



APUA Progress Report FY 2010-2012

(More information at www.apua.org)

I. APUA Publications

- Cars O, Levy S. Chapter 3. Measures to ensure better use of antibiotics. In: World Health Organization, *The Evolving Threat of Antimicrobial Resistance: Options for Action*. WHO Press, Geneva, Switzerland 2012:31-48.
- Baquero, F. Metagenomic epidemiology: a public health need for the control of antimicrobial resistance. *Clinical Microbiology and Infection*: **18** (Suppl. 4):67–73. (May 2012)
- Marshall B, Levy S. Food animals and antimicrobials: impacts on human health. *Clinical Microbiology Reviews*. **24(4)**:718-733 (October 2011).
- Cogliani C, Goossens H, Greko C. Restricting non-therapeutic use of antimicrobials in food animals: lessons from the European Union. *Microbe*. **6(6)**:274-279 (June 2011).
- O'Brien T, Stelling J. Integrated multilevel surveillance of the world's infecting microbes and their resistance to antimicrobial agents. *Clinical Microbiology Reviews*. **24(2)**: 281-295 (April 2011).
- Sosa A, Foster SD, Ochieng D. Final Report on Project No. 51540: Antibiotic resistance situation analysis and needs assessment in Uganda and Zambia (ARSANA). Submitted to the Bill & Melinda Gates Foundation (January 2011).
- Foster SD, Cai J. Economic burden and trends in antibiotic resistance in Massachusetts hospitals, 2000-2007. Submitted 2011.
- Roberts R, Hota B, Ahmad I, Scott RD II, Foster SD, Abbasi F, Schabowski S, Kampe LM, Ciavarella GG, Supino M, Naples J, Cordell R, Levy SB, Weinstein RA. Hospital and societal costs of antimicrobial-resistant infections in a Chicago teaching hospital: implications for antibiotic stewardship. *Clinical Infectious Diseases*. **49(8)**:1175-84 (October 2009).
- Foster SD. The economic burden of resistance in the developing world. Sosa A and Byarugaba DK (eds.) *Antimicrobial Resistance in Developing Countries*. Springer Science & Business Media Publisher (2009).

II. APUA Global Chapter Network Development

APUA's global network of 66 country chapters serves as a technical resource to foster local clinical and policy improvements.

- Established APUA's 66th chapter (APUA-Ghana).
- Conducted training modules on antibiotic resistance and appropriate antibiotic use in Uruguay, Zambia, Indonesia, Uganda, and Bangladesh.

- Created profiles on the website for each chapter: included information on the status of antibiotic resistance in that country, chapter activities, chapter leadership, publications by the chapter, maps, and images. See www.apua.org under the tab “International Chapters” (categorized by region).
- Conducted the 2011 APUA Chapter Survey Report on the capabilities and needs of APUA chapters in 66 countries. See www.apua.org under the tab “International Chapters,” “APUA Chapter Network,” for a poster summarizing the chapter survey.

III. APUA Research Presentations at Conferences

- 11/14/11-11/18/11: Foster SD, Sosa A, Najjuka F, Ochieng D. *Treatment of pneumonia in Ugandan children: the importance of antibiotic resistance*. 3rd International Conference for Improving Use of Medicines (ICIUM). Antalya, Turkey.
- 9/17/11-9/20/11: Levy SB. *Novel approaches to the containment of antibiotic resistance in industrial and developing countries: celebrating 30 years of APUA*. 51st Interscience Conference on Antimicrobial Agents and Chemotherapy. Chicago, IL.
 - Klugman K. *The impact of vaccines on resistance in the U.S. and developing countries*.
 - Okeke IN. *Drivers of resistance and the role of diagnostics in resource-limited settings*.
 - Gorbach S. *The role of narrow-spectrum agents and novel mechanisms of action in containing antibiotic resistance*.
- 6/13/11-6/17/11: Foster SD. *Slowing antibiotic resistance - findings from projects in Uganda and Zambia*. 38th Annual International Conference on Global Health. Washington D.C.
- 5/15/11-5/18/11: Levy SB. *Global Antimicrobial Resistance Issues*. Antibiotic Resistance: Past, Present, Future. Cold Spring Harbor, NY.
- 5/7/11-5/10/11: Young K, Sosa A. *2011 APUA Global Chapter Network Survey*. 21st European Congress on Clinical Microbiology and Infectious Disease. Milan, Italy.
- 4/7/11-4/11/11: Sosa A. 15th Pan American Congress on Infectious Diseases. Montevideo, Uruguay.
- 4/7/11: Foster SD. *Challenges for health care: the impact of antimicrobial resistance on costs of care*. Pan American Health Organization Meeting on Antibiotic Resistance, World Health Day. Washington D.C.
- 9/12/10: Foster SD, Ochieng D, Sosa S, Najjuka F. *Antibiotic resistance compromises treatment of pneumonia in Ugandan children*. 50th Interscience Conference on Antimicrobial Agents and Chemotherapy. Boston, MD.
- 9/6/10-9/7/10. Foster SD. *Antibiotic resistance and its importance for child medicines*. Preliminary Consultation on Priority Essential Medicines for Child Survival, UNICEF Supply Division. Copenhagen, Denmark.
- 5/8/10-5/10/10: Foster SD. *Antibiotic resistance – the role of the informal sector and of drug quality issues*. INDEPTH-ReAct conference on Antibiotic Resistance. Cox-Bazaar, Bangladesh.
- 2/1/10: Foster S. *The economic impact of antibiotic resistance – evidence from three recent studies*. National Foundation for Infectious Diseases Annual Conference. Bethesda, MD.

IV. APUA Research Projects

Antibiotic Resistance Situation Analysis and Needs Assessment (ARSANA) of Antibiotic Quality, Procurement, Dispensing, and Use in Two African Countries

- Funded by the Bill & Melinda Gates Foundation (from June 2009 – September 2010)
- APUA field offices established and trained
- 11 sites in Uganda and 12 sites in Zambia surveyed to collect data on outpatient visits to health centers and hospitals
 - Total of 10,172 outpatient records obtained in Uganda and 4,217 in Zambia
 - Capacity assessment performed on 29 laboratories in Uganda and 17 in Zambia
- Drug quality testing performed on 813 samples

International Surveillance of Reservoirs of Antibiotic Resistance (ISRAR)

- Funded by the United States Army Medical Research Institute on Infectious Diseases (USAMRIID) and the National Biodefense Analysis and Countermeasures Center (NBAAC) Biological Threat Characterization Program (BTC) (ongoing)
- Completed pilot surveillance projects to collect and analyze environmental and veterinary commensal organisms that may serve as reservoirs for antibiotic resistance genes
- Protocols developed to optimize isolation and antibiotic susceptibility testing of 9 targeted bacterial genera from healthy animals and environmental sites
- Isolates obtained from 8 APUA country chapters (Bangladesh, Georgia, India, Turkey, Uganda, South Africa, South Korea, Vietnam)

Strengthening Scientific Evidence to Control the Misuse of Antibiotics in Agriculture

- Funded by the Pew Charitable Trusts (ongoing)
- Convened a roundtable of 15 scientific experts from 9 European countries in Paris on May 28-29, 2011
- Identified and engaged co-chairs and noted scientific experts from the EU
- Reviewed and assessed the impact of the ban on the use of antibiotics for growth promotion (instituted in the EU in 2006)
- Engaged delegates to develop background papers with evidence on the ban
- APUA's summary of the meeting published by the American Society for Microbiology in *Microbe* magazine

V. APUA in the News

- 6/20/2012: Kevin Outterson's (J.D., Health Law Program of Boston University) article in the [APUA Clinical Newsletter Vol.30 No.1](#) cited in world report "[Europe to boost development of new antimicrobial drugs](#)" in June 16 issue of *The Lancet*
- 6/6/12: Dr. Stuart Levy (APUA President) wins Abbott-ASM [Lifetime Achievement Award](#), the most prestigious award given by the American Society for Microbiology
- 4/1/12: Dr. Stuart Levy (APUA President) and Bonnie Marshall (APUA Staff Scientist) published article "[Antibiotics in the animals we eat](#)" (Critic at Large section, *The Scientist*).
- 3/7/2012: Dr. Stuart Levy (APUA President) cited in article "[Massachusetts teams help reduce spread of often fatal germ](#)" about APUA and CDC efforts to fight incidence of C. difficile infections in hospitals through the [CDC Vital Signs](#) campaign (*Boston Globe*)
- 1/25/2012: Dr. Stuart Levy's (APUA President) letter to the editor "[Antibiotics in animals](#)" applauding the FDA ban on cephalosporin use in food animals (Opinion Section, *New York Times*)
- 1/4/2012: Kathleen Young (APUA Executive Director) gives antibiotic use statistics in an article, "[Antibiotic use restricted by U.S. in livestock and poultry](#)" (*Bloomberg News*)
- 7/25/11: Dr. Stuart Levy (APUA President) cited in article "The End of the Era of Antibiotics" (*Boston Globe*)
- 12/6/11: APUA's "[Antibiotic Situation Analysis and needs Assessment in Uganda and Zambia](#)" was featured. (*Global Health Council*).
- 3/31/11: APUA and Cook County Hospital study cited in article "[What can be done about the rising risk of antibiotic resistance?](#)" (*The Economist*)
- 2/21/11: APUA commended in article "[Harvard Vanguard pushing for judicious antibiotic use](#)" (*Medford Transcript*)
- 1/10/11: Dr. Stuart Levy (APUA President) profiled in interview as "[A Leader of the Resistance](#)" (*Boston Globe*)
- 11/16/10: Congresswoman Louise M. Slaughter authors a [letter to Congress](#) recommending that the FDA ban the antibacterial chemical Triclosan from consumer products, citing APUA and Cook County Hospital study on the economic burden of antibiotic resistance
- 10/11/10: Dr. Stuart Levy (APUA President) and Dr. Thomas O'Brien (APUA Vice President) quoted in article "[New 'superbugs' raising concerns worldwide](#)" (*Washington Post*)
- 10/10/10: APUA's letter to the editor discusses the threat of antibiotic resistance (*Boston Globe*)
- 10/1/10: APUA issues public comment on [Transatlantic Task Force priority activities](#)
- 9/17/10: Dr. Stuart Levy (APUA President) shares expertise about NDM-1 on WBUR-Boston NPR segment, "[New Drug-Resistant Superbug Appears In Massachusetts](#)" (*Radio Boston*)
- 9/14/10: APUA recognizes [Sweden's Otto Cars and Mexican Health Organization](#) as leaders in global effort to contain antibiotic resistance
- 9/10/10: Dr. Stuart Levy (APUA President) and Kathleen Young (APUA Executive Director) quoted in article "[Animal farms are pumping up superbugs](#)" (*International Business Times*)

- 8/31/10: APUA advises the FDA on [need to establish a system to monitor use of antibiotics in food animal production](#)
- 8/10/10: Dr. Susan Foster (APUA Director of Public Policy and Education) quoted in article "[More seniors on Medicare use antibiotics: study](#)" (*Reuters Health*)
- 6/29/10: APUA lauds FDA for [action on antimicrobial drugs in food-producing animals](#)
- 4/16/10: Dr. Stuart Levy (APUA President) speaks on the topic "[Bacterial Infections Defy Treatment](#)" (*NPR*)
- 10/15/09: APUA and Cook County Hospital study cited in article "[How Much Do Antibiotic Resistant Infections Cost?](#)" (*Wall Street Journal*)

VI. APUA Fact Sheets and Policy Briefs

- The Need to Improve Antibiotic Use in Food Animals
- Antibiotic-Resistant Infections Cost the U.S. Healthcare System \$20 Billion Each Year
- Am I at Risk for *C. difficile* Diarrhea?
- When Do I Need an Antibiotic?
- Fighting the Common Cold
- MRSA and Antibiotic Resistance
- Antibacterial Cleaning Products in the Household
- Triclosan and its Impact on Antibiotic Resistance (white paper by Mirella Zulueta, M.D)
- Preserve Antibiotics for the Future (APUA Policy Brief)
- How Epidemics of Untreatable Infections Develop (APUA Policy Brief)
- Reduce Antibiotic Use to Delay Antibiotic Resistance (APUA Policy Brief)
- Antibiotic Misuse in Food Animals - Time for Change (APUA Policy Brief)
- Public Health Consequences of Antibiotic Use for Growth Promotion (APUA Policy Brief)

VII. APUA Advocacy and External Affairs

- 5/6/12-5/7/12: APUA convened a national stakeholder meeting of 25-30 experts in Washinton DC in conjunction with the Pew Campaign on Human Health and Industrial Farming and other organizations to develop a plan for reducing the antibiotic use in food animal production
- 4/30/12: APUA joined Pew sign-on letter in support of NRDC lawsuit against FDA, urging them to not appeal court decision to complete proceedings for antibiotics in growth promotion
- 3/8/12: Dr. Stuart Levy represented APUA at Congressional hearing, "The Science is Clear: Inappropriate Use of Antibiotics in Animal Agriculture Threatens Public Health" sponsored by the Center for a Livable Future and Center for Science in the Public Interest
- 3/12-4/12: Canvassed support and collected 32 comments/letters from global scientific experts to support the FDA's cephalosporin restriction and solicited public support for FDA final Guidance #209, draft Guidance #213, and the Veterinary Feed Directive
- 2/24/12: APUA selected as national strategic partner for CDC Vital Signs campaign "Making Healthcare Safer: Stopping *C. difficile* Infections"
- 11/14/11-11/18/11: APUA selected as national strategic partner for CDC campaign "Get Smart About Antibiotics Week"

- 10/20/11-10/23/11: Canvassed support at the 49th Meeting of the Infectious Diseases Society of America for a letter to Congress from the Pew Coalition, pointing out the link between antibiotic use in food animals and drug resistant infections in humans
- 7/14/11: Co-sponsored the “Building Stewardship: A Team Approach” educational conference with the Massachusetts Department of Public Health
- 5/18/11: Participated in the workshop “Approaches and Technologies to Avoid Drug Resistance” sponsored by the University of Massachusetts Institute for Drug Resistance
- 4/28/11 and 4/4/11-4/7/11: Served on the FDA Anti-Infective Drugs Advisory Committee
- 4/7/11: Actively participated in WHO World Health Day 2011, themed “Antimicrobial Resistance: No Action Today, No Cure Tomorrow”
 - Released press releases
 - Published material on APUA website and in clinical newsletters
- 10/15/10: Submitted letters to U.S. Congress in support of the FY 2011 omnibus appropriations bill increasing funding of the NIH by \$750 million
- 10/1/10 and 6/7/10: Gave testimony at the stakeholder listening session for the Transatlantic Task Force on Antimicrobial Resistance and other regulatory hearings
 - Suggested priorities
 - Advocated for the development of new diagnostics and antibiotics
- 8/30/10: Commented on FDA guidance #209, “The Judicious Use of Medically Important Antimicrobial Drugs in Food Producing Animals”
 - Statements developed & submitted statements by APUA, Dr. Stuart Levy (APUA President), and Dr. Thomas O’Brien (APUA Vice President)
- 7/26/10-7/27/10: Participated in the FDA/NIAID/IDSA workshop on antibacterial resistance
- 7/14/10: Gave testimony before Subcommittee on Health of the U.S. House Committee on Energy and Commerce in support of the “Preserve Antibiotics for Medical Treatment” Act (PAMTA)
- 4/1/10: Reviewed & submitted comments on “A Public Health Action Plan to Combat Antimicrobial Resistance” by the Interagency Task Force on Antimicrobial Resistance
- Participated in a conference call with the Government Accountability Office on the use of antibiotics in agriculture
- Endorsed letter prepared by the Union of Concerned Scientists regarding funding for antibiotic resistance research

VIII. New Communications Developments

APUA press releases:

- 5/3/12: [National Stakeholders Meet To Consider Improvements In Antimicrobial Use In Food Animal Production](#)
- 4/11/12: [New FDA Guidances to Clean UP Antibiotic Use in Food Animal Production](#)
- 1/6/12: [APUA Praises FDA Move to Limit Antibiotics in Food Animals and Encourages Additional Action](#)
- 4/7/11: [To Save Antibiotics, Make Them a Separate Class of Drugs](#)
- 11/17/10: [Symptomatic Relief for Colds is Better than Antibiotics](#)

- 9/13/10: [Antibacterial Resistance Found in Non-Disease-Causing Bacteria, Could Serve as an Early Warning of Drug Resistance](#)
- 7/14/10: [APUA Testimony in Support of the “Preservation of Antibiotics for Medical Treatment” Act \(PAMTA\)](#)
- 7/13/10: [Antibiotics Should Be Assigned to a Special Drug Class to Preserve Their Power](#)
- 6/29/10: [APUA Lauds FDA for Action on Antimicrobial Drugs in Food-Producing Animals](#)

APUA Clinical Newsletters:

- Published three times per year
 - Vol.30 No.1 (2012): [Confronting Today's Crisis in Antibiotic Development](#) (new format)
 - Vol.29 No.3 (2011): [Enhancing Infection Control with Antibiotic Stewardship](#)
 - Vol.29 No.2 (2011): [Diagnostic Innovation to Control Resistance](#)
 - Vol.29 No.1 (2011): [Antibiotic Stewardship Gaining Traction – Recommended Models and Resources](#)

APUA website development:

- Redesigned website (www.apua.org)
 - New pages: APUA Highlights, APUA Leadership Award, 30th Anniversary, individual pages for newest chapters, Antibiotic Use in Food Animals, CDC Get Smart Week, *CDC Vital Signs: C. difficile*, APUA research competencies
 - Links to Facebook and Twitter accounts
- Up-to-date news postings on antibiotic resistance
 - 1/11/12: APUA website chosen by *Satellife* as an “essential resource for drug information news in developing countries”

APUA contacts:

- Currently 1105 subscribers receiving direct and up-to-date information on scientific issues, grant opportunities, clinical exchange, events, trainings, etc.
- 1105 subscribers reach network of over 10,000 infectious disease practitioners and experts throughout APUA chapters worldwide

APUA social media: started in March 2011

- Facebook account (Alliance for the Prudent Use of Antibiotics): 311 “Likes,” average weekly total reach of 123.
- Twitter account (APUANews): 91 Followers, 320 Tweets
 - Participated in live twitter chat with ABC’s Dr. Richard Besser for CDC’s “Get Smart About Antibiotics” Week

APPENDIX: APUA Monthly Highlights

6/21/12: [APUA June Highlights](#)

- Dr. Stuart B. Levy receives Lifetime Achievement Award from the American Society for Microbiology
- APUA national stakeholder meeting on antimicrobial use in food animal production
- APUA and Pew campaign to strengthen FDA guidance
- APUA supports NRDC lawsuit against FDA
- APUA article in *The Scientist*
- APUA Clinical Newsletter Vol.30 No.1 available for download
- Call for nominations: 2012 APUA Leadership Award for Young Professionals
- Residues of banned antibiotics found in poultry feathers (*Science for the Total Environment; Environmental Science and Technology*)
- Three states show progress in combating *C. difficile* (CDC Public Health Practice Stories from the Field)
- “Antibiotic resistance in foodborne pathogens” (Center for Science in the Public Interest)
- “Metagenomic epidemiology and antibiotic resistance” (*Clinical Microbiology and Infection; Nature*)
- “Antibiotic stewardship and early discharge from hospital” (*Journal for Antimicrobial Therapy*)
- APUA-Bulgaria: report from the field
- APUA-Cuba: report from the field

3/14/12: [APUA March Highlights](#)

- Upcoming conferences & events
- APUA and CDC campaign to raise awareness about *C. difficile*
- APUA represented at Congressional hearing
- APUA-Nepal: report from the field
- IDSA proposes new approach for drug approval
- CDC and ASTHO share HAI toolkit for policymakers
- WHO launches open-access book on antimicrobial resistance
- Danish EU Presidency holds conference on antimicrobial resistance
- “Forgotten Antibiotics: An Inventory”
- “ESBLs: A Threat to Human and Animal Health?”
- “Amoxicillin for Acute Rhinosinusitis”
- Global Health Magazine on vaccines

1/11/12: [APUA January Highlights](#)

- New U.S. FDA cephalosporin restriction and APUA response
- European Commission and European pharmaceutical industry reveal plans to accelerate new antibiotic R&D
- Global Health Council article features APUA African field work
- APUA-Kenya: report from the field
- APUA Newsletter Vol.29 No.3 available for download

10/27/11: [APUA October Highlights](#)

- GAIN Act introduced in U.S. Senate
- APUA to partner on CDC HAI research
- APUA poster and petition at IDSA
- APUA article “Food Animals and Antimicrobials” in *Clinical Microbiology Reviews*
- APUA named a national strategic partner for CDC Get Smart About Antibiotics Week: November 14-20, 2011
- Transatlantic Report on strategies for fighting antimicrobial resistance
- 30th Anniversary and Leadership Awards posted on APUA website

7/7/11: [APUA July Highlights](#)

- APUA authors *Microbe* article about antimicrobials in food animals
- APUA presents at 38th Global Health Council
- APUA joins FDA petition for ban on cephalosporins in food animals
- New expert postings on APUA blog “Superbugs and Drugs” ®
- APUA announces 2011 Leadership Awardee: ESCMID
- APUA condolences to friends and family of Dr. James Rahal

5/6/11: [APUA April & May Highlights](#)

- APUA comments on U.S. NARMS strategic plan for 2011-2015
- APUA President receives International Society of Chemotherapy Award
- Upcoming APUA Newsletter to focus on antibiotic stewardship
- APUA at IDSA congressional briefing in Washington D.C.
- APUA-Bangladesh: report from the field
- Last call for Leadership Award nominations: May 15, 2011

4/1/11: [APUA March Highlights](#)

- APUA partners with WHO for World Health Day 2011
- APUA white paper on Triclosan available online
- APUA investigates comparative effectiveness in hand hygiene practice
- APUA welcomes Ghana as a new chapter
- APUA co-sponsors XV Congreso Panamericano de Infectologia: April 9th
- APUA to hold panel presentation at Global Health Council