Practice Improvement Topics

The needs assessment outline represents topics that AAAAI members have identified as opportunities to improve their knowledge and/or their practice of allergy/immunology. These topics were identified from a variety of sources, such as course outcomes data, including the AAAAI Annual Meeting, AAAAI journals and online courses, and surveys of AAAAI members and RSL society governors. Overall, this outline should be viewed as a needs assessment resource that can promote topics for continuing education.

1. Food Allergy:
   Treatment:
   - Oral immunotherapy for food allergy
   - Approach to patients who have immunocap multiple food testing with no clinical history of Immunoglobulin E (IgE) related food allergy, but positive on blood tests.
   - Eosinophilic esophagitis and food allergy
   - Treatment resistant atopic dermatitis due to food allergy
   - Handling patients with non-Immunoglobulin E (IgE) mediated food sensitivities
   - Follow up evaluation of a patient with peanut allergy
   - Baked milk diet for children with milk allergy

   Diagnosis:
   - Component resolved diagnosis (Immunocap)
   - Food allergy and respiratory disease
   - Food-dependent, exercise-induced anaphylaxis

   Quality and Outcomes:
   - The guidelines and rationale for feeding infants and young toddlers with cow’s milk allergy

2. Rhinoconjunctivitis/Ocular Allergy
   Treatment of Sinusitis-Chronic
   - Diagnosis of Chronic rhinosinusitis- diagnosis and management
   - Ocular allergy

3. Skin Diseases
   A. Atopic Dermatitis
   Treatments and Diagnosis:
   - Inflammation and barrier defect.
   - Treatment resistant atopic dermatitis
   - Identification of exacerbating factors which may lead to flares in eczema
   - Recognize diseases that mimic atopic dermatitis
   - Treatment resistant atopic dermatitis due to food allergy
   - Probiotics used to prevent eczema
   - Patients receiving any systemic immunosuppressive treatments for AD
   - Topical steroids have been show to decrease Staphylococcus aureus colonization
   - Check renal function before starting methotrexate
   - Avoid excessive UV light exposure with systemic immunosuppressive
   - Probiotic strain or strains that is/are most effective at preventing atopic eczema
B. Urticaria/Angioedema

Treatment:

- Standards of care and management.
- Treatment and evaluation of chronic urticaria
- Anti-allergy therapy for chronic urticaria (omalizumab)
- Controlled trials of cyclosporine in chronic urticaria
- Complement and hereditary angioedema
- Treatments for acute Angioedema /Hereditary Angioedema (HAE)

4. Drug Allergy

Treatments and Diagnosis:

- Adverse drug reactions
- Aspirin desensitization and challenges- the most up to date protocols (i.e. ketorolac)
- Other drug desensitizations
- Infusion reactions from monoclonal antibodies
- Management of severe cutaneous adverse reactions
- Penicillin testing with a negative skin test
- Rechallenge with an antimicrobial agent
- Sulfasalazine potentially cross-reactive in a patient with sulfamethoxazole allergy
- Herpes virus reactivations
- Montelukast and aspirin and desensitization in cancer patient
- Cross-desensitization to all COX-1 inhibitors
- Azathioprine can cause bone marrow failure

5. Asthma

Treatments:

- Treating the difficult patient (severe/difficult to control asthma).
- How to step-down therapy
- Role of OCSs for the acute management of virus induced wheezing episodes
- Efficacy of montelukast vs. ICS vs. combination therapy in pediatric patients
- Impact of influenza vaccination and infection in asthma patients

Diagnosis:

- Pathogenesis of Exercise induced bronchoconstriction vs. Exercise induced bronchoconstriction with asthma
- Tachyphylaxis with beta-agonist
- Unique aspects of exercise induced bronchoconstriction
- Airways disease phenotyping
- Hypopharyngeal swabbing of organisms associated with persistent wheezing in early childhood asthma

Clinical Science

- Changes in lung function in children vs. adults
- Hygiene hypothesis – compare/contrast opinions

Quality and Outcomes:

- Outcome measures for pediatric patients
- Evaluating/updating asthma guidelines
6. Immunotherapy
Treatments:
- Subcutaneous immunotherapy vs. Sublingual immunotherapy
- Oral Immunotherapy
- Risk factors for asthma patients starting immunotherapy; high vs. low or medium dose Allergen Immunotherapy (AIT)
- Adverse reactions to SLIT
- SLIT vs. SCIT and anaphylaxis risks

Practice Management:
- Best practices

7. Immunological Disorders
Diagnosis:
- Primary immunodeficiency
- Diagnostic criteria for autosomal dominant HIES
- Clinical presentation of SCID; Diagnosis of SCID
- Clinical presentation of CVID; Diagnostic criteria for CVID
- Specific antibody deficiency
- Early presenting signs/symptoms of XLA
- Able to identify patients with primary immunodeficiency disorders & differentiate between humoral, cellular, and phagocytic defects
- Secondary immunodeficiency
- Immunodeficiency with mutations in dedicator of cytokinesis 8 should be considered when patients have recurrent herpes simplex virus infections
- Updated Review Mechanisms of disease for the clinician related to Systemic Lupus Erythematosus (SLE)
- HLA and transplantation

Treatments:
- Use of Immunoglobulin
- Recognize alternatives to route of administration for patients receiving immune globulin replacement therapy who suffer from infusion related adverse events
- Manage possible clinical presentations of Severe Combined Immunodeficiency (SCID)

8. Mast Cell Disorders and Anaphylaxis
Treatments and Diagnosis:
- Anti-Immunoglobulin E (IgE) for anaphylaxis
- Alpha-gal and delayed anaphylaxis
- Mast cell activation syndromes
- Most reliable marker of clonal mast cell disease
- Mast cell disorders

9. Laboratory Tests
- Newer diagnostic laboratory tests and procedures
- Laboratory evaluation of the immune system including humoral and cellular immune testing, IgE assays, flow cytometry, PCR, and molecular methods
- The T-cell receptor excision circle (TREC) for diagnosis
- Method used to determine whether there is maternal cell engraftment
10. Pharmacology/Therapeutics:
Treatments:
- Alternative Medicine
- Knowledge about probiotics as it relates to complementary and alternative practices in allergy (CAM)

11. Eosinophilia and Eosinophil-Related Disorders
Treatment and Diagnosis:
- New therapies for Allergic Eosinophilic Esophagitis (AEE)
- Hypereosinophilic Syndromes - Eosinophilic GI disorders
- Reintroduction of foods after remission of symptoms
- Eosinophil disorders

Research and Application:
- Incidence of ulcerative colitis in Asian migrants to the UK compare with the Native European population

12. Mechanistic Science
Cells:
- Naïve T-cells
- Mast cell and basophil biology
- Cell signaling
- B lymphocyte biology
- Eosinophil biology
- NK cells
- The bacteria associated with reduced severity of IBD
- Cells producing complement components
- Cells influencing cellular inflammation in the lung

Mediators:
- The Tim gene family. Roles in asthma, allergy, and autoimmune diseases
- NF-κB
- Innate immunity and toll-like receptors
- Thymic stromal lymphopoietin, a keratinocyte-derived pro- TH2 cytokine induction
- Cytokines
- Chemokines and cell trafficking
- IgE Function and regulation
- Oxidative stress and nuclear erythroid 2 p45-related factor 2 (Nrf2)
- Receptors for pathogen-associated and damage-associated molecular patterns

13. Administration and Management
Practice Management:
- International Classification of Diseases-10 coding
- Selection of Electronic Medical Record
- Reimbursement issues
- System changes in health care
14. **Education Formats**

- Forum to discuss difficult cases
- More education sessions that focus on hands-on workshops, smaller group sessions, interactive questions/discussion
- Clinically relevant
- Live didactic course (annual meeting plenary or symposium, local meetings)
- Journal articles
- Online education options