Winter 2014 Volume 6, Issue 2

THE SCRIPT

University of Houston **College of Pharmacy** **Student News**

Editor-in-Chief Robert Miller
Assistant Editor Austin Hinkel
Faculty Advisor Dr. Elizabeth Coyle
CONTACT **script.uhcop@gmail.com**

sine remediis medicina debilis est

TABLE OF CONTENTS

Welcome back!

The Script is an unofficial, student-managed publication that provides the University of Houston College of Pharmacy student body with news, articles, and opinions relating to our school and profession. The Script welcomes all student generated content. If you would like to make a submission, please contact any member of the Pharmacy Council.

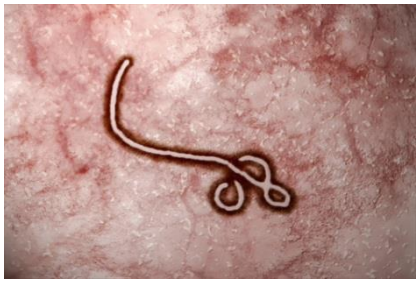
The Script is available online and is also posted on the board in SR 130.

Where did Ebola go?

By ROBERT MILLER

If you saw any news sources or social media in the last part of 2014, you heard about Ebola. The recent Ebola outbreak is one of the worst in history of Africa – by the time the epidemic began to receive the attention of the US there were already 800 deaths and 1,400 infections at a fatality rate of 57%.

The facts



Ebola is not a new disease. It is a virus discovered in the 1970s in central and western Africa capable of infecting humans. Fruit bats are usually recognized as the animal reservoir that spreads the disease to humans, though they are not exclusively the vector. Person to person transmission is possible through contact of bodily fluids. Ebola is not airborne, though it must be emphasized that non-aerosolized droplets of bodily fluids can be contagious.

The Ebola virus disease is a member of the family of viruses that cause hemorrhagic fevers. The symptoms include fever, myalgia, headache and sore throat that can progress to vomiting, diarrhea, rash, and kidney and liver failure. As the name 'hemorrhagic fever' implies, external and internal bleeding can potentially occur. The incubation period is between 2 to 21 days.

To truly appreciate the gravity of the situation in West Africa, one does not need to look far. A recent paper published in the *New England Journal of Medicine* entitled Clinical Illness and Outcomes in Patients with Ebola in Sierra Leone[1] describes the current status of medical intervention in the region. Six of the forty authors are now deceased. As far as West Africa is concerned, things are going to get worse before they get better.

The media

As was observed in previous epidemics, as old as the Spanish flu of 1918 to the more recent H1N1 concerns in 2009, these crises always tend to bring out both the best and the worst in people. Medicine is usually an intimate practice between the patient and the health care provider. However, epidemics by definition are a concern of public health. As a result, even non-experts tend to weigh in with personal opinion which is often confused with medical opinion. This invites the epidemic to be used as a tool for both political pandering and marketing for those who seek to profit from the fear. For example, even Donald Trump felt it was necessary to share his personal views on the issue.

Treatments: Now and on the horizon

There is currently no cure for Ebola in the same sense that we have antibiotics for bacterial infections or a vaccine to prevent viral illnesses. However, we do know that early supportive care and symptomatic treatment increase the chance of survival. A huge emphasis is placed on rehydration and providing fluids. Blood products are an especially useful tool in management.

The first trials of Ebola vaccines are currently underway in African, and results are promising though modest. The trial, conducted by the US National Institute of Allergy and Infectious Disease, took place in Uganda, and the results were published in The Lancet[2]. The vaccine offers protection against the Zaire and Sudan strains, the Zaire strand being the one responsible for the current outbreak. As of now, the vaccine only provides protection for a year so it remains uncertain how it will be utilized.

So where does pharmacy fit in with Ebola? Pharmacists should have two primary responsibilities. As health care providers they should be playing an active role in basic screening of Ebola patients – asking about travel history and encouraging visits to primary care if there are relevant symptoms. In addition, pharmacists should be active as advocates of public health and be well-read into the basic epidemiology of Ebola so that accurate information can be disseminated – the best weapon against charlatans and false media information is providing accessible facts.

1: Schieffelin JS et al.; KGH Lassa Fever Program; Viral Hemorrhagic Fever Consortium; WHO Clinical Response Team. Clinical illness and outcomes in patients with Ebola in Sierra Leone. N Engl J Med. 2014 Nov 27;371(22):2092-100. doi: 10.1056/NEJMoa1411680. Epub 2014 Oct 29. PubMed PMID: 25353969.

2: Sarwar UN, Costner P, Enama ME, Berkowitz N, Hu Z, Hendel CS, Sitar S, Plummer S, Mulangu S, Bailer RT, Koup RA, Mascola JR, Nabel GJ, Sullivan NJ, Graham BS,Ledgerwood JE; the VRC 206 Study Team. Safety and Immunogenicity of DNA Vaccines Encoding Ebolavirus and Marburgvirus Wild-Type Glycoproteins in a Phase I Clinical Trial. J Infect Dis. 2014 Sep 14. pii: jiu511. [Epub ahead of print PubMed PMID: 25225676.

Legislative Updates from NPCA

North Dakota Pharmacy Ownership Initiative, Measure 7

By EDWIN NG

North Dakota is one of the few states where pharmacy patient care outperforms other states on every measure, from cost to access. This feat is a direct result of the Pharmacy Ownership Law that was passed in 1963 which requires fifty-one percent of the ownership interest of every pharmacy in North Dakota to be owned by a pharmacist licensed by the State of North Dakota. This is somewhat analogous to how the profession of law is managed in other states – a law firm must be owned by a lawyer or lawyer partnership. This in general has created higher quality care and overall customer satisfaction. Although they do not have competition from large chains, they still must contend with frustrating insurance policies and prices established with chains in mind. However, to overcome this many pharmacies implement pharmaceutical care programs that emphasize medication therapy management, patient counseling, and immunizations.

Recently, a proposal was made by the state to remove this requirement for pharmacy ownership, thereby allowing retailers such as Target, Walmart, Walgreens, and CVS to operate pharmacies within their stores. However, there was not enough support to help the measure pass. There have been numerous arguments stating why this new measure must be passed. For example, arguments from individuals living in North Dakota include paying more for generic medications, reduced access to pharmacies, and rising health care costs. Furthermore, individuals argue that hard working families should have the convenience of a one-stop shop. To no surprise, it was not difficult to reveal that many of these “grassroots” political organizations were funded and primarily managed by chain pharmacies. On the other hand, those who opposed the proposal stated that North Dakota has one of the best pharmacy business models in the country which prioritizes heath care and customer satisfaction.

Steve Boehning, president of the North Dakota Pharmacist Association states that in today’s world, insurance companies practically own pharmacies and that allowing retail chains access to North Dakota’s market would force customers to use their drug stores. This in turn

would decrease the profits made by independent pharmacies and would force them to restructure their business models in order to stay competitive within the market. For now, the rejection of this proposal allows for independent pharmacies to continue their success within North Dakota. However, with the forthcoming changes in healthcare, there is no doubt that this issue will be revisited in the near future.

Texas State Board of Pharmacy Votes against Class I Pharmacy in Physicians' Office

By Hiresh Tailor

In May 2013, Allergan Pharmaceuticals petitioned the Texas State Board of Pharmacy to establish a new category of pharmacies known as "Class I" pharmacies which would allow cosmetic or aesthetic pharmaceutical products to be dispensed within a physicians' office.

Through strong opposition by key leaders such as TPA's President-Elect Rene Garza, PharmPAC Chair Christopher Alvarado, and other individuals, the State Board voted unanimously to not create this class of pharmacy within a physician's office on November 4th, 2014. This proposal if passed would have had a negative effect on the services and profits provided by pharmacies across the state of Texas.

Although convenient for the patient, this "pharmacy that's not a pharmacy" in states that allow physician dispensing have allowed for doctors to sell medications at huge markup prices. Basically, private insurance, Medicare, and worker's compensation programs set their reimbursement rates based on the average wholesale price. In the absence of volumetric filling, this would not turn a profit for physician practices. However, physicians have found a way to create a loophole by using their *own* wholesalers instead of pharmacy wholesalers, this gives them what has been called an AWP "makeover" that requires new reimbursement. In short, physicians contract out to separate groups which purchase from wholesalers and then "repackage" the drugs purchased specifically for physician use and declare this activity as extremely costly – and thus the AWP increases and with it reimbursement. With this contract in place, doctors can sell medications for prices that are almost three to five times more than what is offered in a retail pharmacy setting.

The rejection of this proposal is an important lesson of the vital role politics plays within our profession. It is our responsibility to be educated on the issues that are being brought up both nationally and at the state level in order to advocate for our profession.

Can pharmacists have ethics when pharmacies have none?

By ROBERT MILLER

Over this semester, the class of 2017 finished our skills module over pharmacy ethics. It discussed important ethical topics that pharmacists deal with on daily basis: Pharmacy and medicine – where does scope of practice end and begin, the role of religious or philsophical beliefs and how they should not impact dispensing, and disclosure of health information to third parties. This course really only covered *pharmacist* ethics – the ethics of the actual pharmacy itself was omitted. Historically, this may not have been the case because the pharmacist indepdently owned and operated their pharmacy, and so their financial sense and ethics were tied together. However, with the rise of corporate pharmacy, the pharmacist has been more and more set to the dispensing role and the management fallen to business administration with pure economic motives. In this situation, the pharmacist has only a minimal role in assessing the quality or evidence of the products sold on the store shelves due to limitations placed on them by the policies and politices of their employer institutions.

Case Study: Target & OTC asthma remedies

I have previous discussed the claims of homeopathy (*see March 2014 issue*); however, to provide a brief overview, homeopathy is a pre-scientific medical philosophy that is in opposition to basic laws of physics and chemistry. It proposes that taking dilute concentrations of herbal preparations which induce the symptoms of a disease will treat that disease. (To provide a sense of scale, the dilution would be less than one molecule per all the collective body of water on the earth). As an example, taking the the hemorraghic discharges of an Ebola patient and doing a serial dilution 30 times should in theory "treat" someone else from contracting Ebola – this is not a contrived example, but has actually been proposed by homeopaths. *In over 150 years there has been no benefit through clinical research demonstrated*. It is not suprirsing when homeopathy finds its way into a health food store such as Sprouts or Whole Foods. However, it is surprising and dissapointing when homeopathic remedies are placed in an pharmacy where patients go when they are actually sick – such as when a Target brand homeopathic inhaler is on the shelf.

What is the evidence for such an intervention? A Cochrane systemic review of 556 patients concluded there was no significant difference in symptomatic scales or measures of lung function in randomized controlled trials of homeopathy for asthma.[1] One argument that has been put forth by proponents is that even if homeopathic remedies are inferior to standard of care, as long as there is a placebo benefit this is succifient for recommendation for treatment of chronic asthma.

There is a hint of truth in that it's been well established that asthmatics can be very sensitive to suggestion. Pamela Dalton has conducted a rather simple experiment: Using a sample of 180 chronic asthmatics, she exposed one of three chemicals to a group ranging from pleasant (wintergreen) to harsh (butanol) while also introducing a bias by informing the subject said chemical was harmful, healthful, or neutral. Regradless of the actual chemical smelled, subjects who were biased by the information that the chemical was harmful always reported more asthmatic symptoms following the smell.[2] Basically, how we *feel* we are breathing is as much a congitnive interpretation as it is a physical pheonomenon. Another study published in the *New England Journal of Medicine* investigated asthma treatment vs. inhaled placebo vs. placebo acupuncture vs. no-treatment and found similar findings – patients felt better with *any* treatment, but lung function only improves with actual medication (albuterol).[3]

However, placebo or no placebo – asthma remains deadly if unmanaged and even with proven inhalers for acute exacerbations with a high rate of success there remains 5,000 annual asthma-related deaths in the US. While the sale of homeopathic products as co-therapies for asthma may seem inocculus, pharmacists should be well aware of how confusing the health system can be for a patient to navigate. Even patients under physician care often do not understand the differences between their rescue inhalers and long-acting inhalers, and so simply placing warning labels on products that they have no evidence of efficacy does not skirt professional responsibility. The FDA and relevant professional organizations have ruled and advised against OTC asthma care – patients need real medicine. However, because of grandfathered laws by a homeoatphic congress member in the 1930s, homeopathic remedies are not subject to FDA criticisms and can be freely sold with no regulatory oversight.

The role of the pharmacist in patient care

To advice these remedies for sick patients is unethical behavior for a health professional, but unfortunately business management is a career, not a profession, and thus is not held to any ethical standards. In short, Target brand is selling a drug product that is aerosolized water and if used as replacement for actual therapy could result in death.

All this being said, it must be noted that pharmacy does not operate within an economic vacuum; all health care must be provided in a manner that is financially viable. As a society, the structure of our Byzantian health care system has dictated that pharmacies receive only minimal reimbursement for filling prescriptions. This encourages a volumetric filling model of business, and it is inevitable that OTC and other high margin merchandise becomes more and more important. Unintentionally, we've established a system in which high quality, evidence-based care is expensive to provide, complicated to deliver, and difficult to be reimbursed; whereas evidence-free & inffective care is cheap, easy to give, and paid out of pocket – this is a recipie for disaster.

So where do we go from here? In some sense our narrowly defined legal role has earned us this problem – our profits are tied to our product, and so naturally that's the direction corporate pharmacy has gone. This legilslative period is paramount for this reason, and will determine not only if we obtain provider status, but what the fate of provider status legislation bills will become in future sessions as well. The bill is not just about reimbursement, but about pharmacists having their pharmaceutical science and clinical knowledge regarded as a respected contract between the practitioner and the patient, free of external pressures. People speak to their pharmacist because they want to know what the pharmacist thinks about their symptoms and complaints, not what CVS thinks about it. Provider status isn't the end, but the start of pharmaceutical care.

1: McCarney RW, Linde K, Lasserson TJ. Homeopathy for chronic asthma. *Cochrane Database Syst Rev*. 2004;(1):CD000353. Review. PubMed PMID: 14973954.
2: Dalton P. Cognitive influences on health symptoms from acute chemical exposure. Health Psychol. 1999 Nov;18(6):579-90. PubMed PMID: 10619531.
3. Wechsler ME, Kelley JM, Boyd IO, et al. Active albuterol or placebo, sham acupuncture, or no intervention in asthma. N Engl J Med. 2011 Jul 14;365(2):119-26. doi: 10.1056/NEJMoa1103319.PubMed PMID: 21751905; PubMed Central PMCID: PMC3154208.