

Field Testing of the BTRP Mobile Outbreak Response Unit (MORU) in Quba, Azerbaijan

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ABSTRACT

The BTRP provided TADR response vehicle and a team of Azerbaijani scientists were taken to Quba in August of 2007 for a field testing of the Mobile Outbreak Response Unit (MORU) concept. The vehicle transports scientific staff and equipment to the site of a suspected disease outbreak to perform on-scene testing of suspected pathogen contaminated samples. In this drill, the team with a set of instructors from Raytheon and the US Armed Forces Institute of Pathology deployed to a mock disease outbreak site to train and test MORU capability. The field diagnostic lab was stood up from the items in the vehicle: collapsible shelter units and work areas; portable, field ready diagnostic equipment and reagents; personal protective equipment; etc. Then the team and instructors went through full implementation of diagnostic and biological safety protocols with a mock-contaminated set of 'suspect' avian influenza contaminated specimens. At the end of the exercise a discussion was held of lessons learned (e.g. a detailed master packing list should accompany the vehicle and be checked before deployment) and successes.



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A. Vehicle Loading: Pop-Up tents are carried on top to provide room for driver, technician, epidemiologist, instruments and supplies inside.



B. Unpacking upon arrival of field site: the equipment stays inside the vehicle until the tents are set up to protect them from the elements



C. Demonstration of the method to set up the Pop-up tents. These tents weigh roughly 50 lbs and fold neatly into nylon carry bags for storage and transportation.



D. It takes at least two people to set up the Pop up tents: gently pulling at the corners to extend the supports.



E. Once locked in the canopy is stretched into place the legs are extended to raise the height to roughly 7 foot clearance. From arrival to laboratory start takes about 30 minutes. Tear down is about the same.



F. Stakes are driven into the ground at each leg to secure the structure against winds. The tents prepared in this way can withstand many weather conditions.



G. Two completed laboratory tents with the technician and epidemiologist extracting and analyzing samples. Enclosing the laboratory tent with screening to protect against flying insects wind and curious onlookers.



H. The set laboratory with the RAPID (Ruggedized Advanced Pathogen Identification Device) ready to analyze samples brought in.



I. Inside the laboratory tent: A folding table and two chairs provide a useful work space for the laboratory staff. A portable generator provides power to run heat blocks, centrifuges and other instrumentation.



J. As important as it is to keep the laboratory under cover, it is also reasonable to provide protection for the vehicle itself: it serves as a site for rest, meals, and a place to wait until more samples arrive.



K. Field training: a scientist from the Armed Forces Institute of Pathology provides hands on training for extraction of samples potentially containing Avian Influenza.



L. Discussion of what went right and what needed to be improved was useful for everyone. A detailed packing list was created to assure the next time the vehicles responded nothing would be left behind.