

## **Biodosimetry Assessment Networking Group (BANG)**

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The RNCP/NIAID recommends the creation of a United States Biodosimetry Assessment Networking Group (BANG) tasked with developing a blueprint for implementing relevant national capabilities to provide emergency diagnostic assistance to government officials to assess the degree of radiation exposure in civilian populations in case of a radiological or nuclear incident. BANG would connect community service providers with various biodosimetry capabilities, and allow members to discuss best practices, common goals, emergency planning and training, and sharing of resources, to increase the nation's resiliency before, during, and after a radiation public health emergency. The goals of BANG are to:

- Establish a collaborative network (public/private partnership) and engage its membership to address emergency preparedness, response, and recovery in relation to biodosimetry techniques (ideally cytogenetic methodologies like dicentric and micronuclei).
- Promote strategic relationships between members of the network to encourage collaboration and resource sharing.
- Engage with government partners, academia, and industry to utilize recommended tools and support training exercises.
- Advance bioinformatics and machine learning approaches to integrate and network data for large-scale emergency management.

To be adequately prepared for large-scale radiological incidents, networking between well-trained, commercial, hospital, and/or academic laboratories has been identified as a critical approach to provide rapid and accurate exposure assessments. Frequent and meaningful collaboration between North American laboratories will improve the capabilities of the network by offering a wider range of complementary biological and physical techniques. These early ventures will facilitate the selection of the best possible approach in the event of an emergency. Besides the increase in capability, there will also be an improvement in the quality of the dose estimations performed by networked laboratories, due to frequent exercises with interlaboratory exchange of samples and comparisons of outcomes across institutions.