the APhA Academy of Student Pharmacists adopted a resolution still active today, urging every college of pharmacy to implement active diversity recruitment and retention programs. Then in 1980, APhA developed a Task Force on Women in Pharmacy to more specifically assess women's impact in pharmacy during the decade ahead.⁹ The ultimate 1981 report recommended both state pharmacy associations and pharmacy schools to expand career and leadership opportuni-

ties for women during the 1980's.¹⁰ This sentiment seemed to resonate well in Maryland, evidenced not only by pharmacy graduate demographics, but also by the election of MPhA's first female president in 1985. Overall, the trends observed in Maryland from 1940 onward indicate the state and national pharmacy associations had a role in shaping female representation among the profession! Broader implications of this suggestion can be extended toward pursuing other goals, such as broadening the profession's demographics.

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Pharmacy Through the Lens of Hollywood I: “It’s the Old Army Game”

Continued from page 9

a restful night of sleep, Elmer’s first case of the day involves the removal of something from a woman’s eye, requiring him to ridiculously put on the accoutrements of a physician to diagnose and treat the condition. Later, when the story returns to Prettywillie’s Drug Store, Elmer is busy providing customers, after donning his druggist accoutrements, with change to use the phone, illegal alcohol and a postage stamp, all in various comedic ways. Elmer performs most of these services for no remuneration or profit, demonstrating his willingness to serve his community surpasses his profit motives.²

Another story line in the movie involves William Parker, a New York real estate agent and President of the High-and-Dry Realty Company. It begins with William travelling on the Florida Express train trying to sell passengers New York real estate. Upon arrival at the town’s train station, William is immediately smitten upon seeing Elmer’s beautiful assistant, Marilyn. He follows her downtown, but loses her and is trapped by another woman selling prune campaign tags. Later, William finds Marilyn in Prettywillie’s Drug Store, where he shows his affection for her by buying remedies for his heart, a cold shoulder, and his nerves. After William wins her heart, Marilyn convinces Elmer to go into the real estate business with William, selling New York lots from his drug store.²

It is while Elmer, William, and Marilyn are selling the real estate lots in front of the drug store that the title of the movie is explained. A con

man sets up a shell game in the drug store on one of the counters. He gets people to bet on which shell the pea is under and succeeds in taking their money. The game attracts many of the real estate customers into the store, causing Elmer to investigate. Unfortunately for the con man, Elmer knows the scam, bets all his money, and shows up the con man, taking the con man’s money. At this, Elmer exclaims, “It’s the Old Army Game,” which is another name for the shell game.^{2,4}

On April Fool’s Day, a Prettywillie Drug Store official holiday, everyone goes on a picnic. On the way, Marilyn and William decide to not follow Elmer and go bathing instead. Meanwhile, in typical Fields-comic fashion, Elmer with girlfriend Tessie, sister Sarah, and nephew Mickey launch their picnic on the private lawn of a Florida estate. Before long, they trash the lawn, destroy their dinner plates, crash through a wall of the estate, and get their car stuck in an adjoining mud field. In the meantime, the bathers flirt, kiss, and profess their love just as a New York police officer arrests William for real estate fraud.²

Not knowing of William’s arrest, Elmer continues to sell New York lots out of the drug store until the local sheriff informs him that William is a crook. When the crowd finds out, they demand their money back, causing Elmer to say he will personally return every penny and go to New York to determine what happened. In his usual blundering manner, Elmer goes the wrong way on a one-way street in New York, crashes his automobile, and ends up burning it while trying to get a mule to tow it. Then, upon finding the High-and-Dry Company Real Estate office, a guy there tells him that it was just raided and people are looking for him in Florida. Upon his return, all the townspeople run after him, all the way to the county jail. However, they want to congratulate him, since William returned, bearing profits for all the local investors! The film ends

with Marilyn married to William, and Elmer locking his family up in the county jail!⁵

Pharmacy Depiction

Today, one of pharmacy’s image problems is its almost complete lack of media depiction; thus, when pharmacy is shown, an accurate depiction is important.⁶ Images of lead movie characters typically stay with a viewer, regardless of whether that character is represented as a hard-working citizen, or an incompetent alcoholic. Therefore, it is important to appraise the characterization of pharmacy in “It’s the Old Army Game” since its leading character is indeed a druggist.⁷

Though the term “public servant” is typically reserved for individuals holding public office, pharmacy is a profession that serves the public; therefore, a pharmacist is truly a public servant.⁶ This is evident in the opening movie scenes when the druggist is awakened by a customer in need. Even though that customer only needed a stamp, it is obvious that the corner druggist is the go-to person for essential items. Several times in the movie, the druggist is involved with non-professional, non-medicinal activities such as mixing sodas and selling other goods, like stamps, but he is always present to interact with the public.²

The pharmacy design depicted in a movie can have as much impact on the profession’s image as the pharmacist’s role among the public. In the decades following the American Civil War, the soda fountain attracted business to drug stores.⁷ Well depicted in the movie, the Prettywillie Drug Store had a soda fountain in the front of the store. At one point, the local fire company visited Prettywillie’s soda fountain, enjoying a bevy of freshly mixed sodas.² Considering that the formulas for Coca-Cola®, Pepsi-Cola®, and Dr. Pepper® were all first concocted in a pharmacy, the presence of the soda

-continued on page 16

Pharmacy Through the Lens of Hollywood I: "It's the Old Army Game"

Continued from page 15

fountain is paramount to an accurate portrayal of this time period.^{8,9,10}

The drug store soda fountain became even more fundamental to American life after ratification of the 18th Amendment to the U.S. Constitution in 1919, which prohibited the sale of alcohol. Despite the Constitutional Amendment prohibition, the United States Pharmacopeia still recognized alcohol, elixirs and alcohol fluidextracts as official preparations; therefore, these could be legally dispensed by drug stores as medicinals.^{11,12} Accordingly, the public found this development as a convenient way to skirt the law, and even the most honest of druggists abused the practice.¹³ The movie presents this realistically when Prettywillie sells alcohol to a customer who asks for "something for the hip," but only after he verified that the customer was not a Treasury agent.²

The Prettywillie Drug Store is shown with a high level of accuracy, even if it is just a Hollywood set. Typically in the 1920s, an American drug store was long and rectangular in shape, had a front window adorned with colored show globes, and a back room for compounding.¹⁴ Inside, one would find hardwood wall cabinets along the walls and glass counter cases running parallel.¹⁴ In the space between the cabinets and cases, the druggist could walk and serve the public. Many similarities to this historical description can be seen in the Prettywillie Drug Store. Wooden wall fixtures decked with medicinal bottles and glass-fronted counters are seen

throughout the store, as well as the soda fountain at the front. The images of the front of the store depict a large glass front with "Elmer Prettywillie Drug Store" embossed on it and two hanging show globes. Adding to this realism were advertisements hanging in the store for Medicated Throat Discs by Parke, Davis & Co. and Smith Brothers Cough Drops.² Regarding the pharmacy setting in this film, the Famous Players - Lasky Corporation deserves praise for their accurate representation of a 1920s era drug store.

"It's the Old Army Game" is a funny silent movie in which the audience gets a look at the human side of pharmacy practice not visible to most. The Famous Players - Lasky Corporation and director Sutherland accurately depict the appearance and purpose of a typical drug store in the 1920s. In addition, they did a fantastic job of portraying the role of the community druggist. While the audience never sees the druggist fill a prescription, it is clear that the movie's main focus was to show a pharmacist's responsibilities do not end at the pharmacy counter. In the movie, druggist Prettywillie plays the role of counselor, healthcare professional, family man, and businessperson. Even with W.C. Fields' classic antics, this movie is an accurate representation of what the profession of pharmacy was like in the 1920s. For this reason, and W. C. Fields' comedic interpretation of Elmer Prettywillie, this silent, black and white movie is a must see for history and movie buffs alike.

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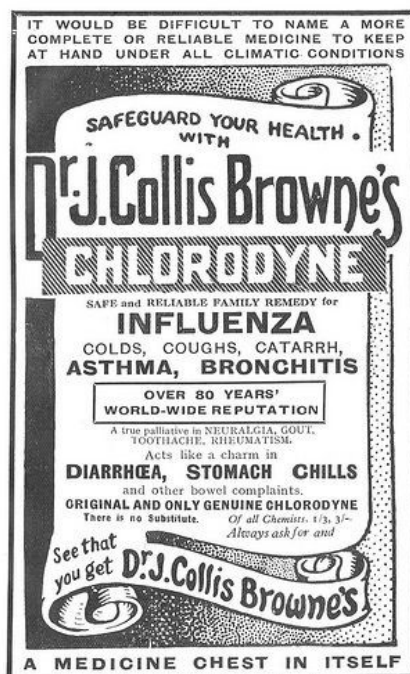
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Pharmacy Through the Lens of Hollywood I: "It's the Old Army Game"

Continued from page 16

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Pharmacy Chronicles



HISTORY OF PHARMACY SIG NEWSLETTER

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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 (2020 – 2021) marks the thirteenth 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!!

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Doctors wear them. Those who do not wear them
get sick. The man or woman or child who will
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GOING HOME
GOING TO CHURCH

This statement was authorized at a meeting of the undersigned, who are convinced that it is
the only way to stamp out the epidemic. You must do your part

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Board of Health of Oakland

Oakland Chapter American Red Cross
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Associated Charities
Retail Dry Goods Association