CULLING- WHY IT IS NOT WORKING

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Culling Does Not Decrease Dog Populations
DOG POPULATION DYNAMICS

- Dogs IN (Immigration)
  - Birth of puppies
  - Migration
    - Owner brings them
    - Lots of food/water/shelter

- Dogs OUT (Emigration)
  - Death
  - Migration
    - Owners move
    - No food/water/shelter
HOW DO WE DECREASE DOG POPULATIONS?

- Decrease number of dogs being born
  - Surgical or chemical sterilization
  - Enforce leash laws/animal confinement - especially during females heat cycles

- Decrease influx of new dogs
  - Remove garbage from streets
  - Rubbish bins with lids
  - Don’t feed community dogs
CURRENT DPM TOOLS

Reproductive DPM Tools

- Surgical Sterilization
  - Benefits
    - Life-long solution
    - Reduce aggression
    - Longer lifespan
  - Barriers
    - Qualified veterinarians
    - Drugs
    - Facilities
    - Recovery time
    - More effective in females
    - No large-scale success in developing-world setting

- Contraceptives
  - Zeuterin
    - Intra-testicular injection
    - Male dogs only
    - Swelling / infection
  - Progestins
    - Female dogs
    - Last 6-months
    - Associated with cancer
  - Suprelorin (implant)
    - 6 – 12 month
    - Male or female (cancer)
  - Oral
    - Not widely used, little data

- Physical Restraint
  - Benefits
    - Effective
    - Cheap
  - Barriers
    - Requires a change in owner behavior
    - Must be able to recognize oestrus
REPRODUCTIVE DPM BARRIERS TO SUCCESS

- Veterinary expertise required
- Many tools not licensed
- Many tools not tested / limited data
- Require responsible owner management of the dog or the contraceptive
- Cost and the feasibility of reaching enough dogs to have a measurable population-level reduction must be carefully considered
  - 30 years to achieve population-level impact (Frank, 2004)
  - >80% of females need to be reached (Blanton, 2016, in press)
CURRENT DPM TOOLS

Controlling access to food
- Carrying capacity of an environment heavily dependent on food, water and shelter resources
  - Limit food resources = reduce street dog populations

Street food resources associated with:
- Bites in Nigeria (Olugasa, 2014)
- Rabies in Yemen (Al-Shamahy, 2013)

Barriers
- Changing human behaviors
- Costs associated with sanitation services
- Must be conducted gradually to reduce aggression / competition
- May not work where feeding dogs is a cultural practice
Population dynamics with culling and no change in food resources

- **Dog Population**
- **Food Available**
Population dynamics when food removed

Population in thousands

Time

Dog Population

Food Available
COMMUNITY OF DOGS
Dogs culled but food resources remain
Dogs have puppies
Dogs migrate into community
CURRENT DPM TOOLS

Other components

- Education
- Shelters / Rehoming Centers
- Identification and Registration
- Legislation
- Euthanasia
What are the best DPM strategies?

- Depends on:
  - Cultural considerations
  - Resources available
  - Relationship with dogs
  - Dog population
    - Free-roaming v. confined
  - Veterinary Infrastructure

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ACKNOWLEDGEMENTS
Animal Welfare in Rabies Control

**Poor Canine Welfare**
- Economic issues
- Lack of education
- Cultural stigma against dogs
- Animal mistreatment

**Rabies!!! Bites!!!**

**Poor Canine Health**
- Lack of veterinary care
- Lack of rabies vaccination
- Overpopulation
- Lack of conventional ownership

- Fearful dog populations
- Unhealthy dog population
- Increased risk for bites
- Increased risk for rabies

“Nothing will change until responsible animal ownership is addressed in Haiti”
- Director of Health, Haiti