Ebola, Companies and Workers: Guidance from the Rocky Mountain Center

Now that the World Health Organization declared Ebola a Public Health Emergency of International Concern, its highest alert level (8/8/14), and infectious disease estimates are as high as 130 cases anticipated in the US by the end of 2014, preparations are required. This article is designed to supplement other sources of information to assist companies and workers and includes advice from multiple faculty at the RMCOEH.

As the prior Ebola outbreaks were much more limited (only about 5 prior outbreaks with at least 100 cases since 1976), research data are limited. Thus, the veracity of data are unfortunately not very good. Details from infectivity to prevention to decontamination procedures are all relatively uncertain. This has produced changes in information and procedures on at least a weekly basis, which has fostered angst.

Yet, Ebola appears thankfully difficult to transmit to others when in the early stages of the disease. This provides major reassurance for companies and workers. Still, it also appears to have high communicability in advanced stages of the disease when the virus overwhelms the body and markedly contaminates bodily fluids. This provides increased risks among those with potential exposures to the more ill cases. Workers at higher risks include firefighters/emergency medical services, healthcare workers, housekeeping/environmental service workers, laboratory workers and funerary services.

Interestingly, nearly all cases in the US have been occupational. Thus far, all but one have occurred in healthcare workers. As long as Ebola remains limited in the US, and not an unexpected widespread epidemic, evaluations of cases hinges largely on careful travel and contact histories.

One understandable source of angst is the 71% mortality rate reported in Africa. However, only one of 9 (11%) cases in the US has thus far died. It is already apparent that the mortality rate in the US will be substantially lower than 70%, likely due to availability of higher quality medical care.

The time to develop symptoms after exposure averages 11.4 days and reportedly range from 0-45 days, although most develop symptoms within 2 weeks of exposure, and 95% within 21 days. Approximately 5% of cases in Africa report exposures 21 to 45 days previously, raising questions about whether the 21-day ‘quarantine’ period is adequate. At minimum, additional monitoring in exposed workers for fever between days 21 and 45 appears indicated.

Another source of angst is the question of aerosol communicability and over what distance. Ebola is spread from the infected person’s blood, vomit, sneeze/cough droplets, saliva, sweat, urine, semen, and breast milk. Unlike measles or tuberculosis, Ebola is not an airborne disease. However, sneezing and cough droplet distances that could provide a route of exposure are uncertain. Traditional guidance is a 3-foot distance. However, in experimental conditions, it is possible to detect droplets at a distance of 12 feet. Thus, for a virus that is this potent and with need to address worker safety, a 12 foot distance is advised by the RMCOEH faculty.

Contaminated surfaces can spread the disease, including sheets or clothing contaminated by diarrhea. A recent study found survival up to 2 months on glass surfaces at cooler temperatures, indicating effective decontamination procedures are required. As of this writing, RMCOEH faculty recommend a 5:1 bleach solution for decontamination. Prior guidance was a 10:1 solution. This higher concentration of bleach is primarily recommended as a safety measure due to the seriousness of Ebola. Commercial wipes are of differing concentrations and require different contact times. The final decontamination is best deferred to experts.

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whether it's a minor back strain or something as severe as paralysis, injuries on the job can have a significant impact on workers' lives—and on their employers' bottom line. Working tirelessly to improve workplace safety in Utah and the surrounding region, the RMCOEH ADVISORY BOARD MEMBERS

Please consider supporting the Rocky Mountain Center for Occupational & Environmental Health by making a scholarship donation today! You can give to our general scholarship fund, or to one of the three specific scholarship funds. Those are: The Jeff Lee Memorial Fund, the Dr. Richard E. Johns Endowed Scholarship, and the Royce Moser Jr. and Lois H. Moser Endowed Scholarship. For questions about giving to the Rocky Mountain Center for Occupational & Environmental Health or to mail a gift, contact:

Development Director, Taylor Scalley, Health Sciences Development, University of Utah, 540 Arapeen Dr., Suite 120, Salt Lake City, UT 84108, 801-585-6874.

SOMETHING TO CONSIDER

RMCOEH now has over 555 graduates and we would love to know where you are. Please send a photo of yourself either alone or in front of the sign of your employment and a brief description of your job to: Toni.Chambers@hsc.utah.edu

We plan to highlight alumni in every newsletter.

Todd R. Bingham, joined the Utah Manufacturers Association in May of 2012. Prior to UMA, he was the President of the Utah Mining Association from May of 2009 to May of 2012. Before joining the Mining Association he served as the Vice President of Public Policy for the Utah Farm Bureau Federation.

Todd has been involved in the association business for more than 20 years and has served as a registered lobbyist representing business and industry in the areas of public policy and governmental affairs.

Todd has served on several boards including: Brigham Young University and Weber State University Construction Management Advisory Boards, the Utah Labor Commission, Occupational Safety and Health Employer Advisory Board, the Rocky Mountain Center for Occupational and Environmental Health, the Economic Development Task Force, Governors Economic Council, Governors Rural Partnership Board, Workers Compensation Advisory Board and the Utah Employers Council.

Todd was appointed by the Governor three separate times to serve on the State Board of Education Nominating and Recruiting Committee, the State of Utah Wildlife Board Nominating Committee, the School and Institutional Trust Lands Board Nominating Committee two terms, the Utah Mine Safety Commission, and he also serves on the Great Salt Lake Advisory Council.

Todd has been married for 22 years to Jennifer (ee Smart). They have three boys; Logan 19, Taylor 17 and Jordan 11. In his spare time he enjoys, hunting, boating, golfing and skiing with his family.

Paul Harris was raised in Northern Utah and was fortunate to live next to the mountains east of Logan. He spent a lot of time hiking, camping, skiing, and hunting while growing up. After High school, he served a LDS mission to the Hawaiian Honolulu Mission. Paul’s father was a professor of Electrical Engineering at USU and his mother was a nurse. He attended Utah State University for his undergraduate studies. He attended the University of Utah School of Medicine and did his internship and residency at the “U”. He is Board Certified by the American Board of Preventive Medicine – Occupational Medicine. Paul and his wife have been married for 37 years, have 5 children and 3 grandkids with the 4th due in January 2015.

After residency he started working part-time at ATK (formerly Hercules) with his mentor “Dick” Richard E. Johns, MD and also at Kennecott Utah Copper. He transitioned into full time with Kennecott and has subsequently remained there. Medical School and residency did not prepare him for some of the unique experiences he has had as the Kennecott Medical Director. He says: “I have often contemplated writing a book about some of my experiences at Kennecott but fear it would be published as fiction. No one would believe half of the stories”.

Paul enjoys the outdoors and takes advantage of the many recreational opportunities that Utah affords. He has a private pilot’s license, and is scuba certified. His family has been boating every summer for years and relishes the annual family vacation to Lake Powell. In the winter the family snowmobiles.
November Courses
• OSHA 3095: Electrical Standards (Vernal, UT)
• OSHA 510/502/500: Occupational Safety and Health Standards for the Construction Industry
• OSHA 2264: Permit-Required Confined Space Entry (Helena, MT)

December Courses
• OSHA 501/503/511: Update for General Industry Outreach Trainers
• Lead Safety for Renovation, Repair and Painting
• 24-Hour Hazardous Material Technician

January Courses
• OSHA 3015: Excavation, Trenching & Soil Mechanics
• 27th Compensable Disability Forum: Update 2015
• Lead Risk Assessor Refresher
• OSHA 7500: Introduction to Safety and Health Management (Vernal, UT)

February Courses
• Pulmonary Function Testing
• Rocky Mountain Comprehensive Review of Industrial Hygiene
• Incident Command

March Courses
• 16-Hour First Responder Operations Training
• Asbestos Contractor/Supervisor Training
• OSHA 2264: Permit-Required Confined Space Entry
• OSHA 6000: Collateral Duty Course for Other Federal Agencies

April Courses
• Indoor Mold: Inspecting and Assessing the Risk
• OSHA 2255: Principles of Ergonomics
• OSHA 3095: Electrical Standards
• 13th Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium

May Courses
• Lead Safety for Renovation, Repair and Painting (initial)
• 40-Hour HAZWOPER Training
• Process Safety Management
• OSHA 2045: Machinery and Machine Guarding Standards

Correspondence Courses (Enroll at any time)

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Another of the less reported issues is that if a male has been infected with Ebola, the virus may potentially be transmitted sexually by males for up to 3 months. Duration of sexual transmission by females is uncertain, but “sexually transmitted” cases from females to males have been reported. Therefore no sexual activity of any kind is recommended for at least 3 months after Ebola symptoms have resolved.

Another action for employers is to encourage “flu shots,” especially this year. Influenza has many symptoms in common with Ebola. Getting vaccinated against influenza helps remove one of the possible causes of fever from the suspect list if someone gets sick.

Lastly, our preparedness may not go untested. As the Ebola viruses are found in African fruit bats, apes and forest antelopes, it will surely arise again.

Please also see additional information, references and links at our website: http://medicine.utah.edu/rmcoeh.

A Potential Ebola Response Plan for EMS
This section presents a theoretical model, though one that could potentially be enacted at this point and follows Dr. Royce Moser’s 4 C’s principles of effective Command, Control, Communication and Coordination. Ebola is a disease that is likely best treated by a limited number of hospitals, typically one per state or region. Similarly, Emergency Medical Services response teams would ideally be limited. E.g., having only one or two sets of responders in a metropolitan area would be efficient. In all cases, having fewer, well trained workers is likely superior to having many but less well prepared workers for Ebola cases.

A relatively new detection device by BioFire, the R.A.P.I.D. Detection System allows field applications to detect biological agents, including Ebola. This allows the possible implementation of field detection by properly trained EMS personnel who wear appropriate protective equipment. The patient with Ebola can be routed to a specialized treatment facility, instead of contaminating an emergency room, clinic(s), facilities, laboratories etc. No, we are not aware that this system has been implemented at this point, however, while in need of further testing, it would appear to be a promising advance.
Dr. Melissa Cheng, MD, MOH VPCAT Scholar

Elissa Cheng, MD, MOH, MHS, is a scholar in the Vice President’s Clinical & Translational Research (VPCAT) Research Scholar Program. VPCAT is a two-year, intensive mentored program for junior faculty members. The program was inspired by the pediatric clinical and translation (PCAT) program, a similar concept of intensive mentoring and resource rich opportunities for junior faculty in the department of pediatrics. The PCAT program was very successful in obtaining extramural funding. VPCAT scholars have workshops and monthly seminars, which provide essential research knowledge and practical skills to be an effective clinical or translational researcher. In addition, scholars have access to senior and peer mentors, biostatisticians and grant submission specialists. These resources facilitate appropriate study design, collection of pilot data and preparation and submission of competitive extramural grant applications. The VPCAT program is most beneficial for junior faculty with a defined research interest, primary scientific mentor, published at least one or two papers and who plan to apply for extramural funding. Currently, the program is in its second year and has grown from 9 scholars in the first year to 17 scholars in the current year. The variety of scholars and research interest vary broadly through the school of medicine, and college of nursing and health.

Dr. Cheng’s primary research involves investigating opioid drug use prior to, during and after occupational injury. A better understanding of how opioids contribute to work-related injury or delayed reentry back to the workforce is important from occupational and public health perspectives. Despite widespread prescription of these medications, little quality evidence exists that demonstrates efficacy of opioid use for chronic pain or superiority for acute pain. Furthermore, research has shown that chronic and escalating opioid use leads to increased disability and decreased productivity. The knowledge gained from research in this field will hopefully provide a basis to develop protocols and guidelines to reduce the adverse effects of opioid use while ensuring these medications are available for appropriate use. “In the first six month of the program I have met with several prestigious researchers like Drs. Janice Morse, Gary Oderda and Don McClain and hope to work in a collaborate matter in the future. I hope to obtain NIH funding within 1-2 years.”

American Industrial Hygiene Foundation Scholarships Awarded

Ron Tomyn received the Fullweiler Scholarship while attending the American Industrial Hygiene Conference in Houston, Texas.

Heidi Bastian, Industrial Hygiene student, received the American Industrial Hygiene Foundation Scholarship

Dr. Kurt Hegmann has been selected as one of the 50 most influential people nationally in workers’ compensation and occupational medicine. The list of professionals has been compiled from those active in both fields. Thousands of practitioners were polled including case managers, disability specialists, nurses, physical therapists, physicians, attorneys, rehabilitation counselors, rehabilitation nurses, and workers’ compensation specialists.
Welcome a new faculty member to the RMCOEH team. Dr. Sean Biggs, MD, is a Clinical Instructor and Assistant Medical Director for the University of Utah Occupational Medicine Clinics. He provides medical care and management for ill and injured workers, performs fitness for duty evaluations, DOT/FMCSA commercial “truck” driver examinations, VO2 Max testing, workers compensation causation analysis, and OSHA/MSHA mandated physical exams. Dr. Biggs earned his Medical Degree from the University of Utah in 2000 and completed a residency in Family Medicine at the McKay Dee residency program in Ogden, Utah in 2003. Board certified in Family Medicine, Dr. Biggs has worked for over ten years in primary care medicine with extensive experience in the occupational, urgent and emergency care of patients. He enjoys caring for injured workers with a focus on maintaining health and productivity in the work setting.

If Dr. Biggs looks familiar, his brother is Jeremy Biggs also on faculty at RMCOEH.

The Rocky Mountain Center is again honored to receive grant funding from the Terracon Foundation. This award provides vital support for our faculty to devote time to continued development of our distance-based Industrial Hygiene course work. The faculty, staff and students of the Rocky Mountain Center for Occupational and Environmental Health truly appreciate the opportunity and privilege to be able to work with occupational health leaders like Terracon to help develop resources to prevent occupational diseases, injuries and illnesses throughout the country.

Dr. Eric Wood (left) accepted the award from Don Marano (right).

Residents Earn Scholarships to Attend Conference and Receive Awards for Posters

MCOEH Occupational Medicine residents Azadeh Farokhi, MD, MPH, MOH, Seung Lee, MD, MOH, and Joshua Silva, MD, MPH were awarded scholarships to attend the Western Occupational Health Conference (WOHC) in San Diego, California September 17-20, 2014. WOHC is held annually at various locations throughout the western states. The Mission of WOHC is to provide “educational activities designed to enhance the professional capabilities of occupational and environmental medicine health care providers, and promote their lifelong learning.” Drs. Farokhi, Lee and Silva were recognized for their scholarly activity and contributed to this mission by presenting posters from their research at the meeting.

Two of the resident’s posters also took 1st and 2nd place. Azadeh Farokhi’s, MD, MPH MOH, poster won 1st place for her poster “Psychosocial Factors and Carpal Tunnel Syndrome a Cross Sectional Analyses of the RMCOEH WISTAH hand Study” and Joshua Silva, MD, MPH won 2nd place at the conference for his poster “Low Job Satisfaction and its Association with Medial Epicondylalgia.”
The American Association of Occupational Health Nurses (AAOHN) inducted David Allcott, RMCOEH class of 2002, as one of the 2014 class of Fellows. He is only the third Fellow chosen from Utah.

Dave is the Medical Services Manager at ATK Launch Systems.

Dave’s contributions have extended to the professional community where he has served as president-elect and president of the Utah Association of Occupational Health Nurses. He is a presenter and facilitator at technical conferences both locally and nationally, and is also a past chair of the AAOHN Practice Committee. He currently serves on the national board of directors for AAOHN representing the Mountain/West region.

He joined ATK in 2005 and holds a Master of Science degree from the University of Utah and certifications that include Advanced Practice Registered Nurse (APRN), Adult Nurse Practitioner-Board Certified (ANP-BC), Certified Occupational Nurse-Specialist (COHN-S) and Certified Occupational Hearing Specialist Conservationist (COHC). With this recent induction, he adds another distinguished set of initials to his name—FAAOHN—for Fellow of the American Association of Occupational Health Nurses.

David Allcott, second from right, 2014 class of Fellows at the American Association of Occupational Health Nurses national conference.

*Propulsion Systems Employee Newsletter—June 2014*