

REPORT ON 8TH DiMiMED

The 8th DiMiMED International Conference took place on Monday and Tuesday, 16th and 17th November 2020. Like the “mother” MEDCIA event, the 2020 Conference took place virtually as a result of restrictions arising from COVID-19.

Notwithstanding the technical requirements for hosting such a Conference under current circumstances, the organisers, Messe Dusseldorf and Beta Verlag Publications were “up to the challenge”, and the 2020 DiMiMED International Conference had the highest number of attendees in the eight-year history of the event. In total, there were 250 attendees distributed over 37 countries and 5 continents.

The opening speech was delivered by Brig Gen Dr Johannes Backus and this was followed by the Keynote Address from Commodore MD Remco Bloom. Lt Gen (Retd) Prof Martin Bricknell and his colleague Dr Homan presented their findings on analysis of international military health systems using the Military Medical Corps Worldwide Almanac.

Following the coffee break – virtual, like all the coffee and lunch breaks but offering the opportunity for attendees to communicate with one another or with industry in one-to-one chat rooms, the first module on Recent Developments & Disaster Medicine was jointly chaired by the Co-Chairs, Brig Gen (Retd) Rob van der Meer and Col (Retd) Gerry Kerr, both of whom observed social distancing being separated by several hundred miles from one another! This module was composed of presentations from Brig Gen Erwin Dhondt and Dr John Quinn outlining military medical involvement in the response to COVID-19 in Belgium and Ukraine respectively. Brig Gen Dhondt also extended an invitation to all attendees to the 44th ICMM World Congress on Military Medicine in Brussels from 20 – 24 September 2021. From the industry perspective, Zoll outlined their technology that can support the clinical treatment of deployed medical forces.

After lunch (virtual, of course), Lt Col Asst Prof Dr Dirk Steinritz moderated the CBRN module. Dr Susan Cibulsky gave a presentation on opioids as public health and health security threats. She dated the original explosion in opiate abuse to their introduction in the mid-90s for chronic pain. More recently Naloxone has widespread use as an antidote for heroin and opiates, and because of its short half-life, intranasal nalbuphine is being studied. More recently, fentanyl and its various derivatives are being abused with the potential for their use as health security threats. There has been a rise in opioid overdoses since the COVID-19 pandemic. The next presentation, by Prof Dr Livia Veresa straddled the generations by examining the commonality between chemical inhalation injury with mustard gas and the current COVID-19 disease as manifested through immunothrombosis. Major Asst Prof Dr Hagui Mounir then described how the Tunisian taskforce against biothreats came into being, with the creation of response and decontamination teams as part of a Tunisian – German project, and its subsequent role in the fight against COVID-19. in cooperation with Germany. The final presentation in this module was delivered by Tim Brooks-Birkett on behalf of Phillips and dealt with monitoring, capturing, and sharing securely rich levels of on-scene clinical and patient data by Tempus systems.

The final module of the day was on military and civilian international collaboration in disasters. Col Dr Stefan Goebbels discussed the development of medical care in UN Operations which he had overseen for the previous four years. Mr Derek Watt from Thornhill Medical gave a presentation on “An adaptable Life Support: From Battlefield to Fighting COVID-19” which outlined the MOVES SLC portable life support system integrating oxygen concentration, ventilation, vital signs monitoring and

suction into a portable device. Lt Col Rafael Gerasi described the development of a compact, ultra-lightweight tactical ventilator with high performance for use in the far forward combat environment. This was followed by Brig Gen (Retd) Tarif Bader who outlined the Israeli Defence Forces tradition of humanitarian assistance in the past, and the important lessons learned. These lessons were subsequently adopted in the national response of the Israeli Defence Forces to the COVID-19 pandemic. Mr David Morgan of Blackspace Technology opened the session with his presentation entitled “Rapid Telemed – One Device, Multiple Scenarios.” The final presentation of the day was delivered by Lt Col Meital Zur and focused on the stability of freeze-dried plasma under pre-hospital field conditions.

Tuesday’s programme commenced with the Infectious Diseases module, and was moderated by Dr Benjamin Queyriaux. The first presentation was delivered by Lt Gen (Retd) Professor Martin Bricknell on an External Analysis of the UN/NATO/European Military Medical Response to the COVID-19 Crisis. This presentation analysed the implications on Defence and International Security through the use of national armed forces in the fight against COVID. Dr Eckhardt Petri from Takeda Pharmaceuticals delivered a presentation on the efficacy, immunogenicity, and safety of the dengue vaccine candidate TAK-003, a tetravalent live attenuated vaccine. Dr Benjamin Queyriaux then gave his own presentation entitled “COVID-19 in the Navy: An unexpected passenger on Board.” This outlined the effects of COVID on the operational capacity of the US Aircraft Carrier, Theodore Roosevelt, and the French Aircraft Carrier, Charles de Gaulle, as well as the lessons learned as a result. Benjamin also contrasted the different outcomes of two US Hospital ships deployed in response to the COVID-19 crisis. He also described the added value arising from the use of ships with helicopters on board. The influence of ventilation and air-conditioning systems on board, as well as the differing protection requirements arising from bio-risks and CBRN threats, was referenced. This was followed by Lt Col Carmen Arinez who discussed the role of the military medical services during COVID-19 in Spain. Operation Balmis had been so-named after the Physician and Soldier who headed up one of the very first humanitarian missions in history. Apart from disinfection services, conversion of veterinary laboratory into PCR analysis and use of the Armed Forces blood transfusion services as part of a hyperimmune plasma treatment study, assistance to the civilian contact tracing, were some of the contributions made. Col Dr Sandrine Duron then delivered her presentation on the adaptation of the French National pandemic response into the French Armed Forces. This was followed by Col Professor Pierre Pasquier who presented “Field Solutions of the French Military Medical Services to fight the COVID-19 pandemic in France” including the rapid deployment of an ICU Field Hospital in a hospital car park. Brig Gen Dr Claudio Zanutto delivered the final presentation of the Infectious Disease module describing the Italian Forces pandemic response.

The next module was Mental Health and it was moderated by Col Professor Eric Vermetten. The opening presentation was delivered by Professor Joseph Zohar on “PTSD, Window of Opportunity and ARMOR (Automated Remote Monitoring of stress Response)”. This presentation discussed the potential for remote digital monitoring of behavioural patterns in the prevention of exacerbations of depression. Professor Zohar extrapolated this potential and postulated that it could, by comparing patterns of activity before and after trauma exposure, present an opportunity to intervene in the secondary prevention of PTSD by the use of escitalopram 10 – 20mg daily. Professor Zohar also reference his work on the administration of hydrocortisone in the first six hours after trauma exposure as primary prevention of the development of PTSD. The next presentation came from

Professor Dr Iryna Frankova entitled "First Aid to Terror". Her presentation related to a book, entitled "Risk Management of Terrorism Induced Stress", which itself resulted from a workshop in Odessa in 2018. The focus was not alone what should be done following a stressful experience, but also what should NOT be done. Digital monitoring has the potential to identify those victims of stress who are more vulnerable and at greater risk of PTSD. The deleterious effects resulting from mass media reporting on terrorism events are evident. Guidelines are time-based, involve various interventions at both individual and group levels, target specific populations, and are colour coded depending on scientific strength. Further details on the FirstAidtoTerror.com website. Col Professor Masanori Nagamine then delivered a presentation on the seven-year trajectories of post-traumatic stress symptoms in 56,388 First Responders deployed to the great east Japan earthquake. He identified those factors which contributed most to ongoing symptoms, and differentiated those affected into various groups depending on their speed of recovery. Dr Nathaly Rius Ottenheim then delivered a presentation entitled "Digital Stress Buddy, initial results from Health Care Professionals in an Academic Hospital During COVID-19", during which she listed the various factors which led to increased levels of stress in Health Care Professionals during COVID. These levels contributed to compassion fatigue over time, and during the lull which followed the 1st wave, there emerged an anticipatory anxiety for the second wave. As a result, a psychosocial support mechanism was developed to support the Health Care Professionals involving dissemination of information, coaching of team members and use of the 'buddy' system. In order to overcome any 'stigma-related' disincentives to participation, the digital stress buddy app was developed. This app has great potential as an aid to identifying Health Professionals at risk, a management aid to identify work locations at risk, and is also a very useful research tool for the future. Following lunch, the next presentation was delivered by Dr Michael Mithoefer on "Psychoactive compounds for PTSD – Focus on MDMA for Veterans with PTSD". In this presentation, Dr Mithoefer advanced the case for the use of MDMA as a means of catalysing psychotherapy for those who are resistant to psychotherapy by itself. Under MDMA influence the psychotherapy is relatively non-directive but supporting. Studies have advanced to Phase 3, with the earlier studies being very positive. Dr Mithoefer also outlined some of the possible mechanisms of action. This was followed by Col Gary Wynn who discussed complementary perspectives in military psychiatry / virtual reality (vr) approaches. He explained the difference between Complementary and Alternative Medicines and reviewed some of the studies on VR and Yoga. Col Rakesh Jetly posed the question "To war against a pandemic: how can military and military medicine approaches help guide us?" He drew attention to the well-honed military and organisational skills and speculated on their benefits in the face of a pandemic. The use of military terminology to describe the response to COVID is universal. Military organisations are used to working in less-than-ideal circumstances. Front-line workers are at risk of the same type of mental health conditions that have occurred to military personnel including moral injury and PTSD. On the other hand, application of military discipline to life styles and encouraging adequate sleep, physical fitness and health eating can be of benefit. Mission-focused strategies and leadership are military attributes which can be of benefit in the fight against COVID. The final presentation was delivered by Capt Joshua Morganstein on the topic of Leadership, Risk and Interventions: Enhancing Military Readiness and Sustainment during COVID-19. Military personnel have had to endure all the challenges seen in civilian life, but additionally had specific military challenges. Military and civilian health care systems collaborated to develop a five-module resilience training programme for healthcare workers, entitled HERO-NY. This involved using 'buddy-checks', and reviewing the challenges of reintegration. Recognition of the fact that mental health after-effects are likely to be common and prolonged. Decreasing risk in one area can increase it in other areas and lead to further stresses. The five elements of Psychological First Aid were outlined.

In their closing remarks, the Co-Chairs paid tribute to all the Moderators, the Presenters and all the participants. Special thanks were given to Messe Dusseldorf, Ms Heike Lange of Beta Verlag and her staff, Ms Malin Ackerman, and Ms Julia Ehlen of Beta Verlag and especially to Daniel and his team for their technical assistance which ensured that live presentations could be seamlessly live-streamed from Canada, United States, Japan, and several countries in Europe.

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