



Targeted Call for Research into Biotxin-related Illnesses in Australia (Biotxin TCR)

Consultation Response Form

The purpose of this survey is to seek input from experts, research end-users and policy makers in the field of biotoxin-related illnesses. The information you provide will inform the design of this TCR, by helping NHMRC better understand the research gaps the TCR seeks to address. NHMRC will not share your responses with other respondents to this survey. Please provide your responses in the fields below.

Name	Julien Colangelo (President), Dr Claire Bird (Technical Group Coordinator), Dr Jason Green (Committee member) and Bryan Jepsen (Committee member)
Institution¹	Indoor Air Quality Association Australia (IAQAA) www.iaqaaaustralia.org.au
Position	Submitted by the President. Responses were provided by members of IAQAA from the following professional positions: Occupational Hygiene and Microbiology. Note that responders are not medically qualified, and provide comments based on their specific areas of expertise and limits of knowledge at the time of submission.
Affiliations (related to biotoxin/biotoxin-related illnesses research, impacted community, etc.)	All named contributors can operate in a function for evaluating and consulting on risk management, including health risks associated with water damaged buildings that may involve the impacted community. Contributors provide ongoing support through online support forums for impacted individuals in relation to testing and assessment of environmental data from the premises they occupy
Please describe any real or perceived conflicts of interests you may have to this TCR:	Contributors operate mould analytical laboratories and provide Consulting services around water damaged buildings, which may be seen to benefit from promoting testing of the indoor environment. All named contributors can operate in a function for evaluating and consulting on risk management, including water damaged buildings. However, our roles under IAQAA should not conflict with the review.

¹ Leave blank if the responses are your personal views and not that of your institution, organisation or agency.



The responses below will inform development of NHMRC’s TCR into Biototoxin-related Illnesses in Australia.

We suggest not exceeding **250 words** (1/2 page) per answer.

<p>What are the gaps in evidence for biotoxin-related illnesses and CIRS-like symptoms caused by indoor mould that most urgently need to be addressed in Australia?</p>	<p>IAQAA echoes the recommendations made in the <i>Consultation paper Biototoxin-related illnesses in Australia – Health and medical research needs - November 2020. Section 4</i>, below are our reflections.</p> <p>We believe the following gaps exist based on the contributors’ understanding:</p> <ul style="list-style-type: none"> - Unravelling of the complex nature of moisture impacted buildings where chemical, microbial ecology and macrobial ecology (increases in dust mites etc.) mean that the cause of CIRS and other illnesses may be multi-faceted. - Concentrations of mould that are considered safe / unsafe by way of exposure limits for different types of mould on surfaces, in food and in air, and different individual sensitivity. We understand that establishing meaningful thresholds may require complex analysis of a range of principal components in water damaged buildings that lead to adverse health outcomes, but understanding the most useful measurements, and developing hardware and software tools to measure and assess health risks is central to useful research outputs. - The link between exposure to chemical and microbial contaminants (not exclusively mould) in the environment, chronic inflammation, and exposure impact on microbiome/mycobiomes in the human and built environments. - We lack epidemiological data based on large Australian cohorts where research shows less potential for bias from anecdotal evidence in individual cases. - The relationship and differences between CIRS, Chronic Fatigue Syndrome and Fibromyalgia, or other diseases where symptoms match closely with CIRS symptoms. - The source and exposure routes (inhalation, ingestion, dermal exposure) of mould in the daily lives of individuals – home, car, recreation, shopping, work, School etc. - Scientific evidence from multiple research agencies on diagnosis and treatment of CIRS with therapeutic agents that are approved by Drug Authorities in different countries.
<p>How would addressing these gaps benefit the diagnosis, treatment and/or management of patients?</p>	<p>It would provide:</p> <ul style="list-style-type: none"> • Increased robustness of findings based on Community-scale data that will better elucidate cause and effect and allow prevention to become more important than cure.



	<ul style="list-style-type: none"> • Evidence of exposure to unacceptable levels of mould that may allow an accurate diagnosis to be made for example differentiating CIRS from other similar illnesses. • Evidence of neglect or successful maintenance of mould rented properties where tenants report CIRS symptoms allowing faster resolution of disputes which can increase stress, anxiety and consequently CIRS-like symptoms. • Rapid diagnosis and new treatment options may be applicable to dysbiotic (imbalanced) human microbiomes using for example probiotics, dietary modification or faecal transplant.
<p>What research, if any, is already underway or planned to address these gaps and how could a TCR best complement these activities?</p>	<p>Although IAQAA members have academic and practical knowledge of water damaged buildings and the effects of mould exposure. To our understanding none of our members are involved in active studies to do with this matter.</p> <p>A full literature review would be required to cover all research and is not a suitable remit for this response.</p> <p>Key funding and research bodies researching the area include:</p> <p>The Albert Sloane Foundation (US)</p> <p>Purdue University</p>
<p>What are the challenges in addressing the need for research into these conditions?</p>	<ul style="list-style-type: none"> - Identifying staff and students with a broad-based background suitable to have an overview of the complex processes involved in developing CIRS-like symptoms. - Clinically isolating subjects of their contributing factors – environmental, diet, lifestyle, genetic influence, sensitivities
<p>What research areas are likely to:</p> <ol style="list-style-type: none"> reduce the impact of biotoxin-related illnesses on affected individuals and communities assist health services to manage these health issues, and/or enable policy makers to make informed decisions? 	<p>A + B - Epidemiology. Toxicology. Microbial Ecology. Human Genetics. Microbiome/Mycobiome research.</p> <p>A – Practical control strategies to prevent and mitigate risk causing exposures.</p> <p>A - Safe and easily implemented strategies for symptom management and recovery that can be undertaken with general medical guidance.</p> <p>B - Medical research into suitable diagnosis and medical interventions for treatment.</p> <p>B – The impact environmental exposures have on human health</p>