Background and Aims: In early 2011, the VITAL® (Voluntary Incidental Trace Allergen Labeling) Scientific Expert Panel of The Allergen Bureau of Australia & New Zealand (ABA) reviewed individual NOAELs and LOAELs obtained from over 1800 clinical food challenges in an effort to guide advisory labeling decisions for use on food labels. Reference Doses were established for 11 allergenic foods including peanut, cow’s milk, egg, hazelnut, soybean, wheat, cashew, shrimp, sesame seed, mustard and lupine (in terms of mg of total protein). Reference Doses were not established for fish, celery or other tree nuts due to a lack of sufficient quality data at the time.

As part of the VITAL® update process, the threshold database was supplemented with additional data collected from 2011-2016. The results of that update are presented here.

Methods: Individual NOAELs and LOAELs from published clinical literature were reviewed and verified by scientists at the Food Allergy Research & Resource Program (FARRP) at the University of Nebraska and at TNO in the Netherlands. Publications from 2011-2016 were selected based upon previously outlined criteria and focused on low-dose oral food challenges. Additional unpublished clinical records from TNO and FARRP collaborators were also used to supplement the published data. Where possible, population based threshold distributions were updated.

Results: Over 1300 data points were added from data made available during 2011-2016. The TNO-FARRP allergen threshold database now contains over 3100 individual NOAELs and LOAELs from clinical food challenges for 32 allergens, including 15 priority allergens from different international labelling regulations. However, limited data restricted distribution calculations for a number of non-priority foods. In general, the newly calculated population threshold distributions did not significantly vary for a majority of allergens between the 2011 and 2016 datasets.

Discussion and conclusions: The results from this study indicate that the population thresholds generated for most VITAL® allergens are stable and were not significantly altered with the addition of new data. These results should enable government and food industry risk managers to proceed with allergen risk management systems based on the VITAL® reference doses.