support that a minimally decreased potency results in clinically significant difference. This is particularly true of biologicals, such as antivenoms, where the primary risks are related to anaphylactoid or anaphylactic reactions.

Additionally, legislation intended to deter the diversion of drugs of abuse may proscribe criminal sanctions on practitioners and facilities that utilize expired medications and antivenoms, even in the event of medical necessity. Drugs or devices whose expiration date has passed are considered adulterated by some states' statutes, and thus their delivery, sale, holding, or receipt is illegal *per se*.[18] This is despite the evidence that such drugs may not be less potent, merely untested. Thus, faced with the need to provide lifesaving medications for which the only available supply is past expiration or without precise documentation of production and storage, such as antivenoms for exotic snakebites, practitioners and health care facilities must choose between providing potentially life-saving treatment and abiding by the law.

Poison centers and organizational consortiums have responded to antidotal insufficiencies in a number of ways, including maintaining lists of regional antidote availability and formal institutional-sharing agreements. An Antivenom Index[19] has been established to help locate scarce antivenoms for rare indigenous and non-indigenous venomous animals, although sourced antivenoms may still encounter regulatory obstacles to administration. For other agents, particularly medical countermeasures for chemical, biological, radiological, nuclear, and public health emergencies, cooperation between the DOD, the FDA, and pharmaceutical companies has resulted in programs to extend the shelf-life of existing supplies – for example, outdated potassium iodide (KI)[20] and the Shelf Life Extension Program (SLEP) for ciprofloxacin, nerve agent antidote autoinjectors, Prussian Blue, and others.[21] However, SLEP is limited to specific items and participating organizations, places official limitations on sharing testing and extension data, and exposes non-SLEP organizations utilizing SLEP data to violations of Federal law.[14] Thus, opportunities to extend shelf-life of other critical antidotes and antivenoms are not assured, although not impossible (e.g., as demonstrated with the recent successful extension of the North American coral snake antivenin "out-date").[10]

Conclusion

ACMT and AACT encourage the Secretary of Health and Human Services, the Food and Drug Administration, The Comptroller General of the United States, and manufacturers, under the newly granted authority and mandates of the Food and Drug Administration Safety and Innovation Act of 2012, to immediately evaluate and address access to antidotes and antivenoms. In particular, experts in these areas, including medical toxicologists and other physicians, pharmacists, pharmacologists, scientists, and regulators, in cooperation with manufacturers, should be accessed to generate uniform guidelines that should address:

1) Including antidotes (including those with established antidotal benefit, but potentially without specific toxicological labeling indication)[22] within the

statutory scope of emergency, life-supporting medications;
2) Monitoring the use and availability of life-sustaining medications requiring emergent or intra-operative use and early notification of antidotes and medication classes facing shortages;
3) Establishing a systematic mechanism for ascertaining clinically relevant, realistic “out-dating” procedures based on biologic and storage condition principles, and determining if presumption of adulteration based solely on a date determined by a manufacturer’s choice of a testing regimen is appropriate;
4) Exploring and addressing extending dating standards or Emergency Use Authorizations In cases where the public’s health may be compromised by shortages of specific, critical therapeutics or unavailable antidotes;
5) Countermeasures to address and preclude hoarding and price-gouging;
6) Local and regional strategies to facilitate antidote sharing and delivery;
7) Mechanisms to encourage development, testing and delivery of rare antidotes and antivenoms.

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