

A New Medical Research Model: *Optimizing health and welfare for animals and people*

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Mission Statements

American Humane Association: *To ensure the welfare, wellness and well-being of children and animals, and to unleash the full potential of the bond between humans and animals to the mutual benefit of both*

Skippy Frank Fund for Translational Medicine and Life Sciences: *Seeking gentler and more effective therapies and preventions for all life*

American Humane Association's 4 Planks

1. **Humane Hollywood™**
2. **Humane Heartland™**
3. **Humane Intervention™**
4. **Humane Research & Policy™**
 - **Animal Welfare Research Institute**
 - **Children's Innovation Institute**



Goals of Children's & Animal Welfare Institutes

- American Humane Association's Children's Innovation Institute and Animal Welfare Research Institute will operate and fund innovative, collaborative and strategic science and training programs that advance the welfare, wellness and well-being of children and animals.
- Focus on the topics of greatest concern to children and animals, and their families, filling a major gap that currently exists in corporate and academic research.
- Interdisciplinary teams of researchers will be brought together to drive new methods of discovery and knowledge.
- Experts from diverse disciplines, working together, will advance the science that ultimately changes how our world enacts programs that do the most good.

Example: Student Project at Texas A&M

- **2012 AHA survey: 44% of adults surveyed reported to still be affected by a childhood pet that was given away, ran away or had uncertain disposition**
- **2013 Interdisciplinary team of students (medicine, veterinary medicine, psychology, business, marketing, wildlife, project management) to develop a business plan for the “U.S. Cat Issue”**
 - **Why are intake/euthanasia rates trending down for dogs but not cats?**
 - **How can more cats be adopted and retained in homes?**
 - **How can both feline and human behavior be addressed?**

Rationale for a New Medical Research Model

Clues abound amongst > 60,000 vertebrate species, yet collaboration is not optimal

- **Various cancer types in dog breeds, Tasmanian devils, grey horses, California Sea Lions, Santa Catalina Island foxes, etc.)**
- **Tuberculosis in children, elephants and other zoo animals, dairy cows, cats**
- **Respiratory syncytial virus in children and dairy calves**
- **Vaccine development (adverse reactions in cats and kids)**

Rationale for a New Medical Research Model (cont)

Priorities not optimal

- **Academic institutions – driven by ICR, publications, tenure, promotion**
 - **AAAS: Scientists spend >40% of their time writing grants, admin tasks**
- **Government – Congress questioning the need for peer review, believing they might want to establish priorities for NSF/NIH**
- **Non-profits – Priorities often established by donor's interest**

Rationale for a New Medical Research Model (cont)

The time for a new model is right

- **Genomic research is rapidly advancing (10K project, Smithsonian project)**
- **Super biological computing - attempting to keep up with massive amounts of data**
- **P4 medicine is emerging (new paradigm for teaching, research and clinical practice)**

P4 Medicine (Leroy Hood)

1. **Predictive** – virtual monitoring of blood & breath
2. **Preventive** – results used to tailor prevention
3. **Personalized** – knowing which drugs work
4. **Participatory** – patients/owners active partners



Mother & Angelina Jolie

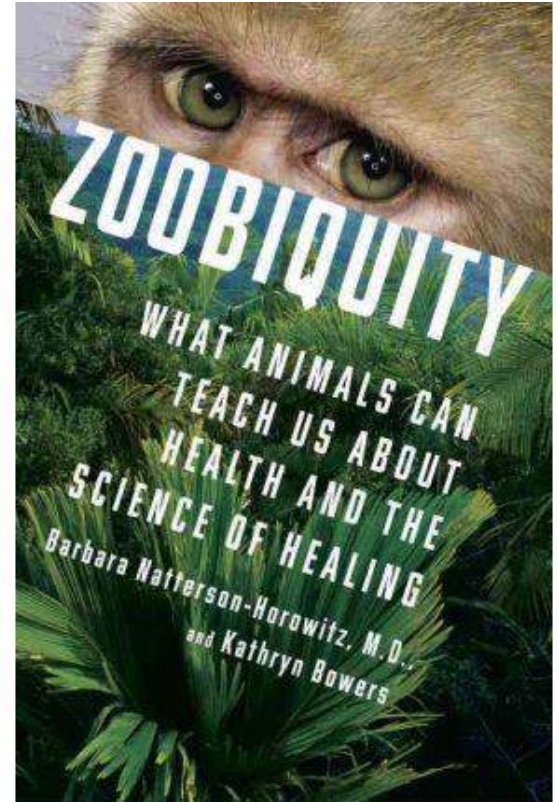
Aunt



The public is becoming interested in new models



NY Times – June 2012



Personalized genomics (examples)



www.23andMe.com



www.personalgenomes.org



www.patientslikeme.com

Participatory

- **National databases – Petsmart, Petco, Banfield, Purdue, Texas, TGen, Morris Animal Foundation, etc.**
- **International databases – Agria Insurance, Sweden**
- **Clinical trials – location of available animal trials?**
- **How to gather information on animals and their owners, collectively?**

Participatory – Citizen Scientists

www.armyofwomen.org



373,088 members as of June 20, 2013

Dr. Susan Love Research Foundation & Avon

Citizen Scientist Model

Learning about animals and the entire family (AnimalsAndWe.org)

- Genetic and survey information on all family members
- Diet, environmental exposures, medications, vaccines, etc.
- Use new technologies (apps) to gather data and provide updates of health information



Clinical trials in the future? $n=1$?



More cell phones than toilets on the planet

**The Creative Destruction of
Medicine – Eric Topol, Scripps
Research Institute**

**The End of Illness – David Agus,
University of Southern California**

***“Perfect Storm” – Technology Meets
Genomic Advancements***

Raising Revenue for The Model



**Hedge Fund Managers
Venture Capital
Venture Philanthropy
Corporations
Individual Donors
Foundations
Government
Crowd sourcing**

*In times of rapid change,
experience could be your worst
enemy ~ J. Paul Getty*

Combined Research benefitting animals and children



- **Autism and OCD (TGen)**
- **Zoetis (formerly Pfizer Animal Health) Study (kids with cancer) – human/animal bond**
- **Surveys (effect of animal relinquishment on children)**
- **Food quality and safety; environmental risks**
- **Causes of morbidity and mortality (data for children and animals)**
- **Translational research (cancer, asthma, tuberculosis, diabetes, etc.)**
- **Vaccine development**

Global unmet needs (examples)

- Food security
- Water safety
- Milk safety (Johne's?)
- Viral diseases/mutating viruses
 - Influenza
 - HIV
 - West Nile
 - Equine encephalitis
 - Ebola
 - SARS
 - Others
- MDR and XDR diseases
- Prion, fungal diseases
- Cancer, arthritis, obesity, diabetes, cardiac, renal, dementia/Alzheimer's
- Rapid and safe vaccine development
- Virtual diagnostic testing to identify changes
- Preventing and treating infectious diseases
- Epidemiologic evaluation of risk factors
- Regulations/safety of air transport industry
- Pain and suffering
- Economical impact

Addressing Cats



“America’s Most Popular Pet”

Data suggest that cats are not doing well

Planning September Forum: 2013 Cat Health & Welfare Summit

Goals: Convene stakeholders, review existing data, develop strategies for saving lives, providing better health services (rethinking all paradigms)

Student Scientist Program



Veterinary Student Scientist Program

- 4 successful projects completed in 2011
- 13 successful projects completed in 2012
- 22 students funded for summer 2013

American Humane Association™

The nation's voice for the protection of children & animals™

