

# **May 2004 Meeting of the AHEAD Great Apes / Human Health Working Group (Liepzig, Germany): Addressing Occupational Health as a Key Conservation Issue**

## **I. Background**

### **A. AHEAD Forum in Durban, South Africa**

In September 2003, the VIth IUCN World Parks Congress was held in Durban, South Africa. Within that, a consortium of organizations including the Wildlife Conservation Society (WCS) launched an international animal health and natural resources management initiative “AHEAD” – Animal Health for the Environment And Development. This initiative developed out of a growing recognition of the importance of animal health to both conservation and development interests. In Durban, a group of professionals, primarily from eastern and southern Africa, met and explored several themes of critical importance to the future of animal, human and wildlife health including: zoonoses, competition over grazing and water resources, disease mitigation, local and global food security, and other potential sources of conflict related to overall land-use planning and economics.

The participants divided into various working groups. The “Great Ape Protected Areas Group” focused on the following geographic areas for potential project development:

Gombe National Park  
Mahale National Park  
Parc National des Volcans  
Bwindi National Park

Justification for grouping these areas related to the fact that all: host great apes, are located in the Albertine Rift, are areas with high biodiversity and are areas experiencing severe threats and encroachment. Gombe and Bwindi National Park, like the Virungas, were seen as island ecosystems with a “hard edge”; that is, areas of valuable isolated patches with high value (in part, as they host great apes) but that are plagued by high surrounding human population densities and intensive agriculture. Human health issues were identified as cross-cutting themes for all protected areas covered by this working group but great ape and human health issues were seen to be particularly important. for Gombe and Bwindi National Parks where they not have received the level of professional attention and efforts comparable to other parks with great apes.

Specific challenges and threats identified by the group for Bwindi and Gombe National Parks are listed in Annex 1. Projects were proposed to build upon recommendations from working group members. A project entitled “Linking Human and Great Ape Health to Improve Conservation Effectiveness and Human Health and Livelihoods” was proposed by the group that contained four key objectives:

- To improve occupational health of protected area and research staff;

- To improve public health of communities coming into contact with great ape protected areas;
- To improve political awareness among policy/ decision makers regarding public health issues related to great ape conservation; and
- To improve communication between field managers

Of these four objectives, the stated priority for the working group was an occupational health program for employees working in great ape protected areas in East Africa. The group proposed to set up sustainable occupational health services for park staff and researchers as part of a greater effort to improve the primary health care of local communities in and around these two protected areas. The idea was to use the employee health program model MGVP has used over the past three years in Rwanda and to apply it in Tanzania and Uganda, and elsewhere, as appropriate.

## **B. GAHMU Conference in Leipzig, Germany**

A three-day conference was organized by the Max Planck Institute (MPI) in Leipzig, Germany between May 6<sup>th</sup> - 9<sup>th</sup> 2004 as a venue for discussions and exchanges of experience and ideas among researchers, conservationists, and health specialists working with great apes in the wild. The conference aimed to promote a trans-disciplinary approach that could help expand the knowledge base for protecting the health of great ape populations and also the understanding of disease evolution and its impact on primate evolution.

During the course of the conference it was proposed that a network be created called the “Great Ape Health Monitoring Unit” (GAHMU). The unit would provide drafts for health care plans, outbreak protocols, and promote the development and use of new, non-invasive methods of monitoring the health of wild great apes. One of the main proposed goals of GAHMU is to supply background information (publications, reports, examples of hygienic plans) for the prevention of disease transmission from humans to great apes and vice versa. This is consistent with the efforts of AHEAD to link human and animal health to address both conservation and development needs.

## **II. AHEAD Great Ape / Human Health Working Group Meeting**

### **A. Working Group Meeting Participants**

On May 6th and 7th, a group of professionals met in the evening to further discuss points raised at the AHEAD forum in Durban. The meeting was facilitated by Dr. Lynne Gaffikin, epidemiologist and human public health professional with experience integrating great ape and human health issues in East Africa, working extensively over

the years with the Mountain Gorilla Veterinary Program. She was subcontracted by WCS/AHEAD to help the Great Ape Working Group in one or more of the following areas:

- Develop consensus about basic protocols for effective employee health programs including ideas on how to address sensitivities surrounding disease-testing (e.g., HIV and TB testing) and meet ethical obligations for follow-up/treatment
- Identify appropriate approaches to increasing public awareness
- Standardize approaches to data collection
- Improve community public health
- Identify incentives to reduce risks posed by tourism

A list of participants in this meeting is provided in Annex 2. The group was characterized by the following common experiences and interests:

- Working with wild chimps, lowland or mountain gorillas
- Concerned about potential devastating effect of transmission of human infections to wild apes
- Have links /involved with conservation medicine and/or veterinary care of wild great apes
- Considering/involved in providing health care to protected area conservation personnel as a preventive health care intervention
- Interested in studying the evidence base for employee health program (EHP) interventions and other human-related programs
- Committed to developing standardized approaches to human-related health interventions falling within the manageable interests of conservation organizations
- Participant or affiliated/collaborating with a participant of the AHEAD forum in Durban

The group recognized that many others working on projects around the world either are or have been similarly involved in planning for an EHP or have been providing services or lab testing to some extent. Some of them talked about their efforts as part of the MPI conference.

## **B. Working Group Meeting Objectives**

Given the stated priority of occupational health during the AHEAD forum in Durban, the main objective of this meeting was to develop consensus regarding appropriate human health interventions upon which wildlife conservation personnel/organizations should focus and how. This was to be undertaken considering two other broad objectives:

- Integrate efforts initiated by the AHEAD Great Apes Working Group with ongoing efforts of other organizations working at the great ape/human

health interface.

- Build upon lessons learned from these ongoing efforts

For the working group members involved in developing a proposal as part of the Durban AHEAD initiative, the meeting in Leipzig provided an opportunity to assess how the proposal fit in with the thoughts and experiences of others and to agree upon next steps.

Prior to the meeting, participants were asked about their expectations of the meeting. Not all participants were able to respond before the meeting but for those who did, expectations ranged from fairly broad, conservation program-oriented themes to very focused, AHEAD proposal-related concerns. The majority of responses however focused on the specifics of an EHP which helped to direct the content of the evening meetings and the work towards group consensus on at least some key issues. Table 1 lists stated expectations of meeting participants able to respond before traveling to Leipzig.

Table 1: Participant expectations

#### General

- Develop consensus regarding conservation program impacts that can be realistically achieved and how to best go about achieving them (employee health being one)
- Develop consensus regarding how best to interpret program results and how to translate data into information useful for program planning
- Develop guidelines on quarantining researchers
- Develop guidelines on managing health risk from tourists

#### EHP – related: Planning and Promoting

- Develop protocols/consensus/strategies regarding:
  - how to best develop an effective EHP not just for gorillas or great apes but for primates in general or, with some modification, for other wildlife species.
  - how to promote the importance of an EHP amongst the wider primatology community
  - how to finance EHP with funds other than conservation money

#### EHP-related: Implementation

- Develop protocols/consensus/strategies regarding:
  - standardizing EHP interventions so that comparisons over time and across countries can be made
  - basic lab tests as part of an EHP and how to carry them out
  - how to deal with HIV as a health problem (e.g., how to manage HIV+ conservation personnel, HIV testing protocols, what to do if HIV+ status

- is determined pre-employment, what to do for personnel who turn positive once employed)
- TB testing protocols including consideration of how best to test employees for TB who have had BCG vaccination

#### EHP-related: Country specific

- Clarify which parties will be involved in implementing an EHP in Uganda and Tanzania and respective roles/responsibilities

### **C. Guiding Principles**

The importance of human health to the health of great apes has been raised and explored in numerous documents and at meetings over the past 5-10 years. Many of the MPI participants have contributed to those documents and/or at those meetings. In order to put the work of this group into that larger context, a set of guiding principles or assumptions was proposed:

- Improving health in target human populations will reduce the risk of severe morbidity/mortality among wild apes
- The amount of risk posed by different human health groups is not equal
- Focusing on protected area employees is justifiable because:
  - they are in frequent in close contact with habituated animals
  - an occupational health program is standard for persons working in zoos and laboratories in western countries
  - such a program is in the manageable interests of conservation organizations because employees can be identified and followed up

### **D. Discussion notes**

The rest of this document summarizes key points discussed or raised during two evening meetings at the MPI of a subgroup of interested and involved professionals (Annex 2). It is intended that these notes will form the basis for a more concise, consensus document that can be shared with and endorsed by others committed to reducing potential health risks to great apes in the wild and conservation workers in associated protected areas.

#### 1. Rationale for an EHP

There are different ways in which employee health can be addressed:

- 1) as part of a research study
- 2) opportunistically
- 3) as part of an organized, standardized program

This group aimed to identify components that the group felt should be *part of a standardized program, organized according to or consistent with basic principles of public health*. The standards of such a program however should reflect the level of existing or potential disease risk. And, planned interventions should be the most cost-effective based on available evidence. The program should be modeled after western programs provided for persons working in zoos or primate centers. Organizers must consider what is fair in the local context in terms of who gets care (employees versus community members) and also concerns regarding new people being attracted to the area as a result of services being offered. A program that can serve as a model needs to be adaptable to different environments (e.g., large, more remote parks as well as small parks relatively close to population centers). And importantly, any EHP needs to meet a specific demand, should yield tangible benefits and should be manageable by the organizing agency.

For countries hosting great apes represented by one or more meeting participants, interest in or demand for (or commitment to) an EHP was expressed as follows:

Uganda: The Uganda Wildlife Authority (UWA) has expressed an interest in supporting such a program, to the extent possible

Rwanda: The Rwanda Organization for Tourism and National Parks (ORTPN) has an interest in supporting ongoing employee health efforts in mountain gorilla habitats and employees of new areas identified as chimpanzee habitats.

Tanzania: The Tanzania National Parks Authority (TANAPA) has experienced the link between chimpanzee and human health related to various respiratory outbreaks in Gombe National Park. TANAPA encourages regular checkups at dispensaries located within their national parks and the organization covers those costs. Of question is the quality of the tests performed in those clinics.

The group raised the important question of what would it take to convince people that having an EHP is important. The group summarized their feelings about the importance of an EHP as follows:

- to achieve long-term success and reduce risks to employees and wildlife, it is in the best interest of everyone to ensure that good EHP are in place.
- Therefore, employee health care needs to be considered in conservation projects to protect both the employees and protected area wildlife
- For conservation organizations, protecting employee health should be considered a “critical control point” in terms of protecting the health of wildlife.

## 2. Who should the program cover

The group discussed who (employees, family, community members) should be covered by the program and who should be treated for diseases of potential risk to great apes. There was consensus that:

*The program should provide prevention, clinical assessment, and case management (referral, follow-up, treatment as indicated) services to all protected area employees*

*And, it should provide funding for treatment of members of the employee's immediate family (as defined by local norms) who regularly reside with them (e.g. in the same compound).*

The group recognized that it is difficult to standardize who falls under the definition of immediate family and who regularly resides with an employee and that this needs to be worked out locally, in the context of local norms and customs. However, the group felt it was important to promote treatment coverage of household family members who, by virtue of their continued close contact, potentially pose a health risk to the employees and therefore indirectly to great apes.

## 3. What services to offer

### *a. Prevention*

Prevention is the key to sound public health practice. What makes this proposed model of an EHP different from many existing efforts to provide health services for employees working in great ape protected areas is not only standardized components, *but also a focus on prevention as the most cost-effective way of reducing disease risk to employees and the wildlife they are hired to help protect.* Treatment services are financially covered in many countries to government employees who fall sick and, as is the case in e.g., Tanzania, health facilities may also be made available in or near protected areas specifically for park employees. However, routine screening, health education and prophylactic vaccination are not offered or financially covered for park employees in many of these settings. Providing such services in a systematic way and keeping track of how, how often and to whom these services are provided would go a long way towards minimizing risk of infectious disease transmission between employees and great apes in protected areas. It would also provide a much needed basis for monitoring and evaluating the extent to which this source of potential health risk to great apes has been reduced.

Given that funding for employee health services, if covered by conservation organizations, will reduce the amount of funding available to provide direct conservation services to the targeted protected area or wildlife species, the group stressed that whatever prevention services are offered should be risk-based considering the employees' job type.

Determining disease risk relative to job type relative however is challenging. At a minimum, the group agreed that programs should differentiate between anyone going into the park versus not going into the park (administrative personnel). The question of what is a meaningful definition of “in the park” was then raised. This was discussed in the context of the fact that tourists go into some parks for just an hour. Therefore, if an employee goes into the park for only an hour, should their risk be considered any less than that of a tourist? If it is the same, then how can the standards for required health status be any different? The group did not come to consensus or conclusion on what the risk-based job categories should be or how to reconcile potential differences in standards between employees and tourists and this is an important area for future work. However, it was recognized that employees are a group whose health can be systematically monitored and attempts made to manage, whereas this effort is more challenging for tourists. Additionally, as noted in the beginning, the group felt strongly that health services should be provided for employees, for their own well being as well as the well being of the animals they are hired to protect. Which provides a strong rationale for focusing health efforts on this group.

#### i) Vaccination

In some countries, childhood disease vaccination coverage is high or has been high historically. However, proof of vaccination would be unreasonable to request, and general population vaccination coverage rates may not represent the vaccination history of the extant employee population (representing many different age groups and sometimes countries of origin). Therefore, the group agreed that vaccinations should be offered for a select group of diseases for which evidence exists of susceptibility among great apes and the likelihood of drastic population level effects if the disease were to be introduced. These include:

Polio (injectable-killed vaccine)  
Hepatitis A  
Measles

The question was raised regarding whether a program can require measles vaccination if the person is HIV+. This and other questions regarding HIV testing and treatment were raised and these notes follow in section 5. In the context of providing measles vaccination, the group recommended that measles vaccination be required *if* the employee will be field-based and coming within close contact with great apes (how close to be defined in follow-up work by the group). A more full discussion of principles and recommendations surrounding criteria for hiring (pre-employment testing) and for maintaining employees in their current job position is provided below in section 3bi.

The group felt that rabies vaccination should be provided based on cost considerations, endemicity of the disease and whether post-exposure interventions are locally available.

*Vaccinations should also be provided for any other diseases of high prevalence endemically or epidemically in the area.*

*Tetanus vaccination was also recommended as a general standard to safeguard the health of employees.*

ii) Prophylactic treatment

*The group recommended prophylactic de-worming treatment every 3 months.*

iii) Health education/counseling

This service is relatively inexpensive, requiring only a trained person or team of health professionals to provide. *It is a very cost-effective component and should be one that every program includes. Not just once but on a routine basis.*

Key messages or themes that should be covered include:

Hygiene (including hand washing/disinfection before going to the field and after toilet use)

Sanitation (including human waste disposal when in the field and at home or/or in the community)

Family planning (option for condoms to be available and/or referral for other contraceptive methods, as supported by national or non-governmental programs)

STD including HIV prevention (specifically risk behaviors and how to reduce risk of infection/transmission)

Information on how to prevent specific diseases (through e.g. fact sheets) including infectious diseases endemic to the area (e.g. malaria) and/or chronic conditions for which basic lifestyle changes could help (e.g., high blood pressure, diabetes, nutrition-related or exacerbated conditions)

*b. Screening*

i) Requirement for employment

The issue was raised as to should or could testing and proof of infection-free status be required as a condition for employment. The group agreed that the program *could not require anyone to take specific tests (or treatment)* but that the conservation employer had the *right to request that any employee must be healthy enough to do the job they are being hired for and not have any condition that would put the wildlife at risk.*

A key challenge here is explicitly outlining what health criteria should be considered to i) perform each job category and ii) would not put wildlife at health risk. The group felt it would be prudent to check with a medical ethicist about this and other consensus statements made before moving forward to gain broader acceptance of points made in this meeting.

Related to this, the group recommended that:

*employers should include in the employee contract a statement about passing a health assessment as one requirement for being hired and the statement should include a listing of the specific diseases/pathogens of concern.*

*ii) Clinical assessment*

The group agreed that a clinical assessment should be provided for each employee on an agreed upon schedule (see section 4d for discussion on timing). The components of this assessment should include:

Clinical history  
Physical exam  
Lab work

Clinical history/physical exam:

The clinical history and exam should be conducted by a clinician or team of health providers designated by the program as responsible for this service. The assessment should conclude with a signed yes/no statement by the designated provider(s) indicating whether in the clinician’s judgment the potential employee (or employee) passes the stated health criteria to get hired for that specific job – or that they can do the work for which they were originally hired. The clinician should sign off twice – once after the initial exam and once after reviewing all the lab results.

An example of the kind of wording that could be considered follows:

“In my opinion, the employee (candidate) \_\_\_\_\_ is physically qualified to engage in the type of activity for which s/he is (to be) employed”

\_\_\_\_\_  
Examining physician name

\_\_\_\_\_  
Examining physician signature

\_\_\_\_\_  
Date

The employer needs to work with the clinician/team to decide a priori what goes into a local clinical decision algorithm directing the final judgment (“yes/no”) regarding

employment for each job type (or field/non-field job categories). Legal rules and regulations of the country should be followed for hiring/firing of employees based on clinical assessment findings. For example, if the employee is not physically “fit” for a specific job type, an employee may be reassigned to a different job type or the location changed where they are posted may be changed.

The guiding principle agreed upon by the group for lab testing was *not to conduct any test for which an intervention was not locally available*. This follows from the basic principle of public health regarding not screening for anything for which treatment or case management is not available. An exception to this was testing for some infectious diseases, treatment for which may not be locally available but for which maintain population health involves some intervention e.g. promoting behavior change to reduce transmission to others such as condom use for some sexually transmitted diseases).

Lab work:

The group recommended that the following be provided as part of the routine examination:

- TB testing – the most sensitive test in that health care context that would allow for infectiousness to be assessed
- Tests to detect gastro-intestinal parasites
- Fecal cultures
- Urinalysis
- Blood analysis (bank blood if possible for future analyses)
  - smear for malaria
  - CBC
- Other diagnostic testing based on physician recommendation from clinical exam findings

A discussion of the group’s thoughts regarding HIV testing will be considered separately under section 5.

### *c. Case management*

Case management includes any further diagnostic workup, treatment, referral or follow-up care recommended by the designated EHP clinician. The group agreed that *case management services should be provided to employees for all on-the-job injuries and any disease/condition directly related to their job responsibilities*. Also, to minimize cost and disparities in the level of health care provided to employees versus villagers in local communities, it was agreed that employees should be *referred for whatever services/programs are available in the form of national health programs or covered by available insurance schemes*. *If any infection, disease or condition is job-related and no national program or insurance exists for that disease/condition, the group felt that the services should then be provided/covered by the program.*

To minimize disparities in health services between employees and local community members, *for other diseases/conditions not related directly to their job, case management services should be provided at a level consistent with the care they theoretically should receive at the most basic health care level in the country (e.g. dispensary)*. This includes basic first aid and treatment or referral for acute or chronic disease. The group recognized that in many countries there is a gap between the level of care that should be provided in lower level facilities, as set out by national or international standards, and the level of care that can be or is provided. An assessment of where such facilities are located relative to where employees live, the level of care at those facilities and what it would take to maintain minimum standards at those facilities is something that conservation employers should consider as an extension of their EHP.

The above discussion covers general principles for case management of employees. A key question is what case management services would meet the second objective of minimizing risk to great apes. Conditions that the group agreed should be covered to minimize health risks to great apes include:

GI parasites  
Respiratory pathogens  
Skin conditions

Specific pathogenic organisms that should be targeted will be agreed upon during follow-up work with the group but certainly includes TB

For immediate family members residing with employees, *coverage of their case management services should be at the level theoretically provided at a local dispensary*.

#### 4) Program management

This section includes discussion points regarding how best an EHP be should launched, funded, managed and its progress and success monitored and evaluated. Much of this discussion was based on MGVP's three year experience providing employee health services as part of a standardized EHP in Rwanda.

##### a) Who should manage the EHP?

The group suggested that for sustainability, *there should be an EHP manager position that is part of the employment infrastructure for that particular protected area*. The group felt that this person should be someone:

- with a health background
- living locally who has relations with the local health care system
- knowledgeable of/familiar with NGOs in the area

##### b) Launching an EHP

The first step in organizing an EHP is to identify all employers for the targeted protected area and to get consensus on program objectives, components, management and costs.

Next, health and other relevant authorities at the national and local levels need to be informed and commitment for their participation and/or approval obtained, ultimately in writing.

After official approval has been obtained, a signed memorandum of understanding (MOU) or equivalent should be obtained from all participating organizations. This would include a full description of the program with respective responsibilities including management and financial.

Finally, funding to launch and sustain the program needs to be secured from those who financially committed to support the program in the earlier planning stages.

### c) Program funding

The group felt that it was important that all part employers contribute to supporting the program. Given the cost implications, contributions may need to be phased in over time. Start-up costs or specific line items may be supported more by one organization than another but to ensure sustainability and quality, the program needs financial commitment from all employers.

As noted in section 3.1, in Rwanda and Tanzania some medical services are already provided by ORTPN and TANAPA, respectively. In Rwanda, for example, both ORTPN and its employees contribute to the national health insurance scheme (RAMA) which helps to cover costs for medical treatment. In Tanzania, park employees in some places have access to a dispensary in the park designated to provide them with basic medical care. In Uganda, UWA is committed to providing its employees with medical care and is working with agencies including some represented by meeting participants to make this happen. The group agreed that *there needs to be commitment/responsibility on the part of each employer to find funds to contribute to such a program.*

One way suggested to help park authorities raise some funds would be for them to charge a small annual "health fee" to researchers. If they required certain vaccinations and a "clean bill of health" from researchers, the health fee costs could go towards paying for select health services provided to them (e.g. routine TB testing and vaccine boosters) as well as offset some costs associated with the whole program (such as the salary of a physician or nurse who would provide the services to them and all employees).

Another suggestion, to offset the cost of performing the physical exam and possibly some medical supplies was to form a network of western-based medical personnel with whom the program could create a partnership. This would work in situations where an annual

physical exam was provided at a set time so that volunteer clinicians could organize their schedules to be there and assist.

The issue was raised of whether having an organized health program for employees of great ape protected parks would lead to inequities in employee health benefits across protected areas for government employees. In some countries, medical benefits are provided already but they usually only cover treatment services. *The group noted that the rationale for prevention and assessment services being included, in addition to treatment, as part of an organized program was not only the health of the employee but also because of the importance to animal health – the second targeted beneficiary of this intervention.* Reducing health risks to great apes the employees are hired to protect provides the rationale for providing additional services to government employees of some protected areas compared to others.

#### d. How best to provide services

Two models were discussed. One, a static model where employees go to a fixed facility for services. The second, termed here mobile services, involves a team of health professionals traveling to the protected area to provide services. The decision regarding which model or combination obviously requires consideration of the availability of local health care resources.

And, where services are provided clearly affect how often services can be offered. One option is to have targeted services once a year. This is likely to be easier to organize but has limitations in terms of accommodating pre-employment examinations and health issues that arise throughout the year. Services provided on a continual basis or on a staggered/periodic basis, when convenient, require different organizational management and increased effort to maintain quality, but address the limitations noted above for the static approach. A combined approach for which a focal time period is designated for the clinical assessment of current employees and staggered services for new comers may be ideal, if local health care resources can accommodate this. *The group felt that if a “bill of good health” is established as a criterion for employment, and/or there is a pre-employment clinical assessment, to be effective, the program really needs to offer some screening on a staggered basis.*

#### e. Data needs

##### i) Confidentiality

Some basic principles about data collected as part of the EHP included:

- Nothing should be asked that employers themselves would not be comfortable answering
- Only data that will be used specifically for case management or epidemiological analysis should be collected .

Important issues of informed consent and confidentiality were raised as they relate to sharing of individual medical data. *The group felt strongly that maintaining confidentiality is of the utmost importance.* The group agreed that clinicians need to know all details about the health status of each employee to make appropriate clinical recommendations regarding their care. The role of the health care provider(s) is to say whether or not the person can be employed (if pre-employment assessment is required) and /or whether they can do the job for which they were hired. Specific medical action and a time frame need to be indicated by the provider(s) if for medical reasons the employee cannot continue with the job for which they are (or are applying to be) hired. The program needs to have an algorithm that has been vetted and accepted by all participating organizations regarding where employees should go if they cannot be deployed into the field.

In addition to the provider(s), someone representing the employer (e.g. human resource equivalent) will also need to know the health status /results related to each employee in order to administratively manage their case (in terms of allocating funds for followup care etc). This person has to understand the importance of maintaining confidentiality and therefore needs to be selected with this criterion in mind.

In addition to accessing data for clinical and administrative case management purposes, the data may be aggregated and analyzed for monitoring, evaluation and/or research purposes. To maintain confidentiality, a master file containing the employees' name and ID number needs to be maintained separately and all other files should contain only the employee ID number (for purposes of electronically linking separate clinical result databases).

#### ii) Ownership/use of the data

The relationship/ownership/use of aggregate data should be indicated in the written MOUs. No data should be published without approval as indicated in the MOU.

A list of standardized questions with standardized codes is needed to allow for comparisons of employee results across time and sites. Specifics on what questions/indicators might best apply to an EHP are listed in section "f" below. In general, standardized data should be collected on:

- Employee exposures /risk factors (socio-demographic and basic job-associated data)
- Physical exam results
- Lab results
- Follow-up clinical results

#### f) How to evaluate success of the program

Given there are two targeted beneficiaries, the group identified two sets of indicators:

Employees:

- Increased health
- Budget for health care of employees
- Test+ rates
- Overall participation rate
- Proportion of employees who repeatedly participate
- Number of sick days
- Number of days absent
- Hospitalization rate among employees
- Employee satisfaction with the EHP
- Employee job satisfaction

Wildlife:

- Health of animals
  - Rate of existence of clinical signs
  - Test+ rates

#### 5) HIV-related issues

*The group agreed that HIV testing cannot be required of employees. However, voluntary HIV testing was highly recommended. Because of the sensitive nature of this testing, special vials with a separate unique coding system may be appropriate, with the code known only to select health professionals in the testing facility and the results shared only with the provider (to communicate in private to the employee).*

Considering employees as the beneficiaries, the group felt that *employees with HIV+ status should be managed at the same standard of care as others with + HIV status employed by the same organization. A minimal standard in this regard would be to ensure that any HIV + persons are referred to the national HIV/AIDS control program if it exists.* Alternatively, they could be managed as part of a health insurance scheme.

From the animal health perspective, the important thing is *managing any co-infections considered critical to the health of the animals.* As the health care provider is the person responsible for ensuring that the employee meets the health criteria agreed upon a priori for new or continued employment, *it is the responsibility of the provider to actively monitor any HIV+ employees for any co-infections that could put the animals at increased risk or to recommend that the employee be assigned non-field related duties (for HIV+ employees working in field positions).* *The HIV status of each employee should remain strictly confidential (between the provider and the employee).* However, *as with all test results, the person administratively managing health care finances for each employer may have access to this information as it affects billing, treatment cost reimbursement or payment disbursement.*

The question was raised whether employees should be vaccinated against other diseases, such as measles, if they are HIV+ as if they are immunosuppressed, there was concern about a potential increase and /or persistence of co-infections. *There may be a country policy related to this and the group agreed that nothing should be considered that is not legally allowed in the country.* Decisions about this affect the flow of services as testing for HIV status would need to be conducted first, for those who consent, and only after those results were returned and shared with the physician could vaccination for some tests be offered. The group did not come to consensus on a recommendation but agreed that there was need for additional work on this question.

## Annex 1

Specific challenges and threats identified by the Durban AHEAD Great Apes Working Group for Bwindi and Gombe Protected Areas <sup>1</sup>

### ***Lack of knowledge and capacity***

- Intervention
- Prevention, particularly in wildlife sector health issues
- Poor diagnostic services
- Lack of employment for trained wildlife disease personnel

### ***Public health issues***

- Poor services
- Impact of HIV on society
- Zoonoses and anthrozooses
- Lack of health knowledge for communities
- Lack of sanitation
- Refugee issues; societal disruption, poverty, lack of ownership of resources,
- Different cultural attitudes
- Tourist health

### ***Land use and hard edges***

- Human wildlife conflicts, crop raiding, human attacks
- Fragmentation

### ***Small population problems***

- Inbreeding
- Fragmentation
- Primate health and impact of disease

### ***Wildlife utilization***

- Primate consumptions (particularly refugees) ????
- Bycatch from snaring
- Rehab of confiscated animals from illegal trade (chimps, gorillas)
- Trading route for international trade

### ***Political awareness of issues***

<sup>1</sup> Adapted from “Southern and East African Experts Panel on Designing Successful Conservation and Development Interventions at the Wildlife/Livestock Interface: Implications for Wildlife, Livestock, and Human Health” Draft Working Group Notes- Oct.1, 2003 draft. AHEAD forum, Durban, South Africa, IUCN Vth World Parks Congress, September 2003.

## Annex 2

### Meeting Participants

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