

Appendix 6- Metrics for Prioritization by the Three Subgroups

Science Subgroup Metrics for Prioritization-The Science Subgroup devised a weight of the evidence method to prioritize the 8 scientific issues that were raised in the Versar Main Report. The Subgroup method prioritized the science recommendations according to six different prioritization factors: 1) citation frequency of the issue in the Versar Report, 2) scientific priority, 3) estimated staff resource requirements (FTEs), 4) estimated laboratory/collaboration resource requirements, 5) fiscal resource requirements, and 6) time to impact. Six different prioritization factors were used because then Subgroup did not consider any one of these factors as arbitrarily (or qualitatively) the most important. Each of these factors was evaluated separately and given numerical scores of 1 to 4 depending upon its significance. The highest possible score of 4 was given to a “win/win” issue that has a high scientific priority, a negligible fiscal burden in terms of human resources (FTEs) and/or materials, and requires little or no time to implement. In contrast, the lowest possible score of 1 was given to an issue that has a low scientific priority, a very high fiscal burden for human resources and/or materials, and requires a long-term (*i.e.*, 5-years) to implement. The final ranking of the eight science recommendations was based upon the cumulative score. The highest possible score was 24 (*i.e.*, $4 \times 6 = 24$).

Communication and Collaboration Subgroup Metrics for Prioritization-After taking all the information available in the Versar Main Report into account, the Subgroup assessed issues for prioritization using two parameters: (1) the degree to which the issue was seen as generating a significant degree of dissatisfaction with the current state of affairs; and (2) the degree to which the issue lacks existing strategies to address. Two issues were thought to merit high priority: *Effectiveness of communication within CFSAN and between CFSAN and other FDA Centers*, and *opportunities for collaboration within CFSAN and between CFSAN and other FDA Centers.*) Each of these areas seemed to be the areas where there was both a significant degree of dissatisfaction and the greatest need to implement strategies for improvement. *Interaction with other Federal agencies and international bodies* was considered to merit intermediate priority because it was evident that much collaboration and coordination with other Federal agencies and international bodies occurs, and what is needed here (if not already in place) is more-formalized engagement of upper management between agencies / organizations to identify important issues and facilitate the identification of appropriate scientists to work together. The last issue, *Coordination of laboratory research*, was considered to merit low priority because many of the concerns expressed on this issue have been addressed by the CFSAN Toxicology Working Group and through other mechanisms, and what is needed is mainly an organized effort to educate all chemical safety assessment staff on the systems that have been implemented to facilitate coordination of laboratory research.

Expertise and Training Subgroup Metrics for Prioritization-The Subgroup identified the following factors in significance ranking of the issues important to Expertise and Training:

- **Cited:** Heavily = 3 points; Moderately = 2 points; Lightly = 1 point
- **Impact:** Significant = 4 points; Moderate = 3 points; Light = 2 points; Negligible = 1 point

- **Time to Impact:** I = Immediate 0-3 months (4 points); S = Short-term; 3-6 months (3 points); M = Medium-term- 0.5-3 years (2 points); L = Long-term >3 years (1 point)
- **Fiscal Resources:** Heavy =>\$300,000 (i.e., FTEs) (1 point); Moderate \$30,000-\$300,000 (i.e., contractor)(2 points); Light <\$30,000 (handled by current staff) (3 points)

<u>Topic</u>	<u>Cited</u>	<u>Impact</u>	<u>Time to Impact</u>	<u>Fiscal Resources</u>	<u>Total</u>
<u>A. Expertise</u>					
Identify Current Experts	2	3	3	3	54
Proper Utilization of Current Experts	2	3	2.5	3	45
Identify the Current and Future Needs for SMEs	3	3	2	3	54
Maintenance of Expertise	3	4	2.5	1	30
<u>B. Training</u>					
Identify Best Practices of Training	1	3	3	3	27
Increase Resource Allocation for Training	3	4	2	1	24
Identify and Develop Training Opportunities	1	3	2	3	18

The Total Score in the above Table was calculated by multiplying each factor within the category (i.e., Identify Current Experts: 2 x 3 x 3 x 3 = 54). Due to the low cost and relatively quick turn around on several of these issues, the simpler issues represent “low hanging fruit” with relative moderate score. Other issues (e.g., Maintenance of Expertise and Increase Resource Allocation for Training) were ranked lower due to their high cost of implementation although increasing resources for training may improve process and function in the short-term, the sentiment of the report indicates that CFSAN is functioning as well as can be expected given the level of funding. Investment in expertise and training are long-term commitments necessary for CFSAN’s success. The Subgroup is concerned that given the large number of senior SMEs at or close to retirement age, expertise in chemical safety/risk assessment essential to the CFSAN mission is at significant risk of being lost in the near term, and that as a result, CFSAN will not be able to adequately address future chemical safety challenges. The Subgroup believes that the shortage of mid-career SMEs may mean that proper “back-filling” to make up for the loss in senior expertise may not be possible.