Position Statement: Medical Toxicologist Participation in Medication Management and Safety Systems

Disclaimer
While individual practitioners may differ, this is the position of the American College of Medical Toxicology (ACMT) at the time written, after a review of the issue and pertinent literature.

Background
Hospital committees are regularly meeting working groups either required by regulatory agencies, oversight organizations, or accrediting bodies, or established by hospital administration as critical elements to the safe practice and monitoring of healthcare delivery. Examples of working groups that address medication management and medication safety systems include the Pharmacy and Therapeutics (P&T) Committee (also known as the Formulary and Therapeutics, Formulary Committee, or Pharmaceutical Stewardship Committee, et al.) and the Medication Safety Committee (MSC) (also known as the Medication Safety Improvement, Drug Safety Committee, et al.). Within a specific institution, other organizational structures (Departments and/or Committees) may address or support these missions, such as Quality, (Patient) Safety, Performance Improvement, and Risk Management. The P&T committee (or equivalent) commonly determines the hospital formulary and manages medication utilization.[1] Medications are included or excluded based on factors such as efficacy, safety, cost, dosing, the needs of the organization, and the patient population served. The P&T Committee may perform pharmacoeconomic assessments or financial evaluations to minimize pharmacy budget impact.

The MSC (or equivalent) commonly reviews medication errors and adverse drug events and develops systematic solutions to mitigate the risk of recurrent episodes and similar incidents. Medication errors are mistakes involving substances used for medical treatment (including, but not limited to, prescription and nonprescription pharmaceuticals, biologics, relevant devices, respiratory therapy treatments, diagnostic and contrast agents, parenteral nutritional and concentrated electrolytes solutions, vitamins, and blood derivatives, et al.), whether or not patient harm results. According to the National Coordinating Council for Medication Error Reporting and Prevention, “Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use."[2] Adverse drug events may result not only from (preventable) medication errors, but also from known side effects, drug-drug interactions, drug-alternative medicine interactions, unique patient-specific factors such as pharmacogenetics or underlying comorbidities, and idiopathic reactions. Data are usually collected by hospital pharmacies, quality improvement and risk management departments, and physician peer review systems, although under-reporting is common. Medication errors and adverse drug reactions are common and costly.[3-13]

Medical Toxicologists have unique knowledge, training, and experience that may aid both the P&T and MSC committees (or equivalent) in fulfilling their duties.[14]

1. Medical Toxicologists are physicians involved in clinical care of patients. They have expertise in pharmacotherapeutics, pharmacokinetics, adverse drug reactions, drug-drug interactions, overdose, and risk-assessment. Medical Toxicologists can make recommendations regarding the admission, change in status, or deletion of a medication to the formulary based on this expertise.
2. Medical toxicologists are in a unique position to identify, investigate, and treat the consequences of medication errors and adverse drug reactions. They may assist in decreasing the incidence of errors in their institutions through identification and elimination of systems errors and aggressive education of health care providers.
3. Medical Toxicologists may aid healthcare organizations in preparing guidelines for safe use of high-risk medications[15] such as antithrombotic agents, glycemic control agents, chemotherapeutics, opioids, procedural sedation agents, and others.
4. Medical Toxicologists may aid their medication management committees on the policies, protocols, or guidelines for off-label uses of FDA-approved medications and for restricted use policies, protocols, or guidelines of certain medications and therapies.
5. Medical Toxicologists are uniquely qualified to discuss the antidotes and therapies for poisonings from adverse medication events, therapeutic misadventures, or overdoses. Medical Toxicologists may aid hospitals in developing guidelines for their safe use in appropriate situations.
6. Medical toxicologists may aid their hospitals in improving often underreported adverse events by ensuring their appropriate and precise capture through such channels as the U.S. Food and Drug Administration’s MedWatch Program, appropriately certified Patient Safety Organizations, health care systems databases, or ACMT’s ToxIC Registry.[16,17]

Conclusion

Due to Medical Toxicologists' unique knowledge, training, and experience, it is ACMT's position to encourage hospitals to utilize Medical Toxicologists in their medication management and medication safety systems. This may include membership on relevant committees or consultative roles to these committees. ACMT encourages its members, where relevant, to be involved in local medication management systems.

Medical Toxicologists should assist in the development, adoption, and monitoring of error preventative and detection measures such as computerized order entry, bar coding of medications, etc. in their institutions whenever practicable.[18-20] ACMT encourages these practices among its members, as well as reporting of medication errors which may be encountered.

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