EDITORIAL

THE BIODEFENSE FIELD

On April 20, 2016, in Karachi, Pakistan, seven police officers were killed while escorting health workers involved in polio vaccination (Pakistan is one of three countries in the world where polio is still endemic). The Taliban claimed responsibility and promised future attacks. This news deserves to be read through the lens of a report published on October 28, 2015 by the Blue Ribbon Study Panel on Biodefense, a bipartisan commission sponsored by the Hudson Institute and the Potomac Institute for Policy Studies, two US think-tanks.

The rationale of the Study Panel was threefold, 1) the emergence of *'naturally occurring threats such as influenza, Ebola, and Chikungunya (...) bypassing borders to emerge in nations oceans away'*; 2) the Islamic State of Iraq and the Levant (ISIL), which is *'espousing the value of biological weapons for their ability to cause massive loss of life'* 3) the increasing evidence that *'the US government has mishandled extremely dangerous viruses and bacteria in some of its highest level laboratories'*. The report was indeed triggered by the discovery of hundreds of appalling lab mistakes, including vials of small-pox missed, lab mice (infected with deadly viruses) escaped, cattle infected in experiments sent to slaughter and their meat sold for human consumption, samples of live anthrax – instead of killed specimens – erroneously sent to labs across the US; and still others. Faced with such a disconcerting scenario, the Blue Ribbon Study Panel suggested combining military, security and public health efforts against biological threats, creating a unified field of competence, authority and funding. Biodefense (bioweapons), biosecurity (counter-terrorism), and biosafety (human and animal health, considered from a one-health perspective) should converge under the supervision of a newly established *'Biodefense Coordination Council'*, reporting directly to the President. The day after the release of the Report – on Oct 29 – the US Administration circulated a memo urging Federal departments and agencies *'to take both immediate and longer-term steps to address the underlying causes of laboratory incidents and to examine and strengthen biosafety and biosecurity practices'*. The Memorandum – signed by Lisa Monaco, Assistant to the President for Homeland Security and Counterterrorism – could be read as an indirect endorsement if not of the whole Blue Ribbon Study Panel's Report (the memo did not explicitly mention it), at least of its overall vision.

As a senior security advisor, Lisa Monaco has dealt several times with policies concerning biological threats. Googling on her name, one may come across

a note dated May 16, 2014, that she wrote in reply to a previous letter addressed to the White House by 12 deans of the main US public health schools. They were enquiring about rumors of a fake vaccination campaign organized by the Central Intelligence Agency (CIA). In her response, Mrs. Monaco reassured the deans stating that the agency makes *'no operational use of vaccination programs'*. Sure enough, because at that time the CIA bogus vaccination program had been already discontinued.

Actually, the CIA fake vaccination program was launched in 2010 in the Pakistan town where Osama bin Laden was hiding. They wanted confirmation that Bin Laden was truly there and someone had the idea to collect DNA samples surreptitiously from all the children of the town, with the goal of identifying possible Osama siblings and therefore verify, although indirectly, the presence of the terrorist leader. As in a Hollywood B movie, CIA agents recruited a senior Pakistani doctor and nurses were instructed to withdraw a small blood sample in the needle after administering the vaccine. Pakistani intelligence became aware of this story only during the investigation that followed the US raid in which Bin Laden was killed, in May 2011. The whole plot was then unraveled by the Guardian in July 2011. Since then, vaccination workers have been systematically targeted by Islamic groups in Pakistan, Afghanistan, Nigeria, and other countries where they are present. The April 20 attack was indeed the second attack in Pakistan since the beginning of the year, as, in January 2016, a suicide bomber killed 15 people outside a polio vaccination center. The fake vaccination program produced another important side effect: it increased the ongoing distrust towards international health institutions (which are already suffering from some credibility problems of their own). This can be seen very well in the Middle East.

Traditionally, the Middle East is the breeding ground of Islamic fundamentalism, and now – because of a complex mix of enduring war conditions, lack of sanitary infrastructures, and poverty – it is also becoming the breeding ground of real, biological, epidemics. In 2012, in Saudi Arabia, a new strain of coronavirus caused an outbreak of a disease very close to SARS. The new infection, called MERS (Middle East respiratory syndrome), is a very dangerous but luckily not highly transmissible zoonosis, carried by a virus originally found in bats and camels. Now, it is swine flu's turn. Swine flu is caused by one of the deadliest strains of influenza virus, the H1N1 virus, the same that was responsible for the 1918 flu pandemics, which killed from 3 to 5% of the world's

population. In January 2016, seven cases of H1N1 infection were reported in Pakistan. In March 2016, in Abyad, a city near Raqqa – the capital city of the self-proclaimed Islamic State of Iraq and Syria (ISIL) – at least 20 people died because of a disease described in terms very suggestive of swine flu. The Health Department of the ISIL did not report the outbreak and the sole measure taken for infection containment was to publish a leaflet inviting the population to pray regularly. *Halal* impurity rules concerning pigs might be playing a role in such a reluctance to admit the swine flu outbreak, yet it is apparent that the issue is broader. In many world regions, there is an increasing distrust towards the whole system of infectious disease prevention and containment. No one could reasonably expect that terrorists, jihadists, and similar would become keen to contribute to WHO vaccination campaigns and epidemiological surveillance, yet turning them into their fiercest enemies was probably avoidable.

In conclusion, the Blue Ribbon Study Panel's proposal is not baseless and someone could think to propose it in other countries, including the EU, where funding programs already tend to converge. In fact, today it is almost impossible to distinguish between biodefense, biosecurity and biosafety. The three areas overlap, sharing research goals and governance problems (including international governance). Therefore, in principle it would make sense to unify them. On the other hand, there are at least three considerations that could discourage such a policy decision: 1) Public health institutions need trust, it is impossible to enforce public health measures only through mandatory means; how could trust be preserved – notably at international level – if health agencies were to exchange people, tools, resources, and information

with military and security agencies? 2) It has been said again and again that infectious diseases do not know borders, and epidemics should be faced at global level, which is undoubtedly right; yet, could a global agenda include warfare, terrorism, sanitation and vaccination all together? 3) Soldiers, policemen, operatives, medical doctors and health workers, all make errors, which is pretty understandable given their respective professions, which are all at high risk of fault; would a unique biodefense system risk amplifying their errors and impacts?

The notion of Public Health emerged in the second half of the 19th century from a jumble in which 'public health', 'state medicine', 'military medicine', 'colonial medicine', and 'medical police' confusedly mixed. I wonder whether a return to such an indistinct hotchpotch would be a good idea.

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