



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Aerospace Medicine Policy

ORDER
AM 1100.3H

Effective Date:
9/15/2010

SUBJ: Aerospace Medicine Organization

This order describes the Office of Aerospace Medicine's (AAM) mission, functions, and organizational structure. The organizational structure and functions at the division level and above are documented in Federal Aviation Administration (FAA) Order 1100.2, Organization FAA Headquarters, and FAA Order 1100.5, FAA Organization Field, and they are approved by the Administrator. Mission, organizational structure and functions at the branch level and below are documented in this order.

A handwritten signature in black ink, appearing to read "F. E. Tilton".

Frederick E. Tilton, M.D.
Federal Air Surgeon

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Chapter 1. General Information

1. Purpose of This Order. This order documents the Office of Aerospace Medicine's mission and functions to the branch level.

2. Audience. This order is distributed to the Associate Administrator for Aviation Safety (AVS-1) and AAM employees.

3. Where Can I Find This Order. You can find this order on the MYFAA Employee website: https://employees.faa.gov/tools_resources/orders_notices/.

4. What This Order Cancels. This order cancels Order AM 1100.3G.

5. Explanation of Policy Changes. This order updates the organizational structure of AAM, and incorporates the Federal Aviation Administration (FAA) approved format for long orders.

6. Organization Approval Authorities.

a. Organization and functions at division level and above are described in FAA Order 1100.2C, Organization – FAA Headquarters, and in FAA Order 1100.5C, FAA Organization – Field.

b. Authority to make changes in structure, authority, or responsibility at the branch level and below in AAM, is delegated to the Federal Air Surgeon (AAM-1) by paragraph 10e of FAA Order 1100.1A, FAA Organization – Policies and Standards.

c. The Program Management Division, AAM-100, maintains this order and prepares changes as necessary.

7. Vision, Mission, Goals, and Values.

a. Vision. Global leadership in aerospace medicine.

b. Mission. Enhance aerospace safety through surveillance, research, education, medical standards, and prevention of illness and injury.

c. Goals.

(1) Safety: Enhance aerospace safety through surveillance, research, education, and medical standards;

(2) Organizational Excellence: Develop people, manage for results, and provide efficient and effective services;

(3) International Leadership: Improve the level of global aerospace safety and health by promoting international relationships, harmonizing medical standards, coordinating research, and sharing knowledge;

(4) Capacity: Achieve the highest level of customer satisfaction by valuing our customers and providing services in the most effective and efficient manner.

d. Values.

- (1) Safety is our passion. We are world leaders in aerospace safety.
- (2) Quality is our trademark. We serve our country, our customers, and each other.
- (3) Integrity is our character. We do the right thing, when no one is looking.
- (4) People are our strength. We treat people as we want to be treated.

Chapter 2. Office of Aerospace Medicine

1. Structure. AAM's organizational structure is illustrated in Figure 2-1.

2. Functions.

a. AAM is the principle staff element of the FAA for:

- (1) Medical certification/qualification of airmen and other persons associated with safety in flight;
- (2) Airman medical regulations, standards, policies, and procedures;
- (3) FAA employee medical standards, policies, and procedures;
- (4) Designated Aviation Medical Examiner (AME) system;
- (5) Occupational health and preventive health limited to the tenancy agreement with the FAA Mike Monroney Aeronautical Center (MMAC);
- (6) Aerospace medical research;
- (7) Aerospace medical and human factors in civil aircraft accident investigations;
- (8) Biometric and biostatistical data for use in human factors evaluations;
- (9) Aerospace medical education;
- (10) Agency health awareness;
- (11) Regulation and oversight of industry drug and alcohol testing programs;
- (12) Medical review of all positive drug cases involving Department of Transportation (DOT) employees; and
- (13) FAA employee substance abuse testing programs.

b. The Office of Aerospace Medicine has the following responsibilities:

- (1) Develops, recommends, and coordinates national policies for issuance by the Administrator;
- (2) Develops and prescribes technical standards, systems, and procedures consistent with national policies;

(3) Prescribes national aerospace medicine program goals and priorities for field guidance and execution;

(4) Maintains liaison with other governmental agencies and private, professional, and technical organizations to ensure maximum support of the national aerospace medicine effort;

(5) Evaluates the adequacy of, and coordinates policies, rules, regulations, procedures, and program execution in meeting agency goals and priorities.

c. Develops, prescribes, recommends, and evaluates aerospace medicine regulations, standards, policies, and procedures for airmen and agency employees.

d. Coordinates with the National Transportation Safety Board (NTSB) and Office of Accident Investigation in providing professional medical services to investigate civil aircraft accidents.

e. Ensures that FAA medical certification standards and policies conform with international standards and recommended practices.

f. Provides professional and technical medical advice and assistance to the Administrator and other officials and participates in all intra-agency deliberations that concern medical determinations.

g. Determines the medical qualifications of FAA employees in positions with medical standards, as well as applicants for these positions, and grants or denies medical clearances for employment or continued employment.

h. Exercises line authority over the Regional Aerospace Medicine Divisions.

i. Develops regulations for and oversees the aviation industry's FAA-regulated drug and alcohol testing programs.

j. Establishes policies that ensure safety responsibilities are carried out in accordance with the Aviation Safety (AVS) Safety Management System (SMS).

k. Facilitates the open communication and sharing of safety information.

l. Promotes a positive safety culture.

m. Complies with Occupational Safety and Health Administration regulations and Agency Order activities for all AAM employees.

3. Special Delegations. The Federal Air Surgeon is delegated authority to:

a. Determine the medical qualifications of applicants for airman medical certificates and issue certificates to qualified applicants, bearing such limitations as may be required in the interest of safety.

b. Request additional medical information from applicants.

- c. Deny applications for airman medical certificates.
- d. Require medical reexamination or other investigation of the medical qualifications of holders of airman medical certificates as provided in 49 U.S.C. 44702.
- e. Designate or terminate the designation of AMEs under the authority provided in 49 U.S.C. 44702.
- f. Reconsider, reverse, or modify the medical certificate actions of designated AMEs under the provisions of 49 U.S.C. 44702.
- g. Ensure that all agency medical officers, scientists, and professional persons engaged in FAA aerospace medical activities comply with medical standards, rules, regulations, and agency orders.
- h. Issue notices of proposed rulemaking and hold public hearings in rulemaking proceedings pertaining to establishing medical rules and regulations.
- i. Grant, deny, or terminate authorization for special issuance of airman medical certificates to applicants who do not meet standards prescribed in Part 67 of the Federal Aviation Regulations (FAR).
- j. Review and authorize all aerospace medicine research projects or tasks.

4. Special Relations.

- a. Aerospace medicine research projects may be recommended by any FAA element and shall be approved by, and performed under the program guidance of AAM-1.
- b. The Federal Air Surgeon shall work closely with AVS-1 on matters of medical standards for airmen and airmen certification and records.

5. Federal Air Surgeon. In matters related to aerospace medicine:

- a. Provides professional advice and assistance to AVS-1 and the Administrator in making and implementing executive decisions, in formulating and presenting budget and program plans, and in developing and maintaining productive relationships with the public, the aviation community, and other Government agencies.
- b. Develops, coordinates, executes, and is accountable to AVS-1 for the adequacy of: agency policies, standards, systems, and procedures; airman rules, regulations, and standards; and program plans issued by or on behalf of the Administrator.
- c. Provides for program evaluation and undertakes action to correct deficiencies.
- d. Manages and evaluates the agency's employee substance abuse testing programs.

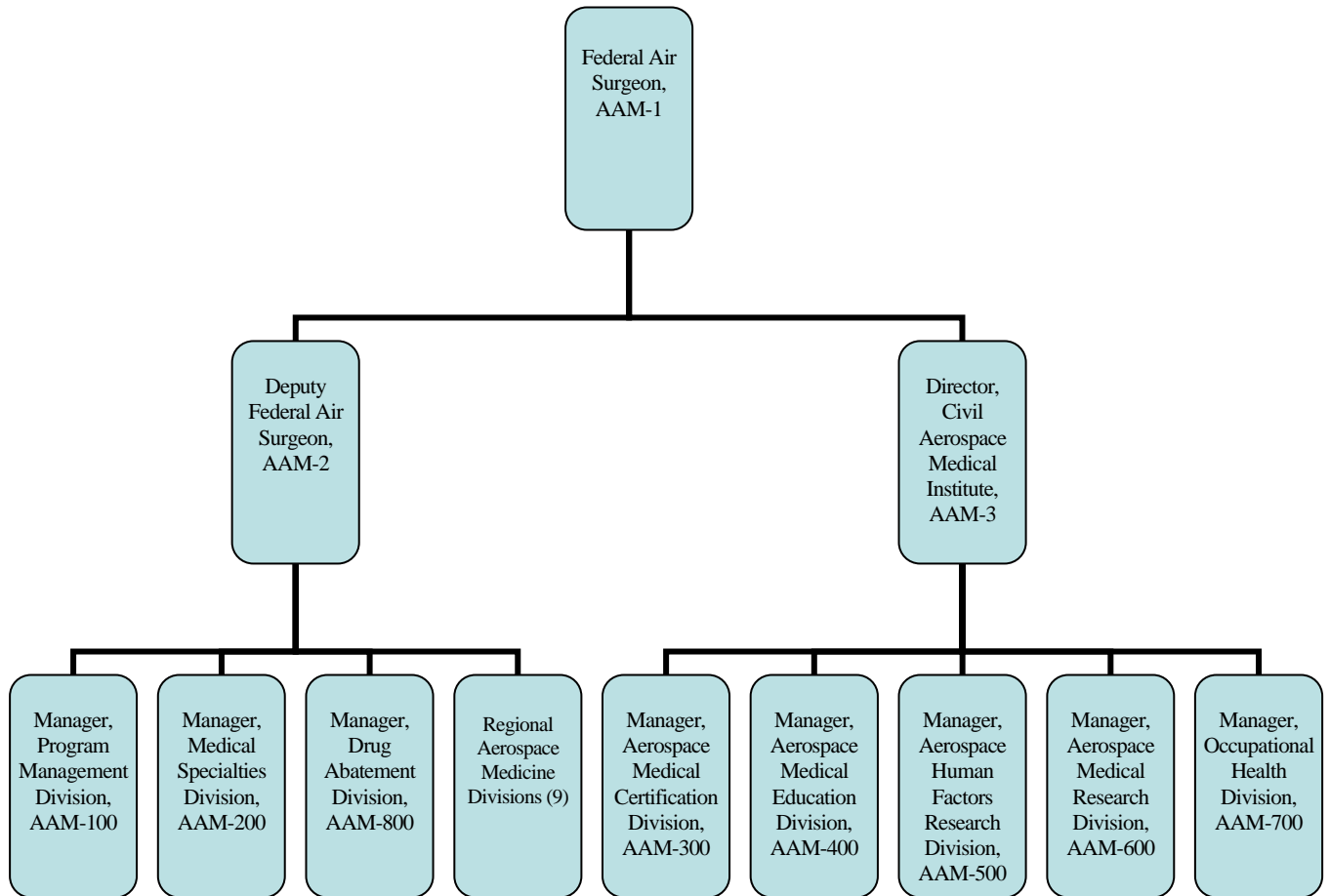
- e. Manages oversight of the aviation industry's FAA-regulated drug and alcohol testing programs.
- f. Assures that all elements of AAM participate constructively in equal employment opportunity in FAA employment and in equal employment opportunity planning for the future.
- g. Provides leadership and direction in planning, management, and control of office activities.

6. Deputy Federal Air Surgeon. In the absence of the Federal Air Surgeon, the Deputy Federal Air Surgeon (AAM-2) assumes the duties and responsibilities of the Federal Air Surgeon. In addition, AAM-2 oversees the daily operations of the Program Management Division, the Medical Specialties Division, the Drug Abatement Division, and the Regional Aerospace Medicine Divisions.

7. Director, Civil Aerospace Medical Institute. The Director of the Civil Aerospace Medical Institute (CAMI) oversees the daily operation of the Aerospace Medical Certification Division, the Aerospace Medical Education Division, the Aerospace Human Factors Research Division, the Aerospace Medical Research Division, and the Occupational Health Division, all located at the MMAC in Oklahoma City, Oklahoma. The director develops, maintains, and administers a system for the medical examination and certification of U.S. civil airmen; develops, maintains, and administers aviation medical education programs to meet the needs of the agency; conducts human factors and medical research projects applicable to the FAA's mission; provides research services related to the evaluation and validation of selection and training programs for Air Traffic Control Specialists (ATCS) and other aviation personnel; and develops, maintains, and administers an occupational health program that includes occupational medicine and clinical activities. As noted specifically in the tenancy agreement with the Aeronautical Center, CAMI:

- a. Provides emergency medical advice for all agency personnel at the MMAC.
- b. Provides consultation advice, emergency treatment for on-the-job illness or injury, and medical services required to support the personnel and emergency operations program located at the MMAC.

Figure 2-1. AAM Organization Chart



Chapter 3. Program Management Division

- 1. Structure.** The organizational structure of the Program Management Division is shown in Figure 3-1.
- 2. Functions.** This division is the principle element of AAM with respect to a wide range of national programs and administrative activities for the medical programs.
- 3. Responsibilities.** The division has the following responsibilities:
 - a. Develops, coordinates, publishes, and distributes field guidance to accomplish AAM program goals.
 - b. Develops, recommends, and administers AAM policies and procedures for:
 - (1) Budget and financial management;
 - (2) Business and strategic planning, including emergency readiness, continuity of operations and workforce planning;
 - (3) Organization and staffing;
 - (4) Human resource management;
 - (5) Compensation;
 - (6) Training and Awards;
 - (7) Performance Management;
 - (8) Administrative Investigations;
 - (9) Labor-Management Relations;
 - (10) Management and program analysis;
 - (11) Quality Management System (QMS) and evaluation of internal controls;
 - (12) Safety Management Systems (SMS);
 - (13) Directives, Freedom of Information Act (FOIA), Privacy Act and paperwork management; and
 - (14) Space Management and headquarters logistics and physical security.

(15) Ensures compliance of Occupational Health and Safety for AAM headquarters employees.

c. Coordinates and executes a variety of program and management analyses, studies, and special projects at the request of Congress, FAA and AAM management.

d. Plans, conducts, and supports organizational development and other efforts to promote effective work force utilization and productivity improvements; develops and administers systems for using labor measurement techniques, and develops and evaluates staffing requirements.

e. Assists in the management of international activities within AAM and in coordinating the development of international policies and International Civil Aviation Organization (ICAO) standards and regulations.

f. Coordinates information systems requirements with the AVS Chief Information Officer.

g. Coordinates responses and responds to Office of Inspector General (OIG), General Accounting Office (GAO), Safety Issues Reporting System (SIRS), Whistle blower, Hotline and Accountability Board investigations, audits, complaints and inquiries.

h. Ensures that the division meets all AVS/AAM SMS policy requirements.

i. Develops, implements, and continuously improves the AAM SMS.

j. Supports the promotion of a positive safety culture.

2. Management Resources Branch.

a. Develops personnel programs within the framework of agency personnel policy, and provides leadership in the development and implementation of a national program for AAM.

b. Represents AAM in the development of new agency personnel programs and administers AAM responsibilities under existing agency programs, including representation in the development of standards; administration of the incentive awards program, equal employment opportunity programs, the personnel security program, labor and employee relations matters; and, other agency personnel projects.

c. Recommends national training objectives and programs for AAM within the framework of agency training policies. Reviews AAM training plans to ensure consistency with national training objectives. Performs review and analysis of training courses and conferences to ensure that courses and conferences meet the training requirements of the AAM workforce. Manages national training budget.

d. Directs the paperwork management program, providing control and coordination of publications, forms, reports, and records.

- e. Maintains accountability records of assigned property and equipment throughout AAM headquarters and conducts annual inventory of such.
- f. Manages office space and telephones for the AAM headquarters organization.
- g. Manages the office directives management program and coordinates the review of agency directives.
- h. Coordinates FOIA requests and provides AAM Privacy Act oversight.
- i. Develops staffing standards to determine the knowledge, skills and abilities necessary to accomplish AAM missions.
- j. Coordinates AAM international activities.
- k. Manages administrative inquiries and investigations nationally.
- l. Reviews, investigates, and prepares responses to hotline, SIRS, and whistleblower complaints.
- m. Provides organizational assistance, as needed, to the Labor Relations Program.
- n. Represents management in Alternative Dispute Resolution (ADR) processes.
- o. Manages Corporate Communications within AAM.
- p. Carries out Occupational Safety and Health activities for AAM headquarters employees.

3. Systems, Finance, and Oversight Branch.

- a. Plans and conducts a program to promote effective workforce utilization and productivity improvements.
- b. Coordinates and evaluates the Office of Management and Budget (OMB) Circular A-123 program (Federal Managers Financial Integrity Act) and the Federal Activities Inventory Reform Act (A-76) within AAM.
- c. Develops AAM's budgetary policies and procedures, guidance materials, and such other instructions as may be required to ensure an effective, efficient administration of the budget and fiscal programs for the Operations, Facilities and Equipment (F&E) and Research and Development (RE&D) appropriations as follows:
 - (1) Directs and oversees AAM resource management;
 - (2) Allocates funds and positions among AAM Washington Headquarters, CAMI, and the regions; makes quarterly program reviews; and develops adjustments to allocations;

(3) Reviews and evaluates national aerospace medicine program budget estimates, workload data, and fiscal programs;

(4) Develops and participates in the presentation and recommendation in defense of the national AAM budget during FAA, Office of the Secretary of Transportation (OST), OMB, and Congressional committee reviews;

(5) Provides financial management advice to AAM-1 and staff regarding medical programs and projects.

d. Develops, executes and monitors the AAM Performance Plan.

e. Manages strategic and performance planning processes.

f. Coordinates AAM requirements for information technology and resources within AAM and with other Office of Aviation Safety (AVS) offices.

g. Acts as the AAM liaison for the OIG, GAO, and OMB audits.

h. Manages the implementation and maintenance of the AVS QMS for AAM.

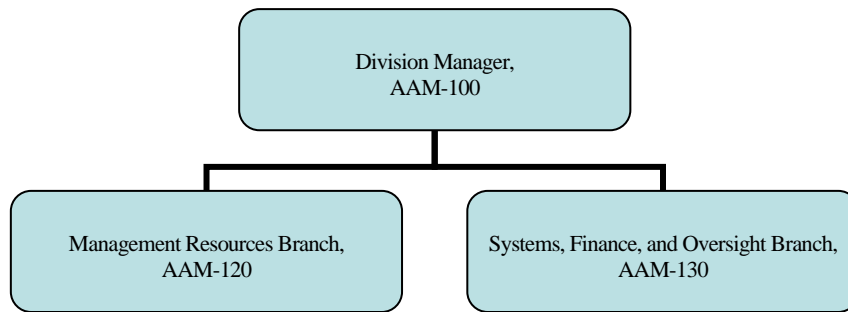
i. Develops and monitors strategic target initiatives, executive performance plans and short term incentives.

j. Reviews and updates the AAM web page.

k. Manages and implements the AVS SMS in AAM.

l. Manages AAM's Internal Controls Audit Program to comply with the IG, GAO, DOT, FAA, and FMFIA laws and guidance.

Figure 3-1. Program Management Division



Chapter 4. Medical Specialties Division

1. Structure. The organizational structure of the Medical Specialties Division is shown in Figure 4.1

2. Functions. This division provides professional advice and technical support to AAM-1, other AAM divisions, agency and DOT elements with respect to medical policies and standards, medical rulemaking, psychiatry, airman medical certification appeals, agency employee medical clearance appeals, FAA employee substance abuse program, employee health awareness activities, and ATCS health.

3. Responsibilities. The division has the following responsibilities:

- a. Provides professional advice and technical support to AAM-1.
- b. Develops, recommends and promulgates medical policies, standards and regulations for airmen as well as medical elements of rules, orders, policies, and procedures for airman medical certification programs.
- c. Develops, recommends, and promulgates medical standards for ATCS personnel; and develops, recommends, and promulgates agency orders, policies, and procedures for the ATCS health program.
- d. Develops, recommends, and coordinates national goals, directives, plans, policies, and procedures as they relate to the implementation of the FAA Employee Substance Abuse program and provides guidance and policy direction to nine regional and one center drug program coordinators.
- e. Develops, recommends, and promulgates standards, rules, policies, and procedures for agency non-employees related medical programs.
- f. Represents AAM-1 in Aerospace Medicine Seminar programs and in other forums when requested.
- g. Participates with the Aerospace Medical Education Division (AAM-400) in the development and implementation of airman medical certification standards, policies, and procedures.
- h. Operates the FAA headquarters health unit.
- i. Participates with the Aerospace Medical Certification Division (AAM-300) in the development and implementation of airman medical certification standards, policies, and procedures.
- j. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.
- k. Supports the promotion of a positive safety culture.

l. Provides medical advice to and serves on Agency Occupational Safety, Health and Environment Compliance Committee (OSHECOMM).

4. Deputy Division Manager. The Deputy Division Manager supports the Division Manager and provides professional advice and technical support to AAM-1. In addition, the Deputy Division Manager serves as the Departmental Medical Review Officer (DMRO) and provides oversight and management of the FAA Headquarters Health Unit. The DMRO is responsible for the following functions:

a. Assumes the duties and responsibilities of the Division Managers responsibilities in his or her absence.

b. Provides medical review of all drug test cases involving DOT, Transportation Security Administration (TSA) and U.S. Coast Guard (USCG) employees.

c. Reviews and interprets all confirmed drug test results reported by the laboratory.

d. Performs same duties as Field Medical Review Officers (FMRO) for FAA Headquarters employees and employees of the other operating administrations of the DOT and any other government agency supported by the DOT.

e. Provides general oversight and coordination with the Employee Assistance Program (EAP) to assure that any DOT employee required to enter into a substance abuse rehabilitation program has the opportunity to receive appropriate treatment.

f. Monitors rehabilitation status of agency employees in safety-and-security-sensitive positions.

g. Provides guidance, policy direction, and oversight of FMRO, Drug Program Coordinators (DPC). Collaborates with EAP managers, and service providers in areas of recognition, diagnosis, intervention, treatment, and medical practice factors in substance abuse.

h. Provides advice and assistance for management in planning and overseeing the substance abuse program.

i. Serves as a Contracting Officers Technical Representative for all Medical Specialties Division contracts.

5. FAA Headquarters Health Unit Staff is responsible for the following functions:

a. Provides emergency first aid to sick and injured employees and arranges transfers of sick or injured employees to hospitals when indicated.

b. Organizes medical screening and educational programs sponsored by the FAA Health Awareness Program (HAP).

c. Coordinates blood drives at FAA headquarters.

6. Internal Substance Abuse Program Branch. The FAA Employee Substance Abuse Branch is responsible for the following in the development, implementation, administration and management of the FAA employee substance abuse program:

- a. Develops, recommends, and coordinates national goals, directives, plans, policies, and procedures as they relate to the implementation of the FAA employee substance abuse program.
- b. Develops, recommends, and coordinates new program initiatives to deter drug/alcohol abuse.
- c. Provides guidance and policy direction to regional and center DPCs.
- d. Develops, analyzes, and reports on FAA employee substance abuse statistics.
- e. Serves as the FAA liaison to the DOT in matters related to the FAA employee substance abuse program.
- f. Develops, conducts, and monitors training of managers and supervisors, and promotes and implements employer awareness events related to the agency's employee substance abuse program.
- g. Evaluates employee substance abuse program implementation for operational efficacy standardization.

7. Medical Appeals Branch. The Medical Appeals Branch has primary responsibility to manage, evaluate and recommend action on appeals to the Federal Air Surgeon regarding airman medical certification under Title 14, Code of Federal Regulations, Part 67 (14 CFR Part 67) and FAA Order 8500.1 series "Airman Medical Certification – Disqualification Procedures," and regarding Air Traffic Control Specialist (ATCS) medical qualification under FAA Order 3930.3 series "Air Traffic Control Specialist Health Program." The Branch also has many additional related responsibilities and functions as follows:

- a. Manages the overall medical appeals process, to include tracking in the CASES database all appeals cases, requests for specialist consultation from AMCD or the Regions to the Chief Psychiatrist and Chief Psychologist, and related correspondence.
- b. Evaluates and recommends disposition regarding airmen medical certification appeals cases.
- c. Evaluates and recommends disposition regarding Air Traffic Controller Specialist (ATCS) medical qualification appeals cases.
- d. Evaluates and recommends disposition regarding airman cases referred from the Drug Abatement Division (AAM-800) for alleged violation of Department of Transportation (DOT) regulations on drugs and alcohol under 14 CFR Parts 61, 67 and 91 and 49 CFR Part 40.
- e. Adheres to all DOT regulations and FAA Orders regarding protection of sensitive personally identifiable information.

f. Responds to public inquiries and related correspondence on airmen medical certification and ATCS medical qualification.

g. Consults with medical experts regarding airmen medical certification and ATCS medical qualification as needed.

h. Provides professional advice, technical support and consultation to the General Counsel Office (AGC) and Regional Counsel Offices. Supports case development and arranges for and/or provides expert testimony concerning the relationship between an individual's medical condition and aviation safety, and supports the agency position in medical-legal matters.

i. Provides professional advice and technical support to the Federal Air Surgeon and the Manager, Medical Specialties Division.

j. Provides expert consultation to the Aerospace Medical Certification Division, the Regional Flight Surgeon offices, other organizations within Aviation Safety, and other FAA lines of business.

k. Provides technical editing and review for AAM reports and presentations.

l. Provides input to and coordinates with the Aeromedical Standards and Policy Branch (AAM-220) regarding medical conditions, and submits medication issues for consultative opinion from the Pharmacy and Therapeutics Committee.

m. Represents the Federal Air Surgeon in Aviation Medical Seminar Programs and other forums when requested.

n. Participates in and supports the AVS Quality Management System through the development and execution of standard procedures according to ISO 9000 and evaluating process metrics through analysis of data.

o. Serves (i.e., the Branch Manager) as the point of contact for the AVS Consistency and Standardization Initiative Process under AVS-001-013.

8. Aeromedical Standards and Policy Branch. Aeromedical Standards and Policy Branch provides professional advice and technical support to Division Manager, AAM-1, Aerospace Medicine Divisions, and other agency elements regarding airman medical standards, and certification policies. Regulatory and policy activity responsibilities include the following:

a. Develops, recommends, and promulgates medical standards for airmen certificate holders and non-FAA ATCS personnel as well as rules, regulations, agency orders, policies, and procedures relative to medical programs of the FAA.

b. Develops, recommends, and promulgates medical standards for FAA ATCS personnel as well as orders, policies, and procedures relative to the ATCS health program of the agency.

c. Reviews all medical regulation standards, orders, policies, procedures, and related activities of the AAM.

d. Serves as the AAM liaison to the Federal or State agencies in matters related to medical standards.

e. Provides management for, and support to, AAM-1 on one-time special projects (e.g., forms, contract management, instructional manual revision, presentations, briefings, and issue papers).

f. Oversees Pharmacy and Therapeutics Committee activity.

9. Chief Psychiatrist is responsible for the following functions:

a. Develops and coordinates responses to issues involving psychiatric and addiction situations related to aviation safety.

b. Provides expert advice and support in the area of addiction diagnosis and treatment as it relates to aviation safety.

c. Reviews results of psychiatric and psychological evaluations performed outside AAM and makes recommendations to Division Manager and AAM-1.

d. Performs or evaluates psychiatric examinations of selected airmen, ATCS's, and other agency employees as required and recommends action on individual cases.

e. Supports agency legal counsel in case development, arranging for, and/or providing expert testimony concerning the relationship between an individual's psychiatric-medical condition and aviation safety, and supports the agency position in medical-legal matters.

f. Provides clinical psychiatric advice and assistance to other FAA organizational units as needed.

10. Clinical Psychologist is responsible for the following functions:

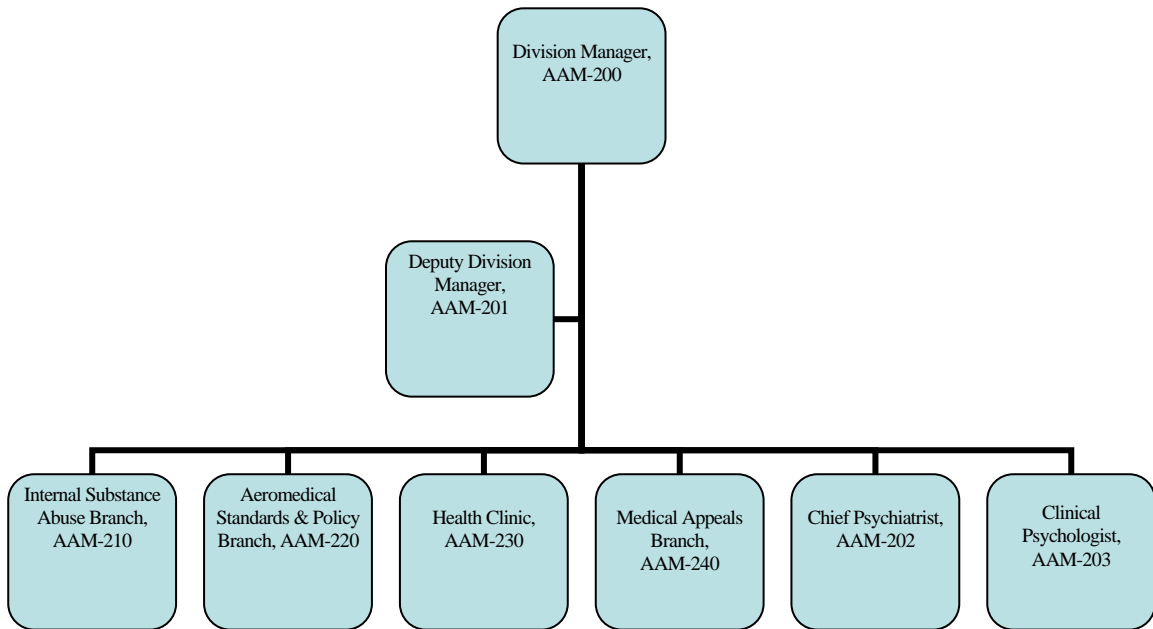
a. Reviews results of all ATCS psychological test results and determines the need for second tier psychology evaluations.

b. Reviews results of all second tier psychology evaluations, prepares reports, and recommendations regarding psychological clearance of ATCS candidates.

c. Provides psychology consultations to Aeromedical Certification elements within AAM (AMCD, Regional Flight Surgeons, etc.).

d. Develops and coordinates responses to issues involving psychological situations and makes recommendations to the Chief Psychiatrist, Division Manager, and AAM-1.

Figure 4-1. Medical Specialties Division



Chapter 5. Drug Abatement Division

1. Structure. The organizational structure of the Drug Abatement Division is shown in Figure 5-1.

2. Division Manager. The Drug Abatement Division Manager is responsible for the following:

a. Principle element of AAM responsible for the development, implementation, administration, and compliance monitoring of the aviation industry drug and alcohol testing programs as set forth in 14 CFR part 120 and other relevant regulations. The regulations require air carriers, sightseeing operators, contract air traffic control operators, and certain other aviation employers to implement drug and alcohol testing programs.

b. Plans, manages, and directs the division's activities.

c. Determines the need for and develops national policies, standards, systems, and programs; new or amended Code of Federal Regulations; operations specifications; and advisory materials governing the certification and operational aspects of the aviation industry drug and alcohol testing programs.

d. Provides staff assistance to the Federal Air Surgeon and Deputy Federal Air Surgeon, as needed.

e. Serves as the central point of contact and liaison with the OST, DOT modal administrations, the Substance Abuse and Mental Health Services Administration, the Office of National Drug Control Policy, FAA Office of Chief Counsel and other Federal agencies on all matters relating to the aviation industry's drug and alcohol testing programs.

f. Represents the FAA on committees and at meetings with the air carrier industry, other government agencies, and national and international aviation organizations.

g. Creates and maintains an atmosphere which promotes positive human relations and open communications between employees and their supervisors.

h. Relates Equal Employment Opportunity concepts to cover supervisory/managerial responsibility.

i. Identifies cost savings and operational efficiencies in accomplishing the goals of the division.

j. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.

k. Ensures that product/service providers regulated by AAM develop and maintain effective management programs for the identification of hazards and the control of safety risks.

l. Supports the promotion of a positive safety culture.

3. Field Operations Branch. The Field Operations Branch is responsible for the following:

- a. Conducts program analysis, oversight, and project planning for all field activities.
- b. Represents the Division on all matters related to the AVS QMS and Dashboard.
- c. Manages the development of the inspection schedules to reflect national strategic plans for aviation industry monitoring.
- d. Assists in the development of Drug Abatement Division compliance and enforcement policies and procedures governing inspections.
- e. Ensures the implementation of DOT and FAA compliance and enforcement policies and procedures.
- f. Participates in inspections and investigations of regulated companies for internal evaluation purposes.
- g. Develops and coordinates inspection strategies, goals, and objectives for the field as required for AAM, FAA, and DOT planning efforts.
- h. Conducts special studies and analyses to support development of field operation strategies and initiatives.
- i. Manages, evaluates, processes, and investigates voluntary disclosures of noncompliance.
- j. Develops enforcement policies and inspection/investigation procedures in cooperation with other elements of the division.
- k. Manages all Bargaining Unit related issues, including grievances, for the division.

4. Program Administration Branch. The Program Administration Branch is responsible for the following:

- a. Develops and coordinates program strategies, goals, and objectives as required for AAM, FAA, and DOT planning efforts in coordination with other elements in the division.
- b. Coordinates strategic program and project planning and workload tracking, and assists with administrative/staff functions (i.e., budget requests, personnel and staffing, logistics, computer support).
- c. Processes registrations and A449 Operations Specification paragraph.
- d. Serves as the focal point for international program issues, and serves as liaison on such issues with other agencies and international organizations.

- e. Develops and coordinates orders and policies in cooperation with other elements of the division.
- f. Develops and maintains the division's compliance and enforcement tracking subsystem.
- g. Processes and analyzes drug and alcohol testing programs management information system reports from the aviation industry.
- h. Serves as the focal point for the Inspector/Investigator Credentialing Program, between the Division and the Flight Standards Service.
- i. Develop, coordinate, and deliver all training programs for the division.
- j. Serves as the Division's liaison with the program requesters from other elements of the Office of Aerospace Medicine (i.e., business plans, emergency preparedness, etc.)

5. Program Policy Branch. The Program Policy Branch is responsible for the following:

- a. Serves as the division focal point for review and coordination of FAA regulations, orders, and policies that may affect the division or its regulations.
- b. Develops and coordinates all division rulemaking activities within the timeframes set by DOT, FAA, and the division manager, or as needed to meet program objectives.
- c. Evaluates existing policy and rule interpretations and develops and recommends policy initiatives.
- d. Serves as the division's focal point for Congressional inquiries, FOIA, and Privacy Act requests.
- e. Provides guidance to the aviation industry and internal staff on drug and alcohol regulations and policies through documents, internet web site, conferences, employee training, and responses to policy questions.
- f. Processes petitions for exemption from the division's programs submitted by aviation industry employers.
- g. Develops enforcement policies and inspection/investigation procedures in cooperation with other elements of the division.

4. Special Investigations Branch. The Special Investigations Branch is responsible for the following:

- a. Investigates complaints about rule violations and allegations of industry employee refusals to test. Coordinates actions with the Federal Air Surgeon and the Office of the Chief Counsel.

b. Investigates reports of alcohol or drug rule violations by individuals reported to the FAA. Some of those individuals hold FAA issued certificates and some do not hold certificates. Coordinates actions with the Federal Air Surgeon and the Regional Counsels.

c. Responds to aviation industry employee complaints, hotline complaints, whistleblowing complaints, and alleged rule violations by individuals.

5. Compliance and Enforcement Centers. Each Compliance and Enforcement Center is responsible for the following:

a. Oversight for the Center's daily operations.

b. Conducts inspections and investigations of regulated companies to determine compliance with applicable regulations.

c. Implements DOT and FAA compliance and enforcement policies and procedures.

d. Contributes and implements program, policy, and systems development efforts.

e. Participates in the development of Drug Abatement Division compliance and enforcement procedures governing inspections, record review, and reporting and enforcement activities.

f. Assists in the development of the inspection schedules to reflect national strategic plans for aviation industry monitoring.

g. Processes and investigates voluntary disclosure of noncompliance.

h. Provides on-the-job training on the inspection process and enforcement policies.

6. Compliance Inspectors/Investigators. Each Compliance Inspector/Investigator is responsible for the following:

a. Inspects and investigates all aspects of an aviation industry drug and alcohol testing program to assess compliance with the regulations.

b. Generates results of inspections/investigations in accordance with FAA Order 2150.3B and Order 9120.1A.

c. Conducts assigned inspection/investigation follow-up activities.

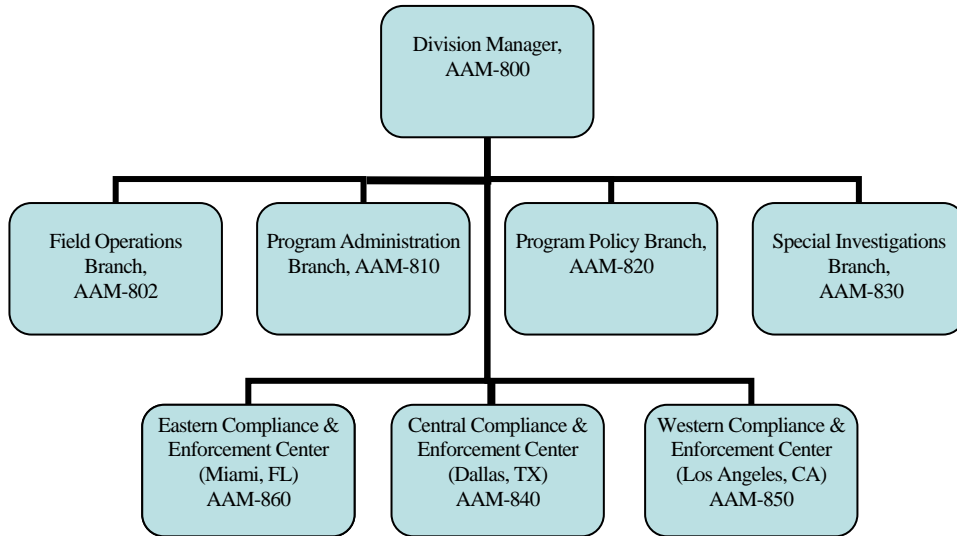
d. Documents inspection and investigation activities in the appropriate database.

e. Develops enforcement policies and investigation procedures in cooperation with other elements of the division.

7. Team Coordinators. Each Team Coordinator is responsible for the following:

- a.** Provides insight for division compliance and enforcement procedures governing on-site inspections, records review, reporting and enforcement activities.
- b.** Assists in the development of coordinated inspection schedules to reflect national strategic plans for aviation industry monitoring.
- c.** Provides internal and on-the-job training on compliance and enforcement policies and procedures.
- d.** Assists in the planning, assigning, and reviewing work from inspectors.
- e.** Assists Center Manager with day-to-day operations (i.e. travel vouchers, time and attendance/LDR, etc.)

Figure 5-1. Drug Abatement Division



Chapter 6. Regional Aerospace Medicine Divisions

1. Structure. The organizational structure of the Regional Aerospace Medicine Divisions is shown in Figure 6-1.

2. Functions. These divisions manage and direct regional aerospace medicine programs. The Senior Regional Flight Surgeon (SRFS) and all Regional Flight Surgeons (RFS) receive direction from, and report directly to, the Deputy Federal Air Surgeon, AAM-2. The SRFS is responsible for working with the RFS to develop and communicate regional positions on Aerospace Medicine policy and operational issues, as well as ensuring consistency in regional program standards, policies, and operations. The SRFS has the authority to assign tasks pertaining to regional standards, policies, and operations to members of the Regional Flight Surgeons Working Group (RFSWG), of which the SRFS is Chair. The RFSs administer and direct the airmen medical certification, occupational health, and AME programs throughout the regions as well as provides medical advice to agency lines of business as needed. The RFS conducts and participates in medical education programs for airmen and agency employees, and administers the FAA employee substance abuse program. The RFS, including the SRFS, are members of the Federal Air Surgeon's Management Team (FASMT). As members of the FASMT, they attend the regularly scheduled FASMT meetings, are participating members of various sub-groups and participate in the development of aerospace medicine program policies, practices, and procedures. The RFSs represent the Federal Air Surgeon on all medical matters within their geographic area or responsibility. The regional aerospace medicine divisions are responsible for the following:

- a.** Plans and administers a medical certification program for airmen, including professional review and adjudication of cases involving medical pathology and other problems requiring resolution at the regional level.
- b.** Administer and operate regional programs, which determine the clearance status of agency employees subject to medical standards (e.g., ATCS Health Program).
- c.** Administer the regional AME/AME Surveillance programs including selection, training, designation, redesignation, termination or non-renewal of designation. Performs other Quality Assurance functions to monitor and decrease errors. Conducts periodic site visits as needed.
- d.** Provide limited medical services (e.g., agency required medical examinations, emergency medical assistance) to agency field employees who are within commuting distance of FAA medical field offices (normally located in Air Route Traffic Control Centers).
- e.** Provide professional advice and guidance to the regional administrators and other officials in all aerospace medical matters. Communicates with external aerospace organizations and other agencies as needed.
- f.** Conduct periodic visits to field offices and facilities to advise and assist on medical matters.
- g.** Support selected aerospace medicine research and medical standards validation efforts.

h. Participate in aerospace and medical education programs for airmen and agency employees and participate in international airmen medical education programs, as opportunities arise.

i. Exercise line authority over the medical field offices.

j. Oversees the management of the FAA Employee Substance Abuse Program in the region.

k. Provide health and medical advice to regional occupational health and safety personnel for the evaluation and monitoring of agency personnel under the Occupational Safety and Health Administration (OSHA) rules and regulations (e.g., asbestos abatement, hazardous noise areas). Provide medical evaluations, monitoring, and support asbestos abatement, hazardous noise areas. Provide medical evaluations, monitoring, and support as required by agency occupational safety and health policy. Office of Worker's Compensation Programs (OWCP) consultations to the Air Traffic Organization, consultations to other lines of business regarding Americans with Disabilities Act (ADA) compliance; Public Access Defibrillation (PAD) Program Guidance; and, Hearing Conservation Program.

l. Implement the agency's national HAP in the region.

m. Implement QMS and SMS at the regional level.

n. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.

o. Supports the promotion of a positive safety culture.

p. Ensures compliance of Occupational Health and Safety for AAM regional employees.

3. Special Relations. Keep their respective regional administrators informed of the significant issues within their purview and participate on the regional management team in support of the Region's input to the agency's mission and goals.

4. Medical Field Offices. The Flight Surgeon shall perform all of the functions assigned to the Aerospace Medicine Division except those formally restricted or reserved to the RFS. The medical program responsibilities delegated to the flight surgeon shall include:

a. The ATCS health program;

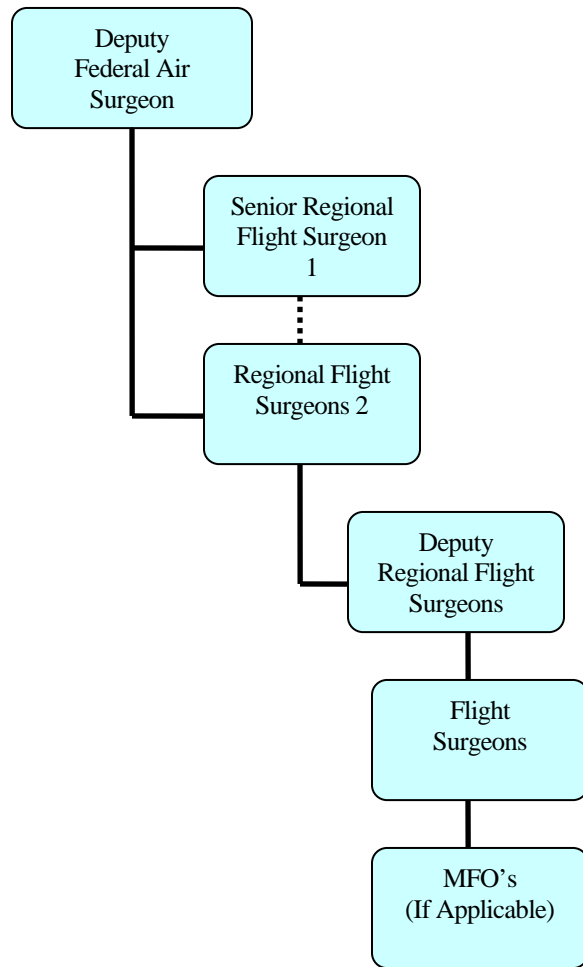
b. Airmen medical certification;

c. Airmen and employee health education;

d. Assist as needed in compliance with OSHA program requirements; and

e. Health awareness program.

Figure 6-1. Regional Aerospace Medicine Division



¹ The Senior Regional Flight Surgeon is the Chair of the Regional Flight Surgeons Working Group (RFSWG)

² All Regional Flight Surgeons are members of the RFSWG. There is 1 Senior Regional Flight Surgeon and 8 Regional Flight Surgeons located in the 9 FAA Regional Offices.

Chapter 7. Civil Aerospace Medical Institute

1. Structure. The functional organization of the Civil Aerospace Medical Institute (CAMI) is shown in Figure 7-1.

2. Functions. CAMI develops, maintains, and manages a system for the medical examination and certification of U.S. civil airmen; conducts medical and related human factors research projects applicable to the FAA's mission; develops, maintains, and administers aerospace medicine education programs to meet the needs of the agency; provides professional advice and technical knowledge to AAM-1 and other agency elements; provides occupational health programs limited to MMAC employees; and operates a medical clinic for the MMAC.

3. Responsibilities. CAMI is responsible for the following:

a. Conducts aerospace medical certification, research, education, and occupational health activities.

b. Administers a program for the selection, training, and management of physicians designated to conduct aviation medical examinations of civil airmen throughout the United States and abroad.

c. Administers a review system for the processing, professional, evaluation, and disposition of applications for medical certification.

d. Manages a national repository of airmen medical records.

e. Develops and publishes biostatistical data from airman medical records.

f. Develops and maintains data from a centralized Autopsy database.

g. Evaluates and recommends to AAM-1 appropriate revisions of the airman medical certification standards.

h. Evaluates human performance in aviation, air traffic control and aerospace environments, both simulated and actual, by conducting and applying the results of multidisciplinary medical, psychophysiological, biochemical, human factors, and psychological studies; initiates both in-house and contractual research related to improving performance and safety; and participates in select on-site investigations to analyze major problem areas.

i. Participates in national and international research programs in support of the selection and training of aerospace personnel. This includes job-task analyses, the development, validation, and evaluation of selection tools and methods, and the development of valid job performance measures.

j. Conducts research into the pharmacological, biochemical, and psychological aspects of human interactions of operators in civil aerospace environments.

- k.** Plans and executes in-flight studies to determine the effects of the national aerospace environment, flight procedures, and equipment upon the human body and human performance.
- l.** Utilizes general aviation simulators to conduct research that assesses the human factors associated with pilot performance and provides recommendations regarding enhancements to procedures, displays, and controls to reduce error prone conditions and improve aviation safety.
- m.** Conducts research into the capabilities and limitations relating to the effectiveness and reliability of personnel in the NAS.
- n.** Investigates the effects of drugs, toxic chemicals, and certain practices peculiar to civil aerospace flights on the human body and normal functions.
- o.** Monitors cabin safety problems and conducts research into on-board equipment and procedures to identify potential safety and efficiency improvements.
- p.** Investigates select general aviation and air carrier accidents and searches for biomedical, environmental, organizational, psychological, and human factors causes of the accidents, including evidence of disease and chemical abuse; analyze the accident data for select aviation populations; and studies accident survival.
- q.** Studies survivability factors in aircraft accidents.
- r.** Serves as the agency central repository and data warehouse for information concerning the medical, human factors, and human engineering design aspects of specific aviation accidents.
- s.** Disseminates medical education information through reports, booklets, films, and lectures to FAA components and the aviation public.
- t.** Administers programs of professional seminars and training for FAA pilots, inspectors, and medical personnel in aviation physiology, global survival, and medical aspects of aircraft accident investigation.
- u.** Administers a centralized national medical education program for airmen, including medical exhibits, in support of the FAA National Aviation Safety Program and the National High-Altitude Indoctrination Program under agreements between the FAA and the United States Air Force.
- v.** Plans, develops, and delivers professional seminars for the AME program and other FAA programs as required.
- w.** Serves the civil aviation community as a centralized national resource for aeromedical and scientific data.
- x.** Develops, recommends, administers, and evaluates policies, standards, regulations, and procedures for all FAA occupational health activities for agency employees.

y. Manages assigned portions of the agency ATCS Health Program, including the ATCS Health Information System.

z. Provides a HAP for Federal employees at MMAC.

aa. Provides a medical clinic in support of the MMAC and its tenants.

bb. Conducts pre-employment, pre-appointment, and pilot medical examinations and provides industrial hygiene services for personnel located at the MMAC.

cc. Conducts a Hearing Conservation Program for the MMAC.

dd. Ensures that the division meets all requirements established by the AVS/SSM SMS policy.

ee. Supports the promotion of a positive safety culture.

4. Program Management Staff. The staff provides budget/financial, procurement, quality management, and administers/management services for all elements of CAMI. The staff is responsible for the following functions:

a. Develops and coordinates local guidance and ensures implementation of AAM's policies to accomplish program goals.

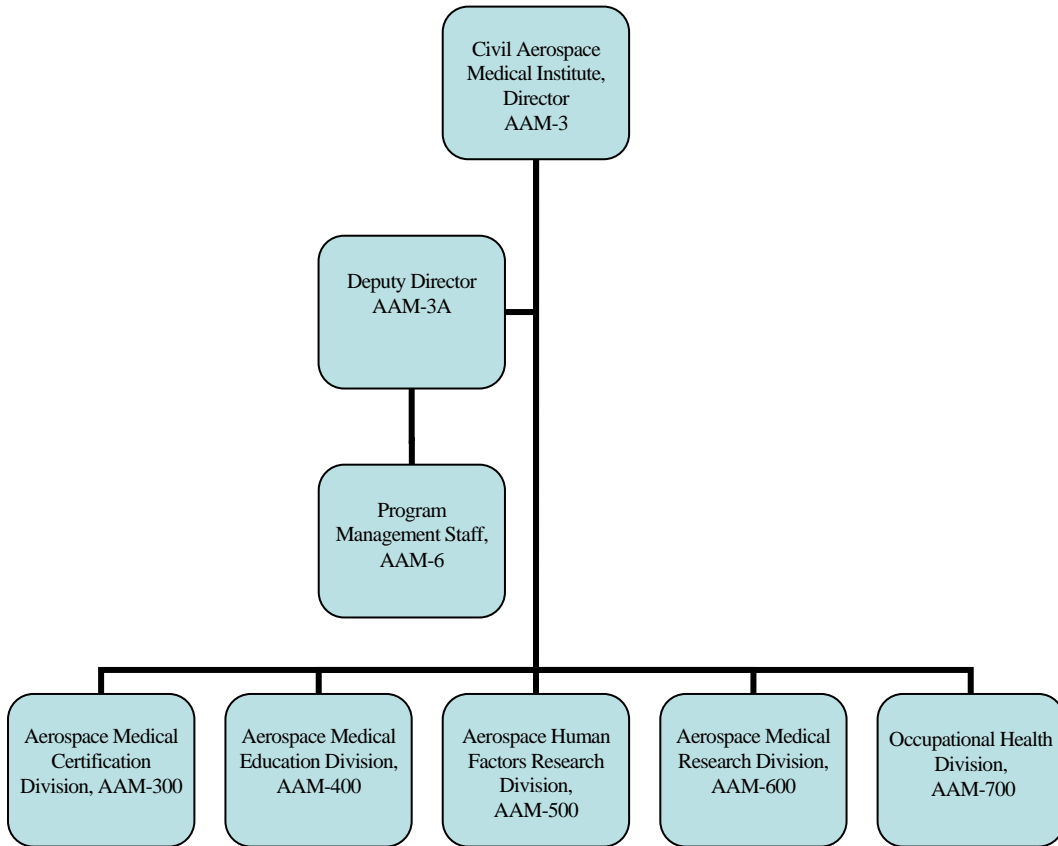
b. Develops, consolidates, and coordinates information required for budget submissions and other reports. Provides guidance, analyses, and preparation of assigned fiscal requirements on issues pertaining to staffing and funds.

c. Develops, recommends, and implements policies and procedures for CAMI in the area of:

- (1) Program planning;
- (2) Budget execution and financial management of the direct and reimbursable program activities;
- (3) Management information;
- (4) Organization and staffing;
- (5) Human resource management, training, utilization, and security;
- (6) Management analysis, communication, and facility support operations;
- (7) Centralized oversight of the QMS and the ISO 9000 program for CAMI;
- (8) All procurement action for supplies, equipment, and contracted services;

(9) Monitoring of contractual services for equipment maintenance, research support, contract research studies, personal services, and reimbursable agreement for CAMI.

Figure 7-1. Civil Aerospace Medical Institute



Chapter 8. Aerospace Medical Certification Division

1. Structure. The organizational structure of the Aerospace Medical Certification Division is shown in Figure 8-1.

2. Functions. This division administers the national medical certification program.

3. Responsibilities. The division is responsible for the following:

a. Develops, recommends, administers, and evaluates standards and procedures for all FAA airmen medical certification activities and associated recordkeeping systems, and provides professional and technical guidance to all elements of the agency engaged in such certification and recordkeeping activities.

b. Manages a national repository of airmen medical records and a system for processing medical applications and issuing or denying medical certification.

c. Administers review systems for the professional evaluation and disposition of applications for medical certification.

d. Makes recommendations to AAM-1 on the disposition of referred airman medical qualification cases and operates a system for the processing and disposition of requests for special issuance.

e. Provides evaluation data and recommendations to AAM-1 in the development of airman certification regulations, standards, rules, orders, policies, and procedures.

f. Evaluates the effectiveness of national, international, and field administration of medical certification and related aeromedical activities.

g. Provides evaluation data and recommendations to AAM-1 in the development of minimum medical standards for airmen, for certain (non-FAA) ATCS's, and others concerned with flight activities.

h. Develops and furnishes biostatistical data from airman medical records.

i. Develops and recommends rules, orders, policies, and procedures necessary to administer the medical certification program.

j. Establishes and maintains operating standards and procedures to ensure an effective and efficient medical certification automated processing system.

k. Monitors performance of AME's and provides statistical data to the Aerospace Medical Education Division (AAM-400) for efficient management of the AME program.

l. Establishes, administers, and maintains standards and procedures to ensure an effective and efficient system for the electronic transmission of FAA Form 8500-8, Application for Airman Medical Certificate or Airmen Medical and Student Pilot Certificate, medical data, and required electrocardiograms (EKG).

m. Develops and administers the medical elements of the Driving Under the Influence/Driving While Intoxicated (DUI/DWI) Program. Under the program, AAM determines whether an airman who has a DUI/DWI conviction or administrative action is eligible for medical certification.

n. Develops and administers internal operating directives and procedures for the industry drug and alcohol testing programs, as they pertain to holder of medical certificates issued under Part 67 of the regulations.

o. Participates with AAM-400 in the development and delivery of training for AME's and FAA personnel.

p. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.

q. Supports the promotion of a positive safety culture.

4. Medical Review and Appeals Branch. The Medical Review and Appeals Branch determines the medical qualifications of airmen based on available information and initiates appropriate action; reviews controversial cases regarding issuance or denial of certification; determines the disposition of special issuance and appeal cases; manages the medical elements of the DUI/DWI Program; and develops national program guidance on matters regarding airman medical certification.

a. Review, Qualifications, and Evaluation Section A and B. Analyzes and identifies incomplete or problematic applications for airman medical certification and initiates appropriate resolution action(s). Evaluates medical information and reports as they relate to medical applications, determines their responsiveness and relevance under established certification policies and procedures, and takes appropriate action.

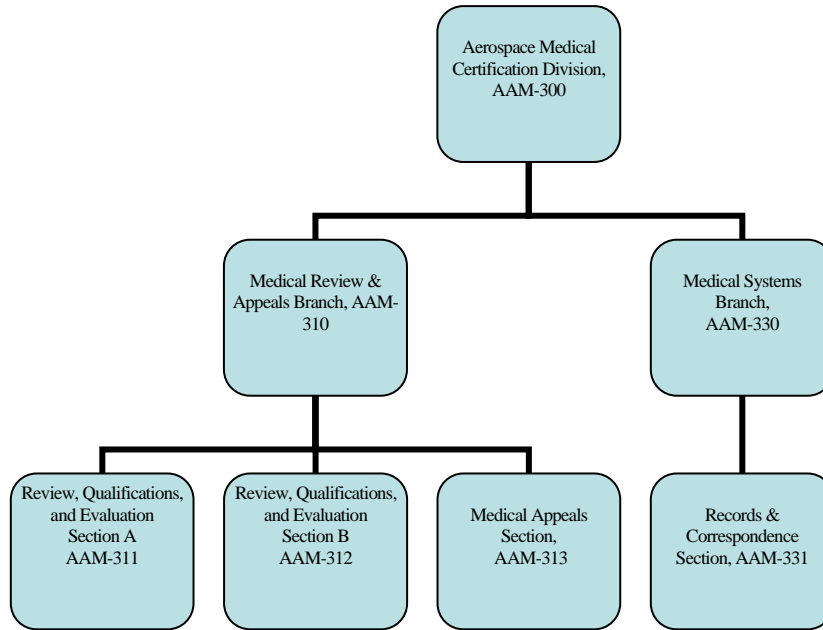
b. Medical Appeals Section. Analyzes and processes new and recertification special issuance and appeal cases. Evaluates the follow up reports, and issues medical certificate when appropriate. Schedules the bimonthly Federal Air Surgeon's Cardiology Panel, which reviews all first- and second-class airmen cases with certain cardiac conditions.

5. Medical Systems Branch. The Medical Systems Branch provides clerical, statistical, and automation support for the division; manages the automated system for collection and dissemination of medical data for the aeromedical certification program and international repository of airmen medical certification records; and manages the international repository of EKG and the automated EKG system.

a. Records and Correspondence Section. Maintains medical certification records and provides search, retrieval, and duplication services in support of the airman medical certification program.

Provides clerical support to the division, including composing and preparing correspondence to airmen regarding aeromedical certification.

Figure 8-1. Aerospace Medical Certification Division



Chapter 9. Aerospace Medical Education Division

- 1. Functions.** This division develops policies, procedures, and practices with respect to aerospace medical education, and administers these education programs to meet the needs of the agency and the civil aviation community.
- 2. Responsibilities.** The division is responsible for the following:
 - a.** Plans, develops, and administers the AME Program.
 - b.** Plans and develops standard criteria, and administers a centralized program for the selection, designation, training, and management of AMEs who are authorized to conduct aviation medical examinations of civil airmen throughout the United States and abroad. Ensures that the approved standard criteria for selection, designation, and training are applied equitably in all areas.
 - c.** Determines in coordination with the RFS, the geographical distribution of designated AMEs (including senior AMEs) to ensure adequate coverage to serve the needs of the pilot population. Takes action to correct any existing discrepancies nationally and internationally.
 - d.** Plans, develops, and administers a uniform AME performance evaluation program that provides information as to the quality of examinations conducted and medical certification decisions made by each AME. Ensures the accuracy and timeliness of the computerized AME performance evaluation reports, which provide the RFSs a meaningful statistical analysis for their consideration of the AMEs re-designation.
 - e.** Administers the process to renew the designation of all active AMEs by issuing a current ID card and recording in the AME Records System the signed IDs.
 - f.** Selects, designates, re-designates, and terminates designation of military/federal (Department of Defense (DoD), USCG, National Aeronautics and Space Administration (NASA), and other federal agencies), and international (foreign) AMEs.
 - g.** Coordinates with the offices of the Surgeons General of the Armed Forces, and with appropriate representatives of the USCG, NASA, and other federal agencies, in the designation of flight surgeons and federal civilian physicians as AMEs to conduct aviation medical examinations and issue airman medical certifications to government personnel needing FAA medical certifications.
 - h.** Coordinates with the State Department (through the FAA Office of International Aviation) in the designation of international AMEs to conduct aviation medical examinations and issue FAA medical certificates to United States airmen in foreign countries in accordance with Title 14 of the Code of Federal Regulations Section 67.5, Certification of Foreign Airmen.
 - i.** Distributes FAA medical forms, stationary, and aerospace medical publications to all AMEs. Initial supplies (upon AME designation) are provided by regional personnel and subsequent supplies are provided by AAM-400.

j. Operates and maintains the computerized AME Records System which is the central repository of the information of the AMEs. Maintains hard copy master files for all AMEs. Coordinates with regional personnel the timely reporting of relevant AME information to update the AME Record System. Publishes the AME directory via the internet based information from the AME Information System. Provides management data for evaluation of the AME program.

k. Ensures that all medical education programs comply with the essentials, guidelines, and standards of the Accreditation Council for Continuing Medical Education (ACCME) in order to maintain CAMI's ACCME accreditation.

l. Analyzes, designs, develops, conducts, evaluates, and administers nationwide AME education programs (existing and new) required to fulfill the aerospace medical training needs of all AMEs as outlined in FAA Order 8520.2F, Aviation Medical Examiners System. Ensures that AME education programs are designed to enable AMEs to take the correct aerospace medical certification decisions and to communicate their findings appropriately. Optimizes procedures and/or methodologies to evaluate AMEs' knowledge and understanding of aerospace medical certification standards and procedures and how to effectively apply them in the certification of airmen.

m. Advises, plans, designs, develops, conducts, evaluates, and administers professional technical training for FAA personnel including pilots, inspectors, accident prevention program personnel, and medical personnel in the areas of aviation physiology, global survival, medical and human factors aspects of aircraft accident investigation, aerospace medicine, cardiopulmonary resuscitation, and first aid.

n. Advises, plans, designs, develops, conducts, evaluates, and administers nationwide aerospace medical education programs for airmen focused on aviation safety in support of the FAA National Accident Prevention Program. Coordinates the development of aerospace medical training agreements (existing and new) between the FAA and the U.S. Air Force, Navy, and Army.

o. Develops physiological and global survival training standards for FAA flight crews. Reviews existing standards periodically and, when necessary, recommends updates for publication in FAA Order 4040.9D, FAA Aircraft Management Program.

p. Plans, designs, develops, conducts, evaluates, and administers altitude chamber training for FAA flight crews (to meet regulatory requirements) and civilian airmen at CAMI and at military installations across the country. Optimizes procedures and/or methodologies to evaluate FAA flight crew's knowledge and understanding of aviation physiology and global survival and how to effectively apply this knowledge to their day-to-day job-related activities.

q. Operates and maintains CAMI's altitude chambers, thermal chamber, portable spatial disorientation trainers, and the emergency ditching simulators. This equipment is used in support of physiological and global survival training programs as well as research projects.

r. Develops and maintains a database on altitude (hypobaric) chamber operations for the purpose of assessing the prevalence of adverse individual reactions to chamber flights, evaluating the long-

term effects of repeated chamber flight exposures among instructors, and monitoring chamber workload or usage.

s. Plans, develops, and conducts nationwide education/training activities (using all available delivery media and/or methods) to disseminate aerospace medical information and scientific data to FAA personnel, AMEs, airmen, aviation industry, aviation organizations, and the general public in support of the agency's mission of promoting aviation safety.

t. Designs, develops, and distributes didactic audiovisual materials (video, handouts, multimedia presentations, etc.) and publications used in support of all aerospace medical education programs. These educational aids are designed to support the dissemination of aerospace medical information that promotes aviation safety.

u. Serves as a centralized national resource of aerospace medical information and scientific data for the civil aviation community. Manages and maintains the CAMI Aeromedical (Aerospace Medical) Library. Establishes and maintains close liaison with other government and private organizations (national and international) that represent the interest of the civil aviation pilot population in order to disseminate aerospace medical information that promotes aviation safety.

v. Supports international exchange programs, such as the International Exchange Visitor Program, that facilitate interaction between aerospace medicine professionals, enable the exchange of scientific information, and promote the FAA's international leading role in aerospace medicine.

w. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.

x. Supports the promotion of a positive safety culture.

Chapter 10. Aerospace Human Factors Research Division

1. Structure. The organizational structure of the Aerospace Human Factors Research Division is shown in Figure 10-1.

2. Functions. The division conducts an integrated program of field and laboratory research in human factors aspects of aviation work environments. Research includes, but is not limited to, assessments of human performance under various conditions of impairment, human error analysis and remediation, agency work force optimization, assessing the impact of advanced automated systems on personnel requirements and performance, human factors evaluations of performance changes associated with advanced multifunction displays and controls in general aviation and air traffic control, and the psycho physiological effects of workload and shift work on job proficiency and safety in aviation-related human-machine systems. This research is accomplished within two research laboratories, the Flight Deck Human Factors Research Laboratory and the NAS Human Factors Safety Research Laboratory.

3. Flight Deck Human Factors Research Laboratory. This laboratory conducts a broad-based program of applied human factors research on causal factors associated with aviation accidents and issues involving the design, operation, and maintenance of flight deck equipment in the NAS. Research includes assessing the impact of advanced technologies, measurement of flight performance and risk, evaluating pilot/controller information transfer, determining the effects of stressors on human performance, identifying human factors involved in accidents and incidents, and quantifying the effects of advanced displays, procedures, and tasks design on pilot performance. Employees perform aerospace human factors research on individual and organizational issues, displays and controls, human-machine interfaces, and procedural factors as they impact the performance of pilots in the NAS. Employees conduct research examining shiftwork and fatigue management as related to the aviation workforce. This includes examining fatigue countermeasures for pilots, maintenance technicians, and flight attendants. Research areas include:

- a. Design of cockpit controls and displays associated with emerging technologies;
- b. Development of performance-based criteria for use in certification regulation;
- c. Identification of human casual factors associated with aircrew and maintenance-related aviation accidents and incidents; and
- d. Effective use of training devices integrated with existing instructional systems.

4. NAS Human Factors Safety Research Laboratory.

a. This laboratory conducts a broad, integrated program of research on the relationship of factors concerning individuals, work groups, and organizations as employees perform their jobs. Research is focused on improved person-job fit through selection, training, and changes to technology. Employees in this laboratory may perform applied research to develop, validate, and evaluate aerospace personnel selection procedures by conducting job analyses, developing or evaluating psychological tests and questionnaires, developing individual and group job performance metrics, and

establishing scientific evidence of the validity of aerospace personnel selection procedures and their utility in achieving agency organizational and NAS operational objectives.

(Examples of recent research projects includes assessing the validity of Air Traffic Control Specialist (ATCS) selection instruments, developing and evaluating biographical questionnaires and interview protocols for controllers and tech ops personnel, demonstrating the validity of ATCS selection instruments for placing applicants by option, developing new practical color vision tests for ATCS applicants, developing methods to assess ATCS applicant temperament, updating the Airway Transportation Systems Specialist (ATSS) job task analysis, and investigating the optimal role of Operations Control centers (OCCs).)

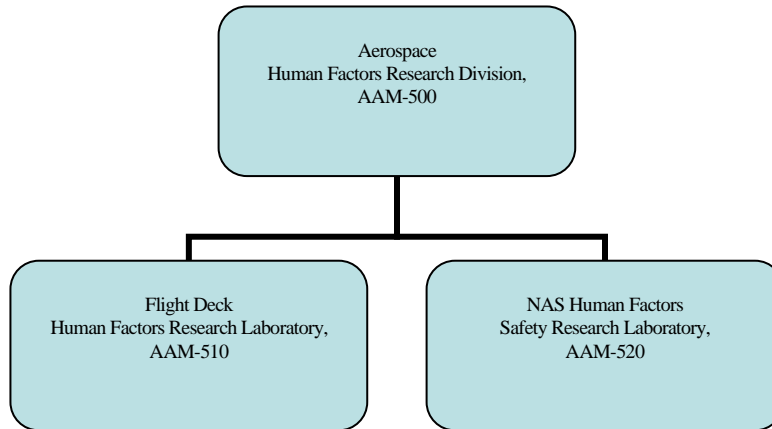
Other laboratory employees perform research on the impacts of advanced technologies on ATCS performance, information, transfer and human/machine design by utilizing real-time ATC simulation capabilities to investigate human factors operation concepts.

(Examples of recent research projects include conducting a strategic job analysis that will be used to select the NextGen controller, identifying ATCS's requirements for information external to the tower, development of a human factors concept of operations.)

b. Other laboratory employees investigate work environment issues that affect employee job performance such as workload, time on position, age, fatigue, and color perception. These employees assess the effectiveness of remedial actions, procedural or policy changes, or individual strategies and countermeasures to reduce performance decrements and enhance individual and team performance.

(Examples of recent research projects include an assessment of the effects of time on position and mental fatigue on dynamic comprehension, an analysis of safety risks associated with ATCS operational errors, and an evaluation of the utility of a set of Quick Reference Guides developed to provide assistance to ATCS front line managers. This research is carried out by networked teams of division employees whose participation varies according to the background and experience required for each project.)

Figure 10-1. Aerospace Human Factors Research Division



Chapter 11. Aerospace Medical Research Division

1. Structure. The organizational structure of the Aerospace Medical Research Division is shown in Figure 11-1.

2. Functions. This Aerospace Medical Research Division has mutually supportive laboratories that evaluate human performance and safety (including safety, security and health) in aerospace environments, both simulated and actual, by applying multidisciplinary medical, physiological, pharmacological, bioengineering, and biochemical/molecular studies. The division conducts protection and survival research, initiates in-house research related to improving performance, and may participate in select on site visits to investigate and analyze major problem areas associated with the human in the aerospace environment. The division also supports SMS by the following:

- a. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.
- b. Supports the safety risk management and safety assurance functions in the SMS through the analysis of hazards and other data to identify existing or potential safety risks.
- c. Supports the promotion of a positive safety culture.

3. Responsibilities. The division is responsible for the following:

a. Plans and executes studies to determine the effects of the civil aerospace environment, flight procedures, and equipment upon the human body, and conducts research into the clinical and biomedical capabilities and limitations relating to the effectiveness and reliability of personnel and passengers in the NAS.

b. Investigates selected general aviation and air carrier accidents and searches for biomedical and clinical causes of the accidents, including evidence of disease and chemical abuse; analyzes accident and incident data for selected aviation populations, and studies incidents and accident survival. Maintains a central repository for reports and data concerning the medical and bioaeronautical factors of specific accidents/incidents.

4. Bioaeronautical Sciences Research Laboratory. Studies and analyzes chemical, physiological, and medical factors in aircraft accidents/incidents and defines relationships between those findings and the safe, secure, and healthy operation of aerospace craft. The laboratory is responsible for five research teams with the following responsibilities:

a. **Forensic Toxicology Research Team.** Conducts research to detect and measure drugs, alcohol, toxic gases, and toxic industrial chemicals in victims of fatal aircraft accidents as a contribution to the analysis of accident causation. This team also studies the conditions that affect the accuracy and validity of such measurements, and adapts and/or develops improved methods for making such measurements. Clinical chemical parameters are also obtained and analyzed to determine significant health trends in aviation personnel. The team is actively involved in cutting-

edge research in the areas of postmortem alcohol production and the differentiation of ingested vs. microbial produced alcohol in postmortem fluids and tissues.

b. Biochemistry Research Team. Conducts research to identify biochemical factors that affect humans, studies toxicity of combustion gases and pharmaceuticals, and focuses on the development of new and sensitive analytical procedures. Additionally, the team oversees quality assurance of the entire Bioaeronautical Sciences Research Laboratory.

c. Functional Genomics Research Team. Conducts gene expression research that involves the functional analysis of environmentally responsive genes and their protein products in the context of normal and abnormal physiological states. This approach combines information from messenger ribonucleic acid (mRNA) and protein expressions with computational methods in examining networks of responsive genes that signal physiological fatigue and performance impairment following exposure to aerospace stressors (alcohol, drugs, hypoxia, or jet lag/fatigue). Novel analytical methods are developed to assist the FAA as well as the NTSB in post-crash accident investigations, enhance the drug abatement objectives by the AAM, and fine-tune existing knowledge-base for various conditions that are of concern in pilot certification. The team collaborates with the Bioinformatics Research Team to integrate gene expression data and analytic techniques for data mining and visualization.

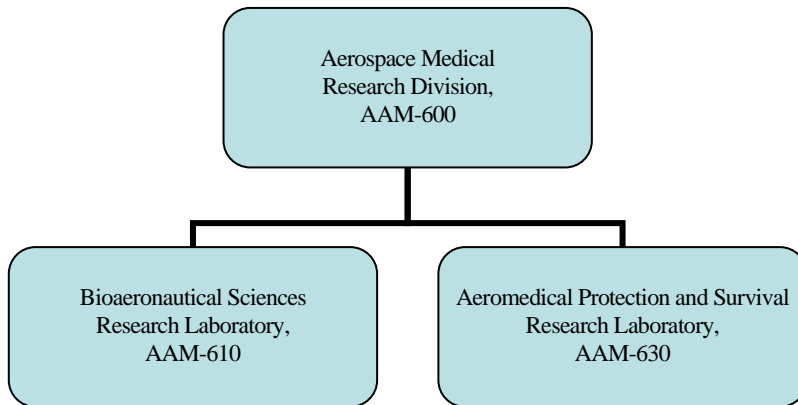
d. Radiobiology Research Team. Investigates the effects of ionizing and non-ionizing radiation on living systems with particular attention to the characteristics of radiosensitive tissue, identification of radiation hazards within the aerospace environment, and methods of protection and warning of such hazards.

e. Bioinformatics Research Team. Conducts research by implementing the Aerospace Medical Research Scientific Information System (AMRSIS) based upon the large aviation safety warehouse called the CAMI Aviation Accident Medical Database Decision Support System (AAMD-DSS). The team provides the robust tools to manage and understand biological data of importance to aviation and space medicine. Bioinformatics is the science of using information technology to better understand very complex biology. It is multidisciplinary and applies computational and analytical methods to solve biological problems. The bioinformatics tool-chest includes computational biology, modeling, imaging, data visualization, relational databases, data warehousing, and data mining. The assimilation of this information with other CAMI databases provides a more complete picture of the issues important to aerospace medicine including the development of new individualized countermeasures and therapies to better address aircrew health and medical certification decision-making. Very large datasets of aerospace medicine certification concerns and aviation safety mishap data can be analyzed to help contribute to the FAA goals of improved flight safety through preventing and reducing accidents, while improving survivability in the remaining mishaps.

5. Aeromedical Protection and Survival Research Laboratory. Conducts research pertaining to the human aspects of protection and survival from exposure to hazardous conditions relative to civil aerospace operations. Research includes, but is not limited to, methods of attenuating or preventing crash injuries, evaluating aircraft evacuation factors and survival equipment used under adverse environmental and emergency conditions, development of criteria for aerospace cabin environments, and establishing human physical limitations in civil aviation and space operations. The laboratory is responsible for six teams with the following responsibilities:

- a. Cabin Safety Research Team. Monitors aircraft cabin safety problems and conducts** research studies and tests pertaining to the emergency evacuation of aircraft and water survival. Evaluates emergency situations to determine adequacy of survival equipment and procedures based on human requirements. Develops techniques to enhance human performance in aerospace craft emergency situations.
- b. Biodynamics Research Team.** Evaluates the injury potential of new materials and structures by utilizing advanced computational and impact test techniques under simulated crash environments and supports other FAA elements in conducting dynamic tests. Develops new methods, techniques, and equipment for evaluating injury potential and methods to reduce injury and enhance survival.
- c. Environmental Physiology Research Team.** Conducts research into environmental factors including biological/chemical treats that detrimentally influence human functioning, physiology, safety, and health in aerospace environments. Evaluates emergency situations to determine adequacy of aircraft protection breathing technology. Develops improved test methodologies and procedures to identify environmental hazards and quantify preventive measures.
- d. Medical Research Team.** Conducts research regarding in-flight incapacitation of airmen, aviation accident injuries, medical cause of accidents, aircraft accidents involving drugs and alcohol, cabin in-flight medical emergencies, the use of automatic external defibrillators on aircraft, and the accident experience of special groups of pilots (e.g., insulin dependent diabetics, special issuance pilots, recreational pilots, etc.). Develops medical information to support airman medical certification and the better understanding of biomedical factors in aircraft accidents and evaluates performance decrements resulting from disease/physiological processes to determine their effects on aerospace safety.
- e. Vision Research Team.** Conducts research associated with the visual aspects of aerospace operations to identify ophthalmic deficiencies and corrective methods that may impact aerospace safety. Develops information to support airman medical certification, identifies aerospace craft/airport environment vision hazards, and supports related education/corrective programs.
- f. Aerospace Accident Autopsy Team.** An operational team that supports accident investigation functions of the FAA and NTSB to ensure that an autopsy of the pilot fatality is conducted as required by the investigators. The team identifies the accident victim, coordinates with local medical authorities to conduct the autopsy, funds the autopsy if required, provides the victim identity to AAM and CAMI researchers, provides copies of the autopsy to the investigators and maintains an autopsy database. The team coordinates closely with the Medical Research Team for medical support and provides relevant autopsy information for aerospace medical research activities.

Figure 11-1. Aerospace Medical Research Division



Chapter 12. Occupational Health Division

1. Functions. This division administers medical elements of agency environmental, occupational, safety, and health (EOSH) programs with regional flight surgeons; all elements of CAMI EOSH programs with CAMI division collateral duty safety officers; the CAMI Medical Clinic; and the FAA Institution Review Board (IRB). Provides professional advice and technical assistance for the Federal Air Surgeon, regional flight surgeons, and other AAM and FAA members regarding EOSH, clinical medicine, and human research-subject protections. Maintains working knowledge of the Environmental Protection Agency, OSHA, and other federal, international and national consensus organizations. Manages a professional, specialized, technical, administrative, and clerical staff. Communicates policy, standards, rules, regulations, management, budget, and other resource issue with program management, medical specialties, and other AAM leaders. The division supports SMS in the following:

- a. Ensures that the division meets all requirements established by the AVS/AAM SMS policy.
- b. Supports the promotion of a positive safety culture.

2. Responsibilities. The division is responsible for the following:

- a. Environmental and Occupational Safety and Health (EOSH) Medical Activities.

- (1) Conducts an occupational medical surveillance program for MMAC employees who are potentially exposed to recognized health hazards.

- (2) Assists the MMAC Office of Human Resource Management with medical aspects of plans to validate and properly control OWCP chargeback payments to the Department of Labor for on-the-job medical disability cases. This includes the prevention and medical management of on-the-job injuries through the application of sound occupational medicine preventive measures.

- (3) Performs the DPC and FMRO functions associated with all FAA Employee Internal Substance Abuse Programs at the MMAC.

- (4) Plans and administers medical services to support the MMAC emergency operations and continuity of operations programs. Prepares contingency plans for and provides services in response to disasters and recovery from disasters. Provides CAMI obligations to MMAC. Support CAMI divisions with CAMI and MMAC readiness requirements.

- (5) Provides professional and technical assistance for all elements of the agency concerning medical aspects of environmental and occupational safety and health. Acts as consultant to the Federal Air Surgeon, RFS, and Flight Surgeons.

- b. CAMI Clinic Activities.

- (1) Provides limited primary care level of medical services and assist with referrals and consultations for domestic and international students attending the FAA Academy.
- (2) Provides limited services, primarily for minor care of illnesses and injuries, to improve efficiency and reduce time lost from work for MMAC employees and its tenants.
- (3) Provides consultations, advice, and emergency treatment for on-the-job illness or injury of agency personnel located at the MMAC.
- (4) Provides a HAP to all Federal employees at the MMAC.
- (5) Develops, conducts, and coordinates with the Aerospace Medical Research Division (AAM-600) projects involving clinical factors in aviation safety, by request.

c. FAA Institutional Review Board.

- (1) Receives and reviews research protocols involving human subjects conducted at, or sponsored by the FAA.
- (2) Supports and provides oversight for the local FAA Institutional Review Boards (IRB) such as FAA Technical Center Local IRB.