**ATHNA Travel Health Nursing**

***Model Core Curriculum Guide A***

***August 2019***

 ATHNA has created this *Model Core Curriculum Guide* to help guide the professional development of registered nurses entering the specialty of travel health nursing and to shape educational programs in travel health nursing. It is designed to raise the standard of travel health nursing practice to achieve greater professional standardization as well as better travel health recommendations and protection for the traveler. It can be used as one resource to help develop curricula and training programs in travel health nursing, addressing U.S. standards of travel health care and U.S. standards of nursing practice and professional performance.

 The Curriculum Guide is comprised of the knowledge and skills recommended for the competent registered nurse to practice travel health nursing in the United States. Major content areas include a description of the specialty, resources for national and international standards of travel health care, the pre-travel and post-travel assessment of the traveler and itinerary, global epidemiology of health risks to the traveler, vaccinology, prevention of travel-related injury and illness, and customized, motivational health counseling designed to maximize the health and safety of diverse travelers journeying to all destinations domestic and international. A Glossary of Travel Health Nursing terms is included as is a Reference List.

 **Travel health is a dynamic field and this Curriculum Guide will continue to evolve as the specialty of travel health nursing advances and the health and safety needs of travelers change.**

 This peer reviewed Curriculum Guide was developed by a panel of expert travel health nurses and comprises elements of the CDC *Health Information for International Travel*, the CDC *Epidemiology and Prevention of Vaccine-Preventable Diseases,* and the WHO *International Travel and Health,* as well as content from travel health, tropical disease, public health and nursing texts and articles in professional journals.

**How to Use This Curriculum Guide**

 Presently there are no academic centers in the United States that offer a separate nursing concentration or degree in travel health nursing, although many schools offer the necessary courses for a baseline education in the specialty. This Curriculum Guide was initially developed to helped address that gap in nursing education. First developed in 2002, over the years this Guide has served the specialty in two ways. First, it has provided professional nurses with a listing of course topics considered necessary for entry into practice. Second, it has served as a foundation for the development of a number of travel health nursing short courses and CE activities, including those offered by nurse experts, travel health companies (EHE, Concentra, Premise, Passport Health), the CDC Travel Health Branch, the CIA, the Smithsonian, and others. Currently it is posted on the ATHNA website and available for use by individuals, groups, and organizations. In 2019-2020 ATHNA will continue with its goal to share this Curriculum Guide more widely in an effort to expand travel health nursing education and engage many more U.S. nurses in the care of travelers. In addition, once ANA recognition for the specialty is attained, this Guide will be shared as one component of a comprehensive educational initiative with U.S. nursing schools to establish 1)undergraduate courses and concentrations in travel health nursing, 2)a post-baccalaureate travel health nursing certificate, and 3) graduate degrees in the specialty.

**Entry into Practice**

 Travel health nursing is often regarded as “just about vaccinations.” Immunizations are important, but only one of many risk reduction methods utilized to protect the health and safety of travelers- whether they travel nationally or internationally.

 ATHNA has developed a *Model Core Curriculum Guide* that can serve as one source to outline the knowledge and skills for the professional practice of travel health nursing. Furthermore, *Travel Health Nursing: Scope and Standards of Practice, 3rd ed*. defines the five levels of nursing proficiency in this specialty from novice to expert. The seventeen Standards describe the necessary practice and professional competencies for this specialty.

 Nurses at every educational level who practice travel health nursing find it necessary to take specialty- specific coursework in addition to the basic courses required for their state licensure as RNs or APRNs. Travel health nursing necessitates that all travel health nurses master a body of knowledge distinct from their foundational coursework of professional nursing education; a travel health nursing concentration is not routinely taught in the current registered nurse curriculum in the United States. At present, through undergraduate and graduate-level classes, short courses, CE activities, on the job mentoring, and self-directed learning, RNs acquire the knowledge and skills to provide the complete pre-travel consultation and post-travel triage. APRNs take additional courses to provide comprehensive post-travel evaluation and disease management.

**Foundational Knowledge and Skills in the Specialty** ·

* Knowledge and resources for national and international standards of travel health care (e.g. CDC, WHO)
* Pre-travel and post-travel assessment of the traveler and itinerary (critical questions for these consultations)
* Research methods and statistics (a Research and Statistics course to comprehend and interpret the travel health nursing literature)
* Global epidemiology of health and safety risks to the traveler (including map reading, knowledge of U.S. and world geography, global disease distribution (e.g. Meningitis Belt), understanding of common tourist activities in different national and world regions)
* Vaccinology- U.S. routine and recommended and required travel vaccines, international immunization differences, vaccine administration guidelines and documentation, issues for special travel populations (e.g. immunocompromised, pregnancy,) and professional resources such as CDC and the Immunization Action Coalition)
* Behavioral measures for the prevention of travel-related injury and illness including knowledge of key prevention techniques for vector borne diseases, motor vehicle accidents, food and water borne illness, personal safety, recreational hazards, climate related risks, and others.
* Techniques for customized, motivating health counseling designed to maximize the health and safety of diverse travelers with varied itineraries.
* If not previously acquired through basic nursing education or through employment, Internet search skills, cultural competency, and excellent written and verbal communication skills.
* Completion of at least 20 pre-travel consultations under close supervision
* Completion of 20 post-travel triage contacts under close supervision

 Progressing from novice to expert, the travel health nurse should master knowledge and skills in all of these content areas:

1. **Global Health and Travel in the 21st Century**

Globalization and Travel Health

Geographic Epidemiology / Global Distribution of Diseases and Health Hazards

Domestic and International Travel and Travel Health Trends

Role of WHO and the International Health Regulations

World Geography: Regions, countries, health and safety resources, political stability

Basic Concepts of Travel Health Epidemiology: terminology and statistics

Resources: CDC, World Tourism Organization, Other key stakeholders

1. **Defining the Specialty**

Comprehension of the *Travel Health Nursing: Scope & Standards of Practice, 3rd edition (2019)* and

*Application of Code of Ethics Provisions by Travel Health Nurses*

Ability to describe the What, Who, Where, When, How and Why of Travel Health Nursing

History of Travel Health Nursing: U.S. and Globally

Primary and Secondary Prevention as the Cornerstone of Professional Practice

Travel Health Nursing Objectives

Travel Health Professional Roles

 Pre-travel, In-transit, Post-travel, On-site Trip Support

 Supervisory roles

 Consultant to organizations, communities, governments and others

 Teaching: Academic settings, CE programs, lay audiences

 Publications: professional and lay literature

 Policy development

 Leadership roles within professional organizations

Travel Health Nurse Settings

 Employee Health

 College Health

 Private Travel Health Clinics

 Medical Centers

 Public Health

 Military

 Government and International Organizations

 Other

Travel Health Education and Training

 Formal education- U.S. opportunities and limitations

 Continuing education-resources

Legal Parameters of Practice

 U.S. national standards: role of CDC, Advisory Committee on Immunization Practices, FDA

 State Scope of Practice Regulations and state standards for immunization and travel health care

 Malpractice and travel health nursing

National and International Organizations for Travel Health Nurses

 U.S. Professional Organizations for Travel Health Nurses: American Travel Health Nurses Association (ATHNA), Interest Groups of American College Health Association (ACHA), American Association of Occupational Health Nurses (AAOHN), others

 International Perspective-International Society of Travel Medicine, U.K. Royal College of Nursing, Northern European Conference on Travel Medicine, Asia Pacific Travel Health Society, South African Society of Travel Medicine, others

Research Activities and Opportunities in the Specialty

1. **Health and Safety Risks of Travel**

**A. Introduction: The True Risks of Travel**

 Defining Travel Hazards: Risk Perceptions vs Realities

 Performing a Risk Analysis

 GeoSentinel and CDC Data on travel health risks for world regions and certain travel populations (e.g., seniors, women, immigrants and refugees)

 Injuries

 Vaccine preventable vs non-vaccine preventable conditions

 Diseases: Vectors, Person-to-person Contact, Ingestion, Environmental Exposures

**B. Injuries**

 Motor Vehicle Accidents

 Drowning

 Adventure travel-related (e.g.,hiking, parasailing)

(For definitions and full descriptions of diseases listed below see the CDC *Health Information for International Travel* or the APHA Control of *Communicable Diseases Manual*)

**C. Infections by Vectors**

 Malaria

 Aedes Illnesses

 Japanese Encephalitis

 Rabies

 Rickettsial diseases

 Chagas

 Others: see CDC and International Society of Travel Medicine Body of Knowledge Listings

**D. Infections by Ingestion**

 Traveler’s Diarrhea

 Hepatitis A

 Hepatitis E

 Typhoid fever

 Ciguatera fish poisoning

 Polio

 Other Viruses and Parasites: see CDC and International Society of Travel Medicine Body of Knowledge

**E. Infections by Personal Contact**

 Measles, Mumps, Rubella

 Hepatitis B and C

 HIV

 STI’s

 Varicella

 Tuberculosis and Influenza

 Others: see CDC and ISTM Body of Knowledge Listings

**F. Infections by Environmental Exposures**

 Leptospirosis

 Schistosomiasis

 Others: see CDC and International Society of Travel Medicine Body of Knowledge Listings

**G. Environmental Hazards**

 Risks of air transportation: air cabin issues, DVT/PE (deep vein thrombosis/ pulmonary embolism), jet lag

 Environmental: heat stress, cold exposure and frostbite, air pollution, sun exposure issues, altitude illness, oceans (rip tides, jellyfish envenomation and other sea life) and fresh water parasite exposures

 Motion Sickness

 Barotrauma

 Others: see CDC and International Society of Travel Medicine Body of Knowledge Listings

**H. Safety and Security**

 Personal Safety

 Role of U.S. State Department & Transportation Safety Administration

 U.S. State Department STEP (Smart Traveler Enrollment Program)

 Death during travel

 **IV. Psychosocial and Cultural Issues**

Culture Shock

Mental Stressors of Travel (e.g. panic attacks, Jerusalem Syndrome, depression, suicidal ideation)

Substance Abuse

Sexual Assault

Female Genital Mutilation

Sex trafficking

 **V. Travel Health Nursing Service Delivery**

Overview of the Different Delivery Models of Travel Health Services in the U.S. and Globally

Per *Travel Health Nursing: Scope and Standards of Practice, 3rd edition:*

 Pre-Travel Services

 Post-Travel Services

 In-transit Services

Administrative and Educational Services

**A. Pre-Travel**

Critical Skills: world geography, map reading, health assessment of diverse populations, including the very young and very old, pregnant travelers, as well as those with chronic disease and / or disabilities requiring specific medications, equipment and accommodations; understanding risk assessment and risk reduction, epidemiology terminology, knowledge of various international guidelines that may impact the traveler such as yellow fever vaccine requirements

Systematic Assessment of Traveler: health history, age, gender, allergies and medications, pregnancy status, immune suppression, physical abilities/limitations, psychological issues, reason for travel, prior travel experience, self-care skills; immunizations record and all medications (Rx, over the counter, and foreign purchase)

Systematic Assessment of Itinerary: dates of travel, proposed itinerary, rural vs urban travel, possible trip extensions, trip transportation and planned activities, accommodations, potential for at risk exposures (e.g. animals, fresh water, sick persons)

Creating a Care Plan for Reduction of Travel Health and Safety Risks

* Immunizations (see VI)
* Health Counseling (see VIII)
* Consultations and Referrals
* Post-travel Considerations

Confidentiality

Documentation

Evaluation of Pre-travel Services

Regulations and Legal Issues: National, State, Institutional

Resources for pre-travel care: see Reference List

**B. In-transit Care**

Telehealth

International Resources & Accessing Care Abroad /Referrals

Regulations and Legal Issues for Travel Health Nurses

**C. Post-Travel Services**

General approach to the returned traveler: symptomatic vs asymptomatic

Triaging the traveler: the process

General evaluation of ill or injured traveler

The traveler with fever

The traveler with diarrhea

The traveler with respiratory symptoms

The traveler with skin and soft tissue infections

Communicable Diseases-precautions/quarantine and reporting requirements to CDC, state and local public health authorities

Documentation

Regulations and Legal Issues for Nurses

Evaluation of post-travel care

Resources for post-travel care

 **VI. Travel Vaccinations and Vaccine Administration**

Principles of Vaccinology

The 3 R’s: Routine, Recommended and Required Vaccines

Adult Vaccinations (list of U.S.)

Pediatric and Adolescent Vaccinations (list of U.S.)

U.S. Vaccination Standards: Advisory Committee for Immunization Practices, Vaccines for Children program

CDC Vaccine Administration Guidelines: cold chain storage, handling, gloving, etc.

VIS forms

Contraindications and Precautions

Consents and Waivers

Adverse Events Management/ Vaccine Adverse Events Reporting System

Current issues and approaches: Vaccine hesitancy, vaccine availability, vaccine charges in the U.S. and globally

International Standards / Differences (list of vaccines)

Regulations and Legal Issues

Documentation: Federal, Institutional and CDC guidelines (WHO International Certificate of Vaccine Prophylaxis)

Resources for Professionals and Travelers

 **VII. Travel Health Medications for Prophylaxis and Self-treatment**

Medications for travel: Malaria, Altitude Illness (Acute Mountain Sickness, High Altitude Cerebral Edema, High Altitude Pulmonary Edema) Traveler’s Diarrhea, Jet Lag, Motion Sickness, Leptospirosis

Traveling with medications or syringes/ obtaining safe medications abroad

Travel medical kit: customized components by age and health status

Regulations and Legal Issues for the International Transport of Medications

 **VIII. Prevention Counseling**

Principles of Health Counseling

Risk Perception, Risk Reduction: Effective Messaging Techniques to address:

 Exacerbation of acute or chronic health issues and self-management

 Use of self-treatment medications for certain travel health conditions (e.g. poison ivy, heat rash)

 Jet lag management

 Food and Water Precautions /Water disinfection

 Motor Vehicle Accident Avoidance

 Water Activity Safety in swimming, boating, water sports (e.g. jet skis, parasailing, SCUBA)

 Personal Safety and Security

 STIs/ HIV Avoidance

 Altitude Illness management

 Vector borne Illness/ PPM (personal protection measures)

 Climate Hazard avoidance: heat, cold, sun

 Travel medical insurance: 3 types-travel insurance, travel health insurance, medical evacuation, trip cancellation

 Travel stress management

Government and non-governmental resources for the professional and the traveler

Documentation

Evaluation

Regulations and Legal Issues

 **IX. Travel Clinic Operations**

Starting a Nurse-run or managed travel clinic

Operational issues: staffing, equipment (refrigerator/thermometers for cold chain control) supplies, software, financials, marketing plan

Practitioner knowledge, skills, and attitude

Orientation plan, Policies and Procedures, Standing orders

Communication with patients: telephone, email, text, other

Clinic Documentation

Regulations and Legal Issues: Federal, state, institutional

Telehealth

Resources and Tools for the Clinic

Providing care to the traveler with limited resources of time or funds

 **X. Travel Issues for Special Populations**

Defining “special populations” for travel health nursing

Assessing for fitness-to-travel and accommodations

Infants and Children

Seniors

Women

LGBTQ+ travelers

Persons with co-morbidities: acute illness, chronic illness, physical or mental disabilities

Allergies (e.g. medications, environment, foods)

Immunosuppression, including HIV

Pregnancy (pregnant, trying to get pregnant)

Visiting Friends and Relatives

Last Minute Travelers

Ex-pats and Long-stay travelers

Cruises

Hajj pilgrims and other mass gatherings

Healthcare workers

International adoption

Students

Business travelers

Medical tourist (elective medical treatment abroad)

Immigrants and Refugees

Military personnel

Missioners and humanitarian aid workers

Scuba divers

Spelunkers

Others: See *Travel Health Nursing Glossary*

Resources for professionals and special population travelers

 **XI. Psychological Issues and Travel**

Psychological disorders and impact on travel (e.g. flying phobia, panic attacks, disordered eating)

Psychological Emergencies Abroad

Cultural Adaption and Re-entry Issues

Repatriation

Resources for Professionals and travelers

 **XII**. **Effects of Travelers on Host Countries**

*The Responsible Traveler* (publication that supports protection of destinations at www.istm.org)

Green Travel:minimizing carbon imprint, purchasing locally made souvenirs and services, supporting the local culture and eco- system

 **XIII. Continuous Professional Development**

Professional obligations in a dynamic field: adherence to the *Travel Health Nursing: Scope & Standards, 3rd edition,* compliance with the *Code of Ethics Provisions for Travel Health Nurses*, commitment to ongoing continuing education, pursuance of additional coursework, certificates and relevant academic degrees; membership in professional societies including the American Travel Health Nurses Association.

Online resources: ATHNA’s listings of CDC and other offerings at *Courses and Conferences*

U.S. Professional conferences: ATHNA, American Society of Tropical Medicine and Hygiene, AAOHN, ACHA, AANP, others

International options: International Society of Travel Medicine Conferences, University of Glasgow course, London School of Tropical Medicine course, McGill University and University of British Columbia courses

 **XIV. Future Trends in Travel Health Nursing**

Travel health nursing as one element in One Health; the recognition of the interdependence of human, animal, and environmental health

Ever increasing number of travelers, domestic and international, as more people travel for business or education, medical procedures, humanitarian efforts, religious gatherings, tourism, and migration

Greater technological advances: telehealth services for travelers; development of new travel apps

New vaccines in development: for E. coli infections, Dengue, to protect vulnerable groups such as pregnant travelers, etc.

Resources for travel health nurses to keep abreast of the latest trends in the specialty

*Curriculum last reviewed by ATHNA Expert Panel August 2019*

**Resources for the Model Core Curriculum Guide**

**Primary Sources:**

*Travel Health Nursing: Scope and Standards of Practice*, 3rd edition (2019)

*Code of Ethics Provisions for Travel Health Nurses* (2018)

Glossary of Travel Health Nursing Terminology (2019)

CDC Infectious Diseases Related to Travel (CDC Yellow Book 2020, Chapter 3, [www.cdc.gov/travel](http://www.cdc.gov/travel))

CDC *Health Information for International Travel* (2020)

ISTM Body of Knowledge ([www.istm.org](http://www.istm.org).)

CDC *Epidemiology and Prevention of Vaccine-Preventable Diseases*

WHO *International Travel and Health*

**Review Articles**

Bazemore AW. The Pre-travel consultation. Am Fam Physi, 2009, Sep 15: 80(6): 583-90.

Freedman, D. Malaria prevention in short-term travelers. NEJM 2008; 359 603-612.

Jenks, N. Nurse Pract. 2012 Jan 19; 37(1):1-7 Travel health: safety and preparation strategies for clinicians.

Rosselot, G. (2004) Travel health nursing: Expanding horizons for occupational health nurses. AAOHN J, 52(1), 28-41.

Ryan, E and Kain, K. (2000) Health advice and immunizations for travelers. New England Journal of Medicine, 342(23), 1716-1725.

Schwartz, B et al. In the clinic: travel medicine. Annals of Internal Medicine. ITC6-16, 5 June 2012.

Spira, A. (2003) Preparing the traveler. Lancet, 361(9366), 1368-1381.

**Print Text**

Bugs, Bites, and Bowels: Travel Health (Cadogan Guides), Howarth, JW. Cadogan Books (UK), 2006

Control of Communicable Diseases Manual. 21st ed. Heymann, D, ed. APHA 2017.

Epidemiology and Prevention of Vaccine-Preventable Diseases. (“Pink Book”) 13th ed revised. CDC, DHHS, 2015. 2017 Supplement also available. To order: http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm

Health Information for International Travel 2020 (“Yellow Book”). CDC. Atlanta, GA: DHHS, 2017. To order: www.cdc.gov/travel

Red Book: Report of the Committee on Infectious Diseases. Committee on Infectious Disease. American Academy of Pediatrics. To order: http://aapredbook.aappublications.org/ Online version is continuously updated

The Travel and Tropical Medicine Manual, 5th Edition, Christopher A. Sanford, Elaine C. Jong, and Paul S. Pottinger,eds. Elsevier, 2017

The Vaccine Handbook: A practical guide for clinicians, 5th ed. G. Marshall. Professional Communications, Inc. 2015. http://www.immunize.org/vaccine-handbook/

Travel Medicine. Keystone, J et al. eds., 4th ed. Elsevier Science Health, 2018.

Travelers’ Vaccines. Jong E and Zuckerman J eds. BC Decker, 2010

Vaccines, 7th ed. Plotkin, SA, Orenstein, WA, Offit, P, Edwards,K M. ed. Elsevier, 2018.

Wilderness Medicine. 7th ed. Auerbach PS, et al ed. Elsevier, 2017

**Internet Resources**

\*ACIP-Advisory Committee on Immunization Practices: updated CDC guidelines for vaccine administration @ http://www.cdc.gov/vaccines/recs/acip/default.htm

ASTMH- American Society of Tropical Medicine and Hygiene: member directory, conference information @ www.astmh.org

ATHNA- American Travel Health Nurses Association: policy and procedure project; online list of patient resources; nursing standards, travel health education announcements and networking blog; free annual NED CE meeting @ www.athna.org

Australian Immunisation Handbook- excellent sections on vaccine administration 10th edition (2016) available online @ http://www.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook-home

\*CDC- Centers for Disease Control and Prevention: wealth of travel health resources including regional health risks, outbreak information, disease fact sheets, updates and all aspects of immunization information with ACIP recommendations, VIS forms, information on shortages, training announcements, travel apps, continuing education programs and links @ www.cdc.gov/travel

Heading Home Healthy- a destination research travel health program supported by Global EpiNet, Mass General, and CDC @ www. headinghomehealthy.org

\*IAC- Immunization Action Coalition: nonprofit immunization education resource; provides updated vaccine information; website includes FAQ’s; VIS forms; online newsletters also available @ www.immunize.org

IAMAT-International Association for Medical Assistance to Travellers: directory of English-speaking physicians and clinics worldwide @ www.iamat.org

IDSA-Infectious Disease Society of America: provides online article outlining vaccination for the immunosupressed guidelines from the perspective of the Society @ www.idsociety.org

ISTM- International Society of Travel Medicine: website offers organizational information; worldwide member clinic directory; information about conferences, courses, journal, and biannual congress as well as the Body of Knowledge examination; members are eligible to use the Listserve @ http://www.istm.org

KidsTravDoc- regularly updated web site maintained by Karl Neumann, MD, a pediatrician who specializes in travel medicine. Very user friendly for both providers and patients @ http://kidstraveldoc.com/wordpress/children-vacations-update/

ProMED Digest- (International Society for Infectious Diseases)- publishes world outbreak information. To order: www.promedmail.org

www.pregnanttraveler. com- website full of information about travel issues and pregnancy; maintained by Dale Carroll, MD a specialist in Ob/Gyn and travel medicine

UK Travel Health Nursing Competencies- Royal College of Nursing publication that defines critical competencies for the practice of travel health nursing in the UK, 2007. Available @ http://www.rcn.org.uk

US State Department-information sheets on countries worldwide; travel warnings; lists travel medical assistance companies @ www.travel.state.gov

WHO-World Health Organization: includes the Green Book-International Travel and Health and outbreak information, including SARS and Avian Flu updates @ www.who.int/ith

http://www.janechiodini.co.uk/ UK website maintained by a leading world expert on travel health nursing; good rabies tutorial

**Subscriptions**

Travelcare- the International SOS interactive database for international health and safety risks and recommendations @ www.travelcare.com

Travax- the Shoreland interactive database for international health and safety risks and recommendations @ www.shoreland.com

Tropimed- interactive travel health research database available as CD or Internet service in three languages @ www.tropimed.com

**Additional Articles:**

Angell SY, Cetron MS. Health disparities among travelers visiting friends and relatives abroad. Ann Intern Med. 2005 Jan 4; 142(1): 67-72.

Bacaner N, Stauffer B et al. Travel medicine considerations for North American immigrants visiting friends and relatives. JAMA. 2004 Jun 16; 291(23): 2856-64.

Bhadelia N, Klotman M, Caplivski D. The HIV-positive traveler. Am J Med. 2007 Jul;120(7):574–80.

Carroll ID, Williams DC. Pre-travel vaccination and medical prophylaxis in the pregnant traveler. Travel Med infect Dis. 2008 Sept: 6(5): 259-75.

Chen, L et al. Illness in Long-term Travelers Visiting GeoSentinel Clinics, EID 2009; 15: 1773

Freedman D et al. Geosentienl Surveillance Network. Spectrum of disease and relation to place of exposure among ill returned travelers. N Engl J Med. 2006 Jan 12; 354(2): 119-30.

Leder K et al. Illness in Travelers Visiting Friends and Relatives: A Review of the GeoSentinel Network, CID 2006; 43: 1185-93

Miller LC. International adoption: infectious disease issues. Clin Infect Dis. 2005 Jan 15; 40(2): 286-293.

Ryan ET, Wilson ME, Kain KC. Illness after international travel. N Engl J Med. 2002 Aug 15; 347(7): 505-516.

Roggelin L, Cramer JP. Malaria prevention in the pregnant traveller: a review. Travel Med Infect Dis. 2014 May–Jun; 12(3):229–36.

Toovey S et al. Special infectious disease risks of expatriates and long-term travelers in tropical countries. Part 1: malaria. J Travel Med. 2007 Jan-Feb; 14(1): 42-49.

Wilder-Smith A and Schwartz E. Dengue in travelers. New Engl J Med. 2005 Sept 1; 353(9):924-932.

**And More Articles of Note:**

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Have Insulin, Will Fly: Diabetes Management During Air Travel and Time Zone Adjustment Strategies. M Chandran, MD and S V. Edelman, MD. Clinical Diabetes April 2003 vol. 21 no. 2 82-85

Keeping older patients healthy and safe as they travel. Schlaudecker JD, Moushey EN, Schlaudecker EP.J Fam Pract. 2013Jan; 62(1):16-23

Expert Rev Vaccines. 2013 Apr;12(4):453-66 Business travelers: vaccination considerations for this population. Chen LH, et al.

Sun exposure behavior and protection: recommendations for travelers. Diaz JH, Nesbitt LT Jr. J Travel Med. 2013 Mar-Apr; 20(2):108-18. Epub 2012 Dec 4.

International travel patterns and travel risks of patients diagnosed with cancer. Mikati T, et al. J Travel Med. 2013 Mar-Apr; 20(2):71-7.

Gastroenterol Hepatol (N Y). 2016 Sep; 12(9):540-546. Vaccinating Patients with Inflammatory Bowel Disease. Reich J et al.

Ann Intern Med. 2016 Nov 22. Travel-Associated Zika Virus Disease Acquired in the Americas through February 2016: A GeoSentinel Analysis. Hamer DH et al. GeoSentinel Surveillance Network.

A questionnaire study of Voluntary Service Overseas (VSO) volunteers: health risk and problems encountered. Bhatta P, et al.. J Travel Med. 2009 Sep-Oct; 16(5):332-7

Clin Risk Manag. 2015; 11: 217–228. Published online 2015 Feb 12. Travel advice for the immunocompromised traveler: prophylaxis, vaccination, and other preventive measures Rupa R Patel, et al.

Mayo Clin Proc. 2013 Nov;88(11):1231-40.. Epub 2013 Oct 8. International travel by persons with medical comorbidities: understanding risks and providing advice. Hochberg NS, Barnett ED, Chen LH, Wilson ME, et al.

Travel clinic consultation and risk assessment. Noble LM, et al. Infect Dis Clin North Am. 2012 Sep; 26(3):575-93. Review

Global TravEpiNet: a national consortium of clinics providing care to international travelers--analysis of demographic characteristics, travel destinations, and pretravel healthcare of high-risk US international travelers, 2009-2011. LaRocque RC, Rao SR, Lee J, Ansdell V, Yates JA, Schwartz BS, et al. Clin Infect Dis. 2012 Feb 15;54(4):455-62.

**Post-Travel**

Thwaites, GE, & Day, NP (2017). Review article: Approach to fever in the returning traveler. NEJM, 376; 6:548-60.

Sanford CA, Fung C. (2016), Illness in the Returned International Traveler. Medical Clinics of North America, Mar; 100(2):393-409.

Up to Date, Evaluation of fever in the returning traveler, Author: Mary Elizabeth Wilson, MD Section Editor: Karin Leder, MBBS, FRACP, PhD, MPH, DTMH Deputy Editor: Elinor L Baron, MD, DTMH, https://www.uptodate.com/contents/evaluation-of-fever-in-the-returning-traveler

Online Dengue Clinical Case Management Course (CDC), https://www.train.org/cdctrain/course/1062677/

Bastaki, H., Carter, J., Marston, L., Cassell, J., & Rait, G. (2018). Time delays in the diagnosis and treatment of malaria in non-endemic countries: A systematic review. Travel Medicine and Infectious Disease, 21, 21-27.

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Vasievich, MP, Villarreal, JD, & Tomecki, KJ (2016). Got the travel bug? A review of common infections, infestations, bites, and stings among returning travelers. Am J Clin Dermatol, 17:5. P451-462.

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Martinez JD, Garza JAC, Cuellar-Barboza A., Going Viral 2019: Zika, Chikungunya, and Dengue, Dermatol Clin. 2019 Jan; 37(1):95-105.

Additional International Resources:

The RCN *Guidance on Travel Health Nursing Career and Competencies* and the RCN *ABC Health Certificate Course*, *The Practice of Travel Medicine: Guidelines by the Infectious Diseases Society of America*, *The Foundation Course in Travel Medicine awarded by the Royal College of Physicians and Surgeons of Glasgow*, CATMAT *Information for Travel Health Professionals*

**Travel Health Nursing Glossary**

**August 2019**

**ACIP.** The Advisory Committee on Immunization Practices is a CDC agency comprised of medical and public health experts who make recommendations for the use of vaccines to protect the health of the U.S. population. (ACIP https://www.cdc.gov/vaccines/acip/index.html)

**Advanced practice registered nurses (APRN).** A nurse who has completed an accredited graduate-level education program preparing her or him for the role of certified nurse practitioner, certified nurse anesthetist, certified nurse-midwife or clinical nurse specialist; has passed a national certification examination that measures the APRN role and population-focused competencies; maintains continued competence as evidenced by recertification; and is licensed to practice as an APRN (Adapted from APRN JDG, 2008)

**American Association of Occupational Health Nurses (AAOHN).** The American Association of Occupational Health Nurses is the professional association of licensed nurses engaged in the practice of occupation and environmental health nursing. (AAOHN http://aaohn.org/)

**American College Health Association (ACHA**). This association serves as the principal leadership organization for advancing the health of college students and campus communities through advocacy, education, and research. (ACHA https://www.acha.org/)

**American Society of Tropical Medicine and Hygiene (ASTMH).** The largest international scientific organization of experts dedicated to reducing the worldwide burden of tropical infectious diseases and improving global health. ASTMH offers qualifying clinicians the CTropMed® credential. (ASTMH https://www.astmh.org/)

**American Travel Health Nurses Association (ATHNA).** The professional organization of travel health nurses promoting the health of travelers and their communities through evidence based practice, research and advocacy. (ATHNA 2017)

**Antimicrobial Resistance**. When microorganisms such as bacteria, viruses, fungi and parasites change in ways that render the medications used to cure the infections they cause become ineffective.

**Assessment.** A systematic, dynamic process by which the registered nurse, through interaction with the patient, family, groups, communities, populations, and healthcare providers, collects and analyzes data. Assessment is the initial step in the nursing process and may include the following dimensions: physical, psychological, sociocultural, spiritual, cognitive, functional abilities, developmental, economic and lifestyle.

**Centers for Disease Control and Prevention (CDC).** The federal agency that conducts and supports health promotion, prevention and preparedness activities in the United States, with the goal of improving overall public health. The Travel Health Branch provides official U.S. government health recommendations for traveling for both providers and travelers. The branch also publishes the CDC “Yellow Book,” Health Information for International Travel and posts Travel Health Notices regarding global outbreaks. (CDC https://wwwnc.cdc.gov/travel)

**Chemoprophylaxis.** The administration of a medication for the purpose of preventing disease or infection; also refers to the use of drugs before, during and after travel to prevent malaria. (https://www.merriam-webster.com/dictionary/chemoprophylaxis)

**Collaboration.** A professional partnership grounded in a reciprocal and respectful recognition and acceptance of: each partner’s unique expertise, power and sphere of influence and responsibilities; the commonality of goals; the mutual safeguarding of the legitimate interest of each party and the advantages of such a relationship.

**Conceptual Framework**. A theoretical structure or “network” of assumptions, principles, and rules that holds together the ideas comprising a broad concept.

**CTH®.** Certificate of Travel Health; refers to the interdisciplinary, international certificate awarded to health professionals who achieve a passing grade on the ISTM CTH examination. (ISTM www.istm.org)

**Cultural Competence.** A set of congruent behaviors, attitudes and policies that come together in a system or agency or among professional and enable the system, agency or professionals to work effectively in cross-cultural settings.

**Diagnosis.** A clinical judgment about the healthcare consumer’s response to actual or potential health conditions or needs. It is the second step in the nursing process and the basis for creating a plan with expected outcomes. Registered nurses utilize nursing and medical diagnoses depending on educational and clinical preparation and legal authority.

**Ecological model**. A model of health that emphasizes the linkages and relationships among multiple factors affecting health. This approach focuses on both population-level and individual-level determinants of health and interventions. Health is determined by influences at multiple levels (e.g., public policy, community, institutional, interpersonal, and intrapersonal factors). (ACHA https://www.acha.org/HealthyCampus/HealthyCampus/Ecological\_Model.aspx)

**Emergent Diseases.** Infections that have recently appeared within a population or those whose incidence or geographic range is rapidly increasing or threatens to increase in the near future (e.g. Zika). (Baylor College of Medicine https://www.bcm.edu/departments/molecular-virology-and-microbiology/emerging-infections-and-biodefense/emerging-infectious-diseases)

**Emporiatrics.** An older, alternative name for the specialty branch of medicine that deals with the prevention and management of health problems of international travelers. (Sushma 2012)

**Environmental health.** Aspects of human health including quality of life, that are determined by physical, chemical, biological, social and psychological problems in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health of present and future generations.

**Evidenced-based practice.** A scholarly and systematic problem-solving paradigm that results in the delivery of high-quality healthcare.

**GeoSentinel.** A worldwide communication and data collection network for the surveillance of travel-related morbidity. It was initiated in 1995 by the International Society of Travel Medicine (ISTM) with support from the US Centers for Disease Control (CDC) as a network of ISTM member travel/tropical medicine clinics for early identification of travel related illness.(www.istm.org/geosentinel)

**Graduate-level prepared specialty nurse.** A registered nurse prepared at the master’s or doctoral level who has advanced knowledge, skills, abilities and judgment associated with one or more nursing specialties and is functioning in an advanced level as designated by elements of her or his position. (ANA 2015)

**Green travel.** A broad term with two main branches: It refers to responsible travel practices that pay attention to environmental, social, and economic sustainability. It can also refer to eco-tourism, which involves responsible travel specifically to natural areas. (https://greenglobaltravel.com)

**Holistic.** Characterized by the treatment of the whole person, taking into account mental and social factors, rather than just the symptoms of a disease. Evidenced-based practice. A scholarly and systematic problem-solving paradigm that results in the delivery of high quality healthcare.

**IAC.** The Immunization Action Coalition is the premier non-profit organization that provides U.S. health professionals with immunization information and education. (Immunization Action Coalition http://www.immunize.org/)

**IAMAT.** The International Association for Medical Assistance to Travelers provides a variety of resources for international travelers seeking health care during travel. ( IAMAT https://www.iamat.org/ )

**ICVP.** The International Certificate of Vaccination or Prophylaxis, also known as the Yellow Card, is the WHO required documentation for yellow fever immunization. (CDC https://wwwnc.cdc.gov/travel)

**IHR.** International Health Regulations; An international legal instrument that is binding on 196 countries across the globe, including all the Member States of WHO; The purpose and scope of the International Health Regulations (2005) are “to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international trade.”(WHO https://www.who.int/ihr/publications/9789241580496/en/)

**Interim Travel Encounter**. Also known as “in-transit care.” Refers to a travel health nursing encounter that occurs while the traveler is in transit on their journey; typically this might be a phone call or email contact during a trip to address an acute health concern or issue. (ATHNA 2017)

**International Society of Travel Medicine (ISTM).** An international organization comprised of health providers and others committed to the health and safety of global travelers. ISTM publishes the *Journal of Travel Medicine* and administers the CTH examination. (ISTM www.istm.org)

**ISTM Body of Knowledge.** A guide developed by ISTM for the professional development of any individual practicing travel medicine. International in focus, it can be used as one resource to help shape curricula and training programs in travel medicine. It does not address specific national standards of travel health care nor address different professional standards for physicians, nurses, pharmacists and others. (ISTM www.istm.org)

**NGO.** A non-governmental organization (NGO) is any non-profit, voluntary citizens' group which is organized on a local, national or international level. Doctors’ Without Borders and the International Rescue Committee are two NGOs often associated with travel health issues. (http://www.ngo.org/ngoinfo/define.html)

**Nursing.** The protection, promotion and optimization of health and abilities; prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response and advocacy in the care of individuals, families, communities and populations. (ANA 2015)

**Nursing Practice.** The collective professional activities of nurses characterized by the interrelations of human responses, theory application, nursing actions and outcomes. (ANA 2015)

**Nursing Process.** A critical thinking model used by nurses that comprises the integration of the singular, concurrent actions by these six components: assessment, diagnosis, identification of outcomes, planning, implementation and evaluation. (ANA 2015)

**Outbreaks.** WHO defines these as the occurrence of cases of disease in excess of what would normally be expected in a defined community, geographical area or season. (WHO http://www.searo.who.int/topics/disease\_outbreaks/en/)

**Outcomes.** Long-term objectives that define optimal, measurable future levels of health status, maximum acceptable levels of disease, injury or dysfunction, or prevalence of risk factors.

**Planetary Health.** The integrative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and the environment. Together, the three make up the One Health triad, and the health of each is inextricably connected to the others in the triad. (Rockefeller Foundation https://www.rockefellerfoundation.org/our-work/initiatives/planetary-health/)

**PPM.** Personal protective measures; refers to techniques used to prevent insect bites such as the use of repellents and bed-netting. (Anand 2014)

**Pre-Travel Encounter.** A clinical visit that focuses on the prevention of health and safety risks of a particular journey. While vaccinations are often included in this encounter, the travel health nurse focuses on the many non-vaccine preventable travel risks that can be reduced through health education and counseling. (ATHNA 2017)

**Primary Prevention.** Interventions that are applied before there is any evidence of disease or injury; concerned with preventing the onset of disease; it aims to reduce the incidence of disease.

**Principles of Responsible Travel.** Also known as *The Responsible Traveler*; Guidelines for responsible tourism which minimize the negative social, economic and environmental impacts, generates greater economic benefits for local people and enhances the well-being of host communities. These are principles of social and economic justice that exert full respect towards the travel environment and its cultures and serve to foster a positive interaction between the tourist industry, the local communities and the travelers. (https://urbanland.uli.org/industry-sectors/ten-principles-responsible-tourism/)

**Post-Travel Encounter.** A clinical visit designed to evaluate and manage adverse health and safety outcomes of international travel. (ATHNA www.athna.org)

**Quality.** The degree to which health services for patients, families, groups, communities or populations increase the likelihood of desired outcomes and are consistent with current professional knowledge.

**Quality improvement.** Quality improvement is a systematic approach to continuous actions that lead to measurable, improved outcomes. (ANA 2015)

**Recommended vaccinations.** Immunizations that are designed to protect the traveler from vaccine-preventable disease found at a particular destination (e.g. Japanese encephalitis, cholera, etc.). (MedicineNet https://www.medicinenet.com/do\_you\_need\_vaccinations\_before\_traveling\_abroad/views.htm)

**Routine vaccinations.** A national schedule of immunizations, recommended and updated yearly by the Advisory Committee on Immunization Practices, for U.S. infants, adolescents and adults (e.g. MMR, influenza, Hepatitis B, etc.).(ACIP www.acip.org)

**Required vaccinations.** Immunizations mandated by order of WHO to cross an international border (e.g. yellow fever vaccination for entry to Ghana). (MedicineNet https://www.medicinenet.com/do\_you\_need\_vaccinations\_before\_traveling\_abroad/views.htm)

**SBET.** Standby Emergency Treatment; the strategy where travelers carry a supply of emergency malaria tablets for self-administration when no medical attention is available or for use under medical supervision after a confirmed malaria diagnosis. (FitForTravel https://www.fitfortravel.nhs.uk/media/670069/standby-emergency-treatment-for-malaria.pdf)

**Scope of Nursing Practice.** The description of the who, what, where, when, why and how of nursing practice that addresses the range of nursing practice activities common to all registered nurses. When considered in conjunction with the Standards of Professional Nursing Practice and the Code of Ethics for Nurses, comprehensively describes the competent level of nursing common to all U.S. registered nurses. (ANA 2015)

**Secondary Prevention.** Interventions aimed to reduce the impact of a disease or injury that has already occurred.

**Self-treatment.** Treatment of oneself without professional supervision to alleviate an illness or condition; often travelers are provided with medications in the event they develop traveler’s diarrhea or acute mountain sickness. (Shoreland <https://tripprep.com/library/travelers-diarrhea/traveler-summary>)

**Sex Trafficking.** This is human trafficking for the purpose of sexual exploitation, including sexual slavery. A victim is forced, in one of a variety of ways, into a situation of dependency on their trafficker(s) and then used by said trafficker(s) to give sexual services to customers.

**Special Populations.** Travel health nursing endeavors to provide individualized pre- travel care for every traveler. Certain traveling groups have needs, issues and risks that require special resources and may require more time for the encounter (e.g. seniors, pregnant travelers, immigrants, LGBQT)

**Stakeholder.** A person or organization that has an interest in travel health nursing (e.g. patients, physicians, employers, insurance companies, pharmaceutical firms and government)

**Standards.** Authoritative statements defined and promoted by the profession by which the quality of practice, service or education can be evaluated. (ANA 2015)

**Standards of Practice.** Describe a competent level of nursing care as demonstrated by the nursing process. See also: Nursing process. (ANA 2015)

**Standards of Professional Nursing Practice**. Authoritative statements of the duties that all registered nurses, regardless of role, population or specialty, are expected to perform competently. (ANA 2015)

**Standards of Professional Performance**. Describe a competent level of behavior in the professional role. (ANA 2015)

**Telehealth.** The use of digital information and communication technologies, such as computers and mobile devices, to access and/or provide health care services remotely.

**Travel Advisories and Alerts.** Updated country specific safety and security information published by the U.S. Department of State @ https://travel.state.gov/content/travel/en/traveladvisories. There are four levels of alerts including Level 4: Do not travel. (U.S. State Dept.)

**Travel Health Notices.** Three levels of official U.S. government health recommendations for traveling @ <https://wwwnc.cdc.gov/travel/notices> As provided by the U.S. Centers for Disease Control, these advisories are Level 1-Watch, Level 2-Alert, and Level 3-Warning wherein all nonessential travel should be avoided to a particular country or region. (CDC)

**TravelCare.** This is a commercial subscription software program that provides healthcare professionals with travel health and safety information and technology platforms to protect travelers. (Travelcare www.travelcare.com)

**Travax.** This is a widely used commercial subscription software program that provides healthcare professionals with travel health and safety information and technology platforms to protect travelers. (Shoreland www.Shoreland.com)

**Travel Health Nurse.** A professional nurse who focuses on the health and safety of all travelers at every stage of their journey through continuous surveillance and assessment of the multiple determinants of health with the intent to promote health and wellness, prevent disease, disability and premature death. (ATHNA 2019)

**Traveler.** Defined as a person who is traveling from one domestic or international destination (may be home environment) to another. Subcategories include but are not limited to: (ATHNA 2017)

• Air cruisers- persons traveling as a luxury group in one plane making multiple stops around the world on a prepaid, often very expensive itinerary

• Armed Conflict Regions (Military, Journalists, Medics)

• Backpackers- a form of low cost, independent travel; associated with a traveler carrying their belongings in a backpack

• Bucket List-a “wish list “ of travel destinations or experiences often associated with older adults

• Business Traveler

o Short-term – usually less than 2 weeks duration

o Frequent travelers – multiple returns to a specific country or region or multiple trips within a month or year to different destinations

o Ex-pat / long-term assignments – temporary residence of 3+ months, may include family relocation

o Flex-pat- newer, alternative employer arrangement that involves an employee making frequent return visits to same location, often for durations of 2 to 6 weeks with no relocation of family

• Ecotourists- tourism directed toward exotic, often threatened, natural environments, especially to support conservation efforts and observe wildlife.

• Educational Traveler

o Students / study abroad for durations of one week to multiple years

o Conference attendees

o Seniors traveling as part of course or another educational objective

• Families with children of all ages

• FGM Travelers- Female Genital Mutilation; families seeking genital cutting of female relatives abroad

• High Altitude Traveler- person traveling to altitudes typically above 10,000 feet, usually by hiking or climbing or flying into mountainous regions

• Humanitarian and disaster response

o Search and rescue workers- respondents to natural disasters such as earthquakes, fires, tsunamis, etc.

o Health care workers responding to public health emergencies abroad

• Immigrants- persons who come to a country to take up permanent residence.

• International Adoption

• Last Minute Traveler-persons departing in less than two weeks’ time or less, sometimes the same day

• Mass Gathering Tourist- Per WHO these are persons attending a planned or spontaneous event where the number of people attending could strain the planning and response resources of the community or country hosting the event. The Olympic Games, The Hajj, and other major sporting, religious, and cultural events are all examples of a mass gathering.

• Medical Needs- traveler with co-morbidities (e.g. chronic illness, severe allergies, immunocompromised, disabilities)

• Medical and Dental Tourist – a person who seeks treatment or procedures abroad due to lower costs or lack of availability at home

• Migrants- a worker who moves from place to place to do seasonal work.

• Missioners-travelers with a religious affiliation making a commitment of three months or more to live and work in a community, often one lacking resources

• Multi-generational travelers- trips that bring together several generations of a family

• Pilgrims-persons who travel to holy places or shrines for religious purposes, such as the Hajj

• Pleasure Travelers

o Vacationers – short term or extended

o Adventure or sports traveler – includes travelers who engage in high-risk activities

 Mountaineering

 Scuba

 Spelunking-cave exploration

 Open-water sailing races – team or solo

 Long distance motorcycling

 Triathalon

o Destination events- i.e.: weddings, anniversaries, etc.

o “Babymooners” – couples taking a last vacation before childbirth

o Cruise travelers- persons traveling by ocean ships or river boats

• Pregnant and Breastfeeding Travelers- currently pregnant; also trying to become pregnant

• Refugee- a person who has been forced to leave their country in order to escape violence, war, persecution, or natural disasters.

• Researchers- persons traveling for short or long durations to conduct research projects, including field research (e.g. anthropologists, archeologists, geologists, etc)

• Remote Travelers- persons seeking to go “off the grid” to regions without services such as communication, mass transit, translators, etc.

• Romance Tourism- individuals traveling to meet persons encountered via the Internet

• Seniors-persons over 60; often travel for longer duration and more frequently

• Sex Tourism – persons who travel with the expectation of sexual encounters that may be mutual or coerced

• Unaccompanied Minors- children under the age of 18 who are traveling, often by plane, without a parent, guardian, or other responsible adult

• Vagabonds- travelers with no set itinerary; open-ended travel

• Voluntourism- wherein a traveler includes community service as one part of a trip that may have a primary focus of tourism or business or education

• War Zone Traveler- tourist who chooses to travel to hostile regions

Vectors. Organisms that transmit pathogens and parasites from one infected person (or animal) to another, causing serious diseases in human populations. (CDC)

Vector- borne Diseases. Illnesses caused by pathogens and parasites in human populations. (CDC)

VFR. VFRs are travelers who were born in a resource-poor region of the world, who now live in industrialized nations, and who return to their country of birth to visit friends and relatives; may include immigrants and first and second generation families returning to birthplace; may include trips to seek brides (CDC)

WHO. The World Health Organization is a United Nations agency headquartered in Geneva and concerned with international public health. WHO publishes the International Health Regulations that govern the reporting of certain infections by its member countries, including the U.S. (WHO)

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