THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable Carl Levin
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

This letter provides the final report to Congress on the request in the Department of Defense (DoD) for Fiscal Year 2008 Appropriations Conference Report 110-434 for the Assistant Secretary of Defense (Health Affairs) and the Service Surgeons General report to the Congressional Defense Committees by April 15, 2008, on the incidences of food allergies and anaphylaxis among Service members and their families.

The Dietary Supplement Subcommittee of the DoD Nutrition Committee conducted a review and developed the attached report. This subcommittee consists of DoD and interagency subject matter experts in dietary matters, including food allergies. The report finds that changes in the prevalence of food allergy over time are unknown because diagnostic studies to verify objectively allergic reactions to foods, and large-scale studies have not been conducted for comparative purposes. The report concludes that a national program on food allergy and anaphylaxis would benefit the United States.

Thank you for your continued support of the Military Health System.

Sincerely,

S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable John McCain
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable Ben Nelson
Chairman, Subcommittee on Personnel
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

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Sincerely,

S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable Lindsey O. Graham
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable Ike Skelton
Chairman, Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

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Sincerely,

S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable Duncan Hunter
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable Susan Davis
Chairwoman, Subcommittee on Military Personnel
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Madam Chairwoman:

This letter provides the final report to Congress on the request in the Department of Defense (DoD) for Fiscal Year 2008 Appropriations Conference Report 110-434 for the Assistant Secretary of Defense (Health Affairs) and the Service Surgeons General report to the Congressional Defense Committees by April 15, 2008, on the incidences of food allergies and anaphylaxis among Service members and their families.

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Thank you for your continued support of the Military Health System.

Sincerely,

Very Best Wishes

S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable John M. McHugh
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable Robert C. Byrd
Chairman, Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

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Sincerely,

S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable Thad Cochran
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

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The Honorable Thad Cochran
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable David R. Obey
Chairman, Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter provides the final report to Congress on the request in the Department of Defense (DoD) for Fiscal Year 2008 Appropriations Conference Report 110-434 for the Assistant Secretary of Defense (Health Affairs) and the Service Surgeons General report to the Congressional Defense Committees by April 15, 2008, on the incidences of food allergies and anaphylaxis among Service members and their families.

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Sincerely,

S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable Jerry Lewis
Ranking Member

THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 16 2008

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter provides the final report to Congress on the request in the Department of Defense (DoD) for Fiscal Year 2008 Appropriations Conference Report 110-434 for the Assistant Secretary of Defense (Health Affairs) and the Service Surgeons General report to the Congressional Defense Committees by April 15, 2008, on the incidences of food allergies and anaphylaxis among Service members and their families.

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S. Ward Casscells, MD

Attachment:
As stated

cc:
The Honorable C. W. Bill Young
Ranking Member

Department of Defense

Report to Congress on Food Allergy and Anaphylaxis in the Department of Defense

September 2008

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Report to Congress on Food Allergy and Anaphylaxis in the Department of Defense

Background

Food allergy is a broad term ascribed to immune-mediated adverse reactions to food. Some food allergies are Immunoglobulin E (IgE) mediated, immediate hypersensitivity reactions whereas others are non-IgE-mediated, delayed type hypersensitivity (DHT) or other cell mediated reactions. Both are problematic in terms of health, but the more rigorously studied and more clearly defined are IgE-mediated food reactions. The exact nature of the DHT reaction has been the subject of debate for over 100 years, and although IgE-mediated allergies are the primary focus of this report, the issue of DHT must not be ignored.

The concern is that some persons with IgE-mediated food allergy have mild reactions, such as hives or an itchy throat, whereas others experience a severe and life-threatening, systemic allergic reaction known as anaphylaxis. Anaphylaxis is characterized by constricted airways in the lungs, severe wheezing, perilous lowering of blood pressure and shock ("anaphylactic shock"). Severe, life-threatening anaphylactic reactions to food occur mostly in adolescents and young adults, but also in others. Unfortunately, the severity of the reaction cannot be predicted. The primary treatments for preventing food-induced anaphylaxis are food avoidance and careful and immediate management of an emerging food reaction. Having a food allergy may impose adverse nutritional consequences on the health and lifestyle of the person, in addition to the risk of death and stigma of avoiding common foods.

The true prevalence of food allergy is unknown because of the lack of diagnostic studies to verify objectively allergic reactions to foods and large-scale studies have not been conducted. However, epidemiologic studies have estimated the prevalence based on the International Classification of Diseases - Ninth revision, Clinical Modification (ICD-9-CM) codes, special databases, medical record reviews, and the like. Food allergy is most common in young children, with a prevalence of approximately 6 percent reported in 2004. Based on data from a 2001 Food Safety Survey, the United States Food and Drug Administration (FDA) reported a prevalence of 5.3 percent for self-reported, doctor-diagnosed food allergy among adults in the United States. It will be interesting to compare those data to that obtained from the next Food Safety Survey, but such data are currently not available. However, a nationwide, cross-sectional, computer-assisted telephone interview of households in the United States showed that the rate of peanut allergy in children under 18 increased from 0.4 percent in 1997 to 0.8 percent in 2002.

Other publications provide insights into the prevalence of food allergy. Mullins (1) recently described a retrospective analysis of children aged 0–5 years who had been

referred to an allergy practice in Australia between 1995 and 2006. Over the 12-year period, the number of children with food allergy increased more than 12-fold and the number with food-induced anaphylaxis doubled. Gupta (2, 3) reported increases in food allergy and anaphylaxis among adults living in England. In 1989, Sorenson (4) reported an anaphylaxis rate of 3.2 per 100,000 per year whereas based on data in 2003 from the National Electronic Injury Surveillance System, a nationally representative probability sample from hospital emergency departments in the United States and other reports, the rate may be as high as 10 per 100,000 per year in 2005 (5). Thus, the incidence of food allergy and anaphylaxis appears to be rising worldwide. Although food-induced anaphylaxis occurs in persons of any age, it is of particular concern in children and adolescents (6-8). Importantly, food allergies and anaphylaxis account for significant morbidity within the United States, Canada, England, Australia, Israel, Asia, and other countries.

One serious issue with regard to food allergy is the variability and unpredictability of food-induced response. Half of the 48 deaths from food allergy that occurred in the United Kingdom between 1999 and 2006 were in patients whose previous reactions had been mild and were unlikely to have been prescribed an epinephrine auto injector. Hence, food allergy has emerged as an important public health problem. To address this public health problem, Congress passed legislation in 2004 to help the millions of Americans who suffer from allergic reactions to food each year. The Food Allergen Labeling and Consumer Protection Act (FALCPA), which became effective on January 1, 2006, requires ingredient labels to disclose certain allergenic foods or food ingredients if the product contains one of the eight foods or protein derived from one of the eight top food allergens. Whether this act will have an impact on the rate of anaphylaxis is unknown. This important question will require further investigation.

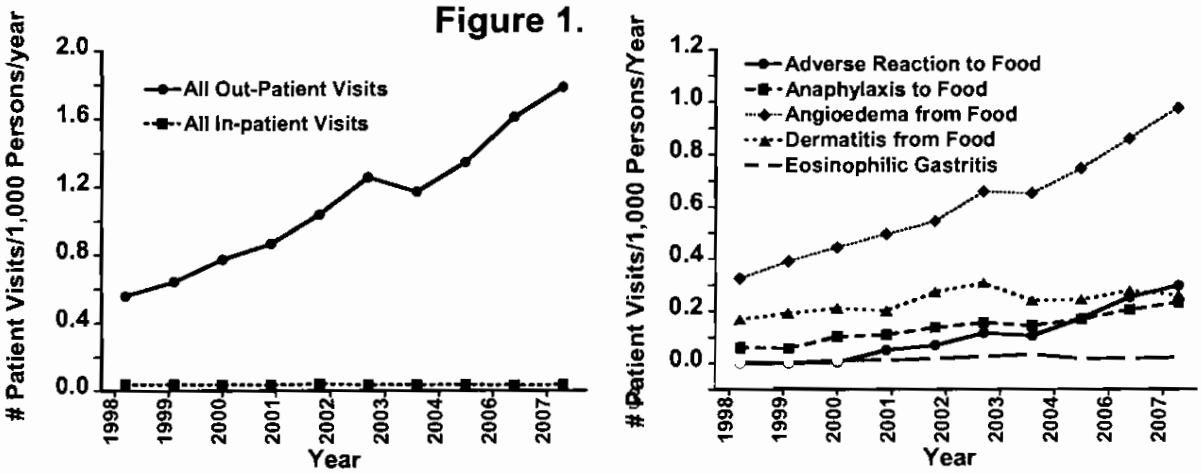
Food allergy and anaphylaxis estimates vary depending on the method of identifying such reactions. One common approach for making estimates is by using ICD-9-CM codes – codes to identify specific food allergies were introduced in 1993, and additional codes were added in 2003. A number of limitations must be considered when using ICD-9-CM codes for prevalence data. First, ICD-9-CM codes were created for reimbursement purposes, not for quantifying prevalence or incidence rates. Secondly, Clark et al (9) reported in 2006 that almost 50 percent of persons with a food allergy were missed when the sole source for identifying cases was food-specific ICD-9-CM codes. In addition, there are inherent problems with some codes, in particular the codes for anaphylaxis to foods (995.6) and the various subheadings for specific foods (995.60 – 995.69). This ICD-9-CM code is supposed to be used only when the person has experienced an anaphylactic reaction in the physician's office, in the emergency room, or in the presence of a health care provider. Based on discussions among physicians, this is rare and, in fact, many physicians are not aware of this technicality. Thus, these ICD-9-CM codes may severely underestimate the true prevalence of food-induced anaphylaxis. Despite these issues, the ICD-9-CM codes are the most rapid approach for estimating food allergy

and anaphylaxis and will be the basis for characterizing the status of food allergy and anaphylaxis of active duty personnel and their dependents within the Department of Defense (DoD).

What do we know about rate of food allergies and anaphylaxis among Service members and their families?

To determine whether patterns reported in the literature were consistent among DoD active duty personnel and their dependents, two different datasets within the Military Health System's (MHS) data repositories were examined. Specifically, the Defense Medical Surveillance System, which provides current and historical data on diseases, hospitalizations, ambulatory visits, reportable diseases, etc., for active duty personnel, was queried. These data can be examined by Service, age, and other factors for patterns and trends. The Dietary Supplement Subcommittee of the DoD Nutrition Committee examined data from 1998 to 2007. For dependents of active duty, data from two sources were combined: direct care and purchased care. Direct care data were derived from the medical treatment facility (MTF) data sets, Standard Ambulatory Data Record (SADR) and the Standard Inpatient Data Record (SIDR), which include clinical diagnostic coded data generated by the DoD Composite Health Care System. Purchased care data was derived from the TRICARE Encounter Database (TED), which includes Services claims processed by civilian network and professional health providers. ICD-9-CM codes was used to identify those who had experienced adverse reactions to foods. A list of the ICD-9-CM codes queried is provided in Appendix 1. Based on the report of Clark (9) in 2006 as noted above, the data we report may underestimate the prevalence, but a medical record review was not feasible.

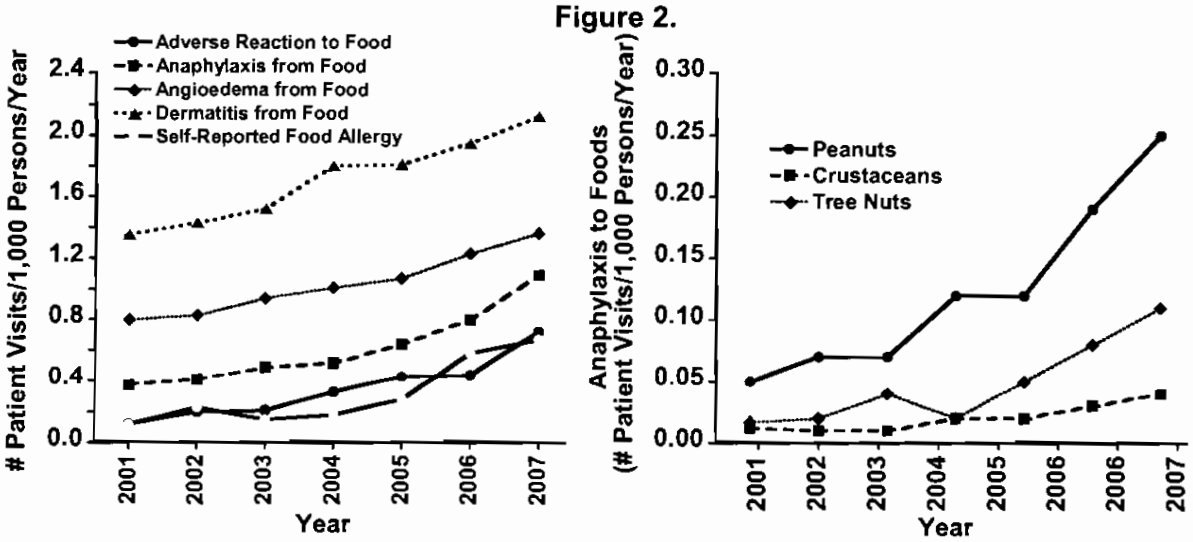
Figure 1 (left panel) shows the total burden of food allergy and anaphylaxis combined over the past 10 years broken down by inpatient and outpatient visits for all active duty members. The rate for all outpatient visits increased 5-fold over the 10-year period. However, very few of the allergic reactions resulted in hospitalizations, and no increase was noted over time for in-patient diagnoses of food allergy or anaphylaxis. This finding is supported by the work of Bohlke (10), who showed in a population-based study suggests that 71 percent of anaphylactic reactions are treated in the Emergency Department. Figure 1 (right panel) presents the rates of reactions to foods based on all MTF and purchased care encounters coded with a primary diagnosis with specific ICD-9-



CM codes: 995.7 (adverse reactions to food), 995.6 (food-induced anaphylaxis), 995.1 (angioedema from food), 693.1 (dermatitis from ingestion of food), and 535.41 (eosinophilic gastritis) in all active duty personnel. The prevalence of the various diagnoses increased from 1.5- to 70-fold over the 10-year period—the greatest increase was noted for adverse reactions to food: from 0.004 in 2000 to 0.297 in 2007. The rate of anaphylaxis to any food increased 3.7 fold over the period, but the greatest prevalence increases were noted for peanuts and crustaceans, which increased 9 and 25 fold, respectively, over the 10 years.

When data for dependents of active duty personnel are inspected, a similar pattern emerges, but a more marked increase is noted. Figure 2 (left panel) presents the prevalence of out-patient visits for both MTF and purchased care encounters coded with a primary diagnosis using specific ICD-9-CM codes: 995.7 (adverse reactions to food), 995.6 (food-induced anaphylaxis), 995.1 (angioedema from food), 693.1 (dermatitis from ingestion of food), and V15.05 (self-reported food allergy). The prevalence of reactions to food increased from 0.12 visits per 1,000 persons per year in 2001 to 0.75 visits in 2007. Likewise, the rate of visits coded as anaphylaxis to food increased from 0.38 visits per 1,000 persons per year in 2001 to 1.1 visits in 2007. Granted, ICD-9 coding changes and other factors may bias the results, but the trend is indisputably upward.

Figure 2.



The right panel for Figure 2 presents changes in the prevalence of for anaphylaxis to specific foods for years 2001 through 2007, as determined by ICD-9-CM coding (995.61: peanut-induced anaphylaxis; 995.62: crustacean-induced anaphylaxis; and 995.64: tree nut-induced anaphylaxis). It is important to note that the data after the 2003 changes in ICD-9 codes should reflect a true change over time, with minimal biases. The prevalence of peanut allergy increased from 0.05 visits per 1,000 persons per year in 2001 to 0.25 in 2007. Likewise, the prevalence of anaphylaxis to tree nuts increased from 0.01 visits per 1,000 persons per year in 2001 in 2001 to 0.11 in 2007. Our observed increases are

consistent with other reports for the U.S. However, as noted for active duty personnel, in-patient visits did not change over the period of review (data not shown).

In summary, based on our review of the MHS data, it is clear the prevalence of food allergies and anaphylaxis has risen among Service members and their dependents. However, this trend is primarily in the outpatient setting, rather than in the hospital. One troubling finding is the marked increase among dependents, who will become our future active duty military personnel. We believe these data encourage a call to action, and already we have initiated a plan to convene a DoD Food Allergy Working Group.

What is the current research for food allergies and anaphylaxis?

Currently within the DoD, no research programs are directed at food allergy and anaphylaxis. The primary governmental organizations conducting research on this topic include the National Institute of Health (NIH), the FDA, and the United States Department of Agriculture (USDA). Several other non-governmental organizations also fund such research, but the amount of funds is limited. In 2007, the NIH and USDA funded approximately 20 nutrition-related food allergy research projects (Appendix 2). The majority of those NIH grants were funded through the National Institute of Allergy and Infectious Diseases (NIAID). Appendix 2 provides a more detailed description of some of those projects. We are also aware that the NIAID recently established a new program to encourage investigators to consider food allergy as a topic area: approximately 12 small grants were recently awarded (personal communication). It is our belief that more research is needed, and DoD researchers can compete for funding through the available avenues.

Many research questions need answers, but one critical issue is why an apparent mild food allergy is suddenly transformed in a severe, life threatening reaction. What markers can be used for risk stratification? Importantly, what in our environment has led to an increase in food allergy, and are there actions to be taken to halt the increase? What role does non-IgE-mediated food allergy serve and why does this seem to be increasing? A careful study of the natural history of food allergy could help to address these issues and we believe that the DoD could contribute in a meaningful way to address the natural history, as well as many of the unanswered questions. We have the capability of monitoring outcomes over time for both recruits and beneficiaries. Such a discussion was held with scientists from NIAID, but would require further planning and allocation of resources.

Is there a need to establish a national program on food allergy and anaphylaxis?

We believe that a national program on food allergy and anaphylaxis would benefit the United States, as well as other countries. Such a program could include a strong research component, a component addressing health care policy and delivery with regard to food allergy, and a section focused on clinical guidelines. Specific issues could be prioritized

and addressed within each organizational component. For example, with regard to health care policy and delivery and clinical guidelines, issues such as school policies, a framework for identifying and prioritizing potentially allergenic foods, risk management approaches for minimizing societal and individual burdens, guidelines for the management and use of epinephrine for self-administration, evidenced-based clinical practices for evaluating, diagnosing, managing and treating food allergies, and standardization of ICD-9 coding, could be addressed on a national (international) level.

Likewise, for understanding the multiple complex aspects of food allergies, a national research program directed at epidemiology, natural history, reasons for increasing incidence, new treatment and preventive approaches, mechanisms of action, relationships between IgE- and non-IgE-mediated immune response to foods, Universal Food Allergy Action Plans, and a variety of other important topics would be beneficial.

The research component has already had an impetus. As directed by FALCPA, the NIH convened a panel of national and international food allergy experts to address issues in food allergy research. In June 2007, the panel put forward a number of recommendations. One recommendation was for the NIH to determine the feasibility and utility of a national and international registry of food-induced allergic reactions (both after accidental exposure and in association with oral food challenges), and promote its use in epidemiologic and genetic studies. Other recommendations included resolving impediments to the design and conduct of food allergy clinical trials; evaluate promising new approaches to preventing and treating food allergies. The NIAID has already noted the importance of collaborating with other agencies in its strategic planning, and the DoD could serve an important role in helping to resolve many of the unanswered questions. This national program would partner with the USDA, FDA, NIH, DoD, Environmental Protection Agency, the Centers for Disease Control and Prevention, and the various existing food allergy networks. A program that facilitates communication, collaboration, exchange of data and novel treatment approaches, and fosters creative solutions would greatly enhance our ability to manage what appears to be an increasingly complex and serious public health program.

References

1. Mullins RJ. Paediatric food allergy trends in a community-based specialist allergy practice, 1995-2006. Med J Aust 2007;186:618-21.
2. Gupta R, Sheikh A, Strachan D, Anderson HR. Increasing hospital admissions for systemic allergic disorders in England: analysis of national admissions data. Bmj 2003;327:1142-3.
3. Gupta R, Sheikh A, Strachan DP, Anderson HR. Time trends in allergic disorders in the UK. Thorax 2007;62:91-6.
4. Sorensen HT, Nielsen B, Ostergaard Nielsen J. Anaphylactic shock occurring outside hospitals. Allergy 1989;44:288-90.

5. Ross MP, Ferguson M, Street D, Klontz K, Schroeder T, Luccioli S. Analysis of food-allergic and anaphylactic events in the National Electronic Injury Surveillance System. J Allergy Clin Immunol 2008;121:166-71.
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7. Sampson HA, Munoz-Furlong A, Bock SA, Schmitt C, Bass R, Chowdhury BA, et al. Symposium on the definition and management of anaphylaxis: summary report. J Allergy Clin Immunol 2005;115:584-91.
8. Sampson HA, Munoz-Furlong A, Campbell RL, Adkinson NF, Jr., Bock SA, Branum A, et al. Second symposium on the definition and management of anaphylaxis: summary report--Second National Institute of Allergy and Infectious Disease/Food Allergy and Anaphylaxis Network symposium. J Allergy Clin Immunol 2006;117:391-7.
9. Clark S, Gaeta TJ, Kamarthi GS, Camargo CA. ICD-9-CM coding of emergency department visits for food and insect sting allergy. Ann Epidemiol 2006;16:696-700.
10. Bohlke K, Davis RL, DeStefano F, Marcy SM, Braun MM, Thompson RS. Epidemiology of anaphylaxis among children and adolescents enrolled in a health maintenance organization. J Allergy Clin Immunol 2004;113:536-42.

Appendix 1. ICD-9CM Codes Used for Evaluating Food Allergy and Anaphylaxis Trends in the Department of Defense

Diagnosis	ICD-9-CM Code
Food Allergy – Adverse Reactions	995.7
Food Allergy – Anaphylaxis	995.6
Due to unspecified food	995.60
Peanut Allergy	995.61
Crustaceans	995.62
Fruits and vegetables	995.63
Tree nuts and seeds	995.64
Fish	995.65
Food additives	995.66
Milk Products	995.67
Eggs	995.68
Other specified food	995.69
Dermatitis due to food	693.1
Angioedema	995.1
Ulcerative Colitis	556
Eosinophilic gastritis	535.41
Personal History of Food Allergy	V15.05

Appendix 2. US Government Funded Food Allergy Research

The following information is derived from the Human Nutrition Research and Information Management (HNRIM) System database (*http://hnrim.nih.gov/),* a searchable database of nutrition research and research training activities supported by the federal government and maintained by the NIH Division of Nutrition Research Coordination and from the USDA database (*http://cris.csrees.usda.gov/).* They are estimates only.

Department of Health and Human Services Funded Food Allergy Research Projects

1. K23AI059318

Principal Investigator: NOWAK-WEGRZYN, ANNA PI Degree: MD
Project Title: Immunological Basis of Egg Allergy
Project Number: 5K23AI059318-03 Fiscal Year: 2007
Project Number 2: Start Date: 7/1/2005
Activity Type: Pt-Oriented Career Dev

2. R01AI068074

Principal Investigator: BURKS, ARVIL W PI Degree: MD
Project Title: Understanding the Mechanism of Mucosal Immunotherapy
Project Number: 1R01AI068074-01A1 Fiscal Year: 2007
Project Number 2: Start Date: 8/15/2007
Activity Type: Research Grant

3. R01AT001495

Principal Investigator: LI, XIU-MIN PI Degree: MD
Project Title: Effect of Chinese herbal medicine on food allergy
Project Number: 5R01AT001495-04 Fiscal Year: 2007
Project Number 2: Start Date: 1/1/2004
Activity Type: Research Grant

4. R01DK055678

Principal Investigator: Nagler-Anderson, Cathryn R PI Degree: PHD BA MS
Project Title: Altered Responses to Food Proteins in Enteric Infections
Project Number: 5R01DK055678-08 Fiscal Year: 2007
Project Number 2: Start Date: 4/1/2000
Activity Type: Research Grant

5. *R03AI076386*

Principal Investigator: Gleich, Gerald J PI Degree: BS MD
Project Title: T Cell Reactive Epitopes of Shrimp Tropomyosin
Project Number: 1R03AI076386-01 Fiscal Year: 2007
Project Number 2: Start Date: 9/30/2007
Activity Type: Small Research Grant

6. *R21AI073610*

Principal Investigator: HUANG, SHAU-KU PI Degree: PHD
Project Title: Role of C-type lectin receptors in food allergy
Project Number: 1R21AI073610-01 Fiscal Year: 2007
Project Number 2: Start Date: 9/25/2007
Activity Type: Exploratory Grants

7. *U01AI066560*

Principal Investigator: STABLEIN, DONALD PI Degree: PHD
Project Title: Food Allergy Research Consortium and Statistical Center
Project Number: 5U01AI066560-03 Fiscal Year: 2007
Project Number 2: Start Date: 7/1/2005
Activity Type: Cooperative Agreement

8. *U19AI066738*

Principal Investigator: Sampson, Hugh A PI Degree: MD
Project Title: Immunobiology Of Food Allergy And Its Resolution
Project Number: 5U19AI066738-03 Fiscal Year: 2007
Project Number 2: Start Date: 7/1/2005
Activity Type: Res Prog (Coop Agr)

9. *U19AI070235*

Principal Investigator: ROTHENBERG, MARC PI Degree: BS PHD MD
Project Title: Epithelial-Derived Eotaxin 3 In Eosinophilic Esophagitis
Project Number: 5U19AI070235-02 Fiscal Year: 2007
Project Number 2: Start Date: 9/15/2006
Activity Type: Res Prog (Coop Agr)

Department of Agriculture Funded Food Allergy Research Protocols

1. ACCESSION NO: 0189114 SUBFILE: CRIS

PROJ NO: ARKW-2001-04239 AGENCY: CSREES ARKW
PROJ TYPE: OTHER GRANTS **PROJ STATUS:** TERMINATED
CONTRACT/GRANT/AGREEMENT NO: 2001-52100-11249 **PROPOSAL NO:** 2001-04239
START: 15 SEP 2001 TERM: 14 SEP 2005 FY: 2005 GRANT YR: 2001
GRANT AMT: $784,000
INVESTIGATOR: Helm, R. M.; Herman, E. M.; Furuta, G.; Hefle, S.
PERFORMING INSTITUTION:
PEDIATRICS
UNIV. OF ARKANSAS FOR MEDICAL SCIENCES
4301 W. MARKHAM STREET
LITTLE ROCK, ARKANSAS 72205
DEVELOPING AN ANIMAL MODEL TO PREDICT ALLERGENICITY OF GENETICALLY MODIFIED FOODS

2. ACCESSION NO: 0197267 SUBFILE: CRIS

PROJ NO: CA-D*-FST-7216-CG AGENCY: CSREES CALB
PROJ TYPE: OTHER GRANTS **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2003-51110-01728 **PROPOSAL NO:** 2003-04253
START: 15 SEP 2003 TERM: 14 SEP 2008 FY: 2006 GRANT YR: 2003
GRANT AMT: $500,000
INVESTIGATOR: Bruhn, C. M.
PERFORMING INSTITUTION:
FOOD SCIENCE AND TECHNOLOGY
UNIV OF CALIFORNIA
DAVIS, CALIFORNIA 95616
MULTIfood allergyCETED FOOD ALLERGY EDUCATION PROGRAM

3. ACCESSION NO: 0196770 SUBFILE: CRIS

PROJ NO: HAW00859-G AGENCY: CSREES HAW
PROJ TYPE: OTHER GRANTS **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2003-51110-01729 **PROPOSAL NO:** 2003-04208
START: 15 SEP 2003 TERM: 14 SEP 2008 FY: 2007 GRANT YR: 2003
GRANT AMT: $196,000
INVESTIGATOR: SAULO, A. A.
PERFORMING INSTITUTION:
TROPICAL PLANT & SOIL SCIENCE

UNIV OF HAWAII
HONOLULU, HAWAII 96822
MANAGING FOOD ALLERGENS: AWARENESS AND TRAINING PROGRAMS FOR HANDLERS OF ETHNIC FOODS

4. ACCESSION NO: 0410486 SUBFILE: CRIS

PROJ NO: 3602-21000-005-07S AGENCY: ARS 3602
PROJ TYPE: USDA COOPERATIVE AGREEMENT **PROJ STATUS:** NEW
START: 01 AUG 2006 TERM: 28 FEB 2007 FY: 2006
INVESTIGATOR: DUNKLE L D; STEWART T S; SCHINCKEL A
PERFORMING INSTITUTION:
ANIMAL SCIENCE
PURDUE UNIVERSITY
WEST LAfood allergyYETTE, INDIANA 47907
DEVELOPMENT OF A SOY ALLERGY MODEL IN SWINE, PURDUE UNIVERSITY

5. ACCESSION NO: 0409180 SUBFILE: CRIS

PROJ NO: 6435-43440-020-00D AGENCY: ARS 6435
PROJ TYPE: USDA INHOUSE **PROJ STATUS:** NEW
START: 28 JAN 2005 TERM: 30 NOV 2009 FY: 2006
INVESTIGATOR: CHUNG S; MALEKI S J
PERFORMING INSTITUTION:
SOUTHERN REGIONAL RES CENTER
NEW ORLEANS, LOUISIANA 70179
REDUCING THE ALLERGENIC PROPERTIES OF PEANUTS

6. ACCESSION NO: 0408040 SUBFILE: CRIS; HNRIMS

PROJ NO: 1235-52000-054-00D **AGENCY:** ARS 1235
PROJ TYPE: USDA INHOUSE **PROJ STATUS:** NEW
START: 02 APR 2004 **TERM:** 01 APR 2009 **FY:** 2006
INVESTIGATOR: SOLANO AGUILAR G; SCHOENE N W; URBAN JR J F; DAWSON H D
PERFORMING INSTITUTION:
BELTSVILLE AGR RES CENTER
BELTSVILLE, MARYLAND 20705
THE EFFECT OF DIETARY PROBIOTICS ON IMMUNE AND GASTROINTESTINAL FUNCTION

7. ACCESSION NO: 0192201 SUBFILE: CRIS

PROJ NO: MICL02023 **AGENCY:** CSREES MICL
PROJ TYPE: HATCH **PROJ STATUS:** REVISED
START: 01 MAY 2007 **TERM:** 30 APR 2012 **FY:** 2007

INVESTIGATOR: Gangur, V.
PERFORMING INSTITUTION:
FOOD SCIENCE
MICHIGAN STATE UNIV
EAST LANSING, MICHIGAN 48824
ASSESSMENT OF ALLERGENIC POTENTIAL OF FOOD

8. ACCESSION NO: 0199761 SUBFILE: CRIS

PROJ NO: NEB-19-017 **AGENCY:** CSREES NEB
PROJ TYPE: SPECIAL GRANT **PROJ STATUS:** TERMINATED
CONTRACT/GRANT/AGREEMENT NO: 2004-34352-14791 **PROPOSAL NO:** 2005-06010
START: 01 AUG 2004 **TERM:** 31 JUL 2007 **FY:** 2006 **GRANT YR:** 2005
GRANT AMT: $146,306
INVESTIGATOR: Taylor, S. L.
PERFORMING INSTITUTION:
FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA 68583
ALLIANCE FOR FOOD PROTECTION (NE)

9. ACCESSION NO: 0207193 SUBFILE: CRIS; HNRIMS

PROJ NO: NEB-31-109 AGENCY: CSREES NEB
PROJ TYPE: SPECIAL GRANT **PROJ STATUS:** EXTENDED
CONTRACT/GRANT/AGREEMENT NO: 2006-34352-17447 **PROPOSAL NO:** 2006-06010
START: 15 AUG 2006 TERM: 14 AUG 2008 FY: 2006 GRANT YR: 2006
GRANT AMT: $145,103
INVESTIGATOR: Taylor, S. L.; Nordlee, J. A.
PERFORMING INSTITUTION:
FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA 68583
HOW DOES PEANUT PROTEIN TRAVEL AROUND THE BODY ONCE INGESTED AND EXERT IT'S HARMFUL EFFECTS?

10. ACCESSION NO: 0409808 SUBFILE: CRIS

PROJ NO: 3602-21000-005-04S **AGENCY:** ARS 3602
PROJ TYPE: USDA COOPERATIVE AGREEMENT **PROJ STATUS:** NEW
START: 21 SEP 2005 **TERM:** 30 JUN 2007 **FY:** 2005
INVESTIGATOR: DUNKLE L D; STALKER T
PERFORMING INSTITUTION:
CROP SCIENCE

NORTH CAROLINA STATE UNIV
RALEIGH, NORTH CAROLINA 27695
MECHANISMS OF LEGUME FOOD ALLERGY

11. ACCESSION NO: 0410688 SUBFILE: CRIS

PROJ NO: 3602-21000-005-06S **AGENCY:** ARS 3602
PROJ TYPE: USDA COOPERATIVE AGREEMENT **PROJ STATUS:** NEW
START: 08 JUN 2006 **TERM:** 28 FEB 2007
INVESTIGATOR: DUNKLE L D; NIELSEN N
PERFORMING INSTITUTION:
ANIMAL SCIENCE
NORTH CAROLINA STATE UNIV
RALEIGH, NORTH CAROLINA 27695
DEVELOPMENT OF A SOY ALLERGY MODEL IN SWINE-NORTH CAROLINA STATE UNIVERSITY