

# Health and Demographic Surveillance System

## Session, 2 hours

In this session, you introduce the Health and Demographic Surveillance System (HDSS) as an instrument of monitoring demographic, epidemiological, and health transitions. Students learn about the data collected in a HDSS and about the existing sites in Africa including:

- Nairobi HDSS (Kenya).
- Iganga-Mayuge HDSS (Uganda).
- Rakai Health Sciences Program (Uganda).
- Agincourt HDSS (South Africa).

Download the [curriculum](#) for this session.

## Outcomes

By the end of the session, students can:

- Describe the structure of a HDSS.
- Analyse the types of data collected by HDSS.

## Preparation

If you have a colleague who works or worked in a Health and Demographic Surveillance Site, invite them to join this session.

This session also works really well if your students are doing a field trip to a HDSS.

Consult these resources as the basis for preparing this session, in particular the presentation (Step 2). Select ones to share with students.

- Let's Learn Public Health. (2017). [Public Health Surveillance](#) – a brief overview.
- APHRC. (2019). [The Nairobi Urban Health and Demographic Surveillance System](#).
- Global Health with Greg Martin. (2018). [Epidemiological transition](#).
- [IN-DEPTH Network](#). 2021.
- [Iganga-Mayuge HDSS](#). 2021.
- Kahn, K., Collinson, M. A., Xavier Gómez-olivé, F., Mokoena, O., Twine, R., Mee, P., Tollman, S. M. (2012). [Profile: Agincourt health and socio-demographic surveillance system](#). *International Journal of Epidemiology*, 41(4), 988–1001.
- Zia, N., Loeb, M., Kajungu, D., Galiwango, E., Diener-West, M., Wegener, S., Bachani, A. M. (2020). [Adaptation and validation of UNICEF/Washington group child functioning module at the Iganga-Mayuge health and demographic surveillance site in Uganda](#). *BMC Public Health*, 20(1).
- McLean, E., Dube, A., Saul, J., Branson, K., Luhanga, M., Mwiba, O., Crampin, A. C. (2017). [Implementing electronic data capture at a well established health and demographic surveillance site in rural northern Malawi](#). *Global Health Action*, 10(1).
- Waiswa, P., Akuze, J., Moyer, C., Kwesiga, D., Arthur, S., Sankoh, O., Mwangangi, M. N. (2019). [Status of birth and pregnancy outcome capture in Health Demographic Surveillance Sites in 13 countries](#). *International Journal of Public Health*, 64(6), 909–920.
- Kim Streatfield, P., Khan, W. A., Bhuiya, A., Hanifi, S. M. A., Alam, N., Bagagnan, C. H., Byass, P. (2014). [Adult non-communicable disease mortality in Africa and Asia: Evidence from INDEPTH Health and Demographic Surveillance System sites](#). *Global Health Action*, 7(1).

## Self-assessment

Students reflect on how HDSS data in their own countries might supplement their doctoral research data requirements.

## Steps

Time	Step	Who
30 minutes	1. Watch the Iganga-Mayuge HDSS video	Facilitator, students
30 minutes	2. Describe an HDSS in Africa	Facilitator
40 minutes	3. Present the HDSS in your country	Groups, then plenary
20 minutes	4. Wrap up	Facilitator

### **Step 1. Watch the Iganga-Mayuge HDSS video**

*30 minutes*

Screen the [video](#) about the Iganga-Mayuge HDSS. Invite discussion on the question of a HDSS in a resource-poor setting.

### **Step 2. Describe a HDSS in Africa**

*30 minutes*

Give your presentation, covering the structure of a HDSS, data collected and challenges. Refer to existing HDSS in Africa, including:

- Nairobi HDSS (Kenya).
- Iganga-Mayuge HDSS (Uganda).
- Rakai Health Sciences Program (Uganda).
- Agincourt HDSS (South Africa).

Emphasise that HDSS sites have longitudinal data – information about particular cohorts of people over time – which allows for particular kinds of research:

- Researchers can investigate causality more easily through cohort studies than with other study designs.
- Many intervention studies can be nested in HDSS sites.
- It is possible to draw random or systematic samples from these sites.
- Researchers can investigate groups of particular interest – such as people with TB, single-parent households, or people who live close to a health service – and compare them with the rest of the cohort that do not have that characteristic.

HDSS sites have longstanding relationships with their research community. You may want to engage your students in discussing:

- The ethical implications of this relationship and researchers' responsibility to the community.
- The notion of research fatigue in the community: what that means and how it can be overcome or avoided.

### **Step 3. Present the HDSS in your country**

*40 minutes*

Students discuss health and demographic systems in their own countries and in relation to their own research. (They may need to search for information.) If there is no HDSS in their own countries, then divide them into groups and allocate articles and videos – a different site for each group. Groups should be about 5 to 10 people. Ask them to consider issues including:

- Data collection tools.
- Availability of data.
- Challenges.
- The kind of research that such a site can accommodate.
- The kinds of questions that may be answered by using the data already generated by these sites.

Groups present their discoveries to the plenary.



#### **Step 4. Wrap up**

*20 minutes*

Drawing on the group presentations, present conclusions, and invite students' responses.