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PHARMACEUTICALS AND PERSONAL CARE PRODUCTS IN THE ENVIRONMENT: WHAT ARE THE BIG QUESTIONS?

ABSTRACT

BACKGROUND: Over the past 10-15 years, a substantial amount of work has been done by the scientific, regulatory, and business communities to elucidate the effects and risks of pharmaceuticals and personal care products (PPCPs) in the environment.

OBJECTIVE: This review was undertaken to identify key outstanding issues regarding the effects of PPCPs on human and ecological health in order to ensure that future resources will be focused on the most important areas.

DATA SOURCES: To better understand and manage the risks of PPCPs in the environment, we used the "key question" approach to identify the principle issues that need to be addressed. Initially, questions were solicited from academic, government, and business communities around the world. A list of 101 questions was then discussed at an international expert workshop, and a top-20 list was developed. Following the workshop, workshop attendees ranked the 20 questions by importance.

DATA SYNTHESIS: The top 20 priority questions fell into seven categories: a) prioritization of substances for assessment, b) pathways of exposure, c) bioavailability and uptake, d) effects characterization, e) risk and relative risk, f) antibiotic resistance, and g) risk management.

CONCLUSIONS: A large body of information is now available on PPCPs in the environment. This exercise prioritized the most critical questions to aid in development of future research

programs on the topic.

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