The need for pharmacovigilance in resource-constrained settings

- ♣ Increase in the availability and use of new essential medicines

- ♣ Increased patient concerns for safety and effectiveness

- ♣ Lack of systematic medicine safety approach

- ♣ Lack unbiased, evidence-based information to help guide treatment decisions and safety-related regulatory decisions

Case Study:
Risk of anemia associated with zidovudine-based HAART

- In 2007, Namibia switched first-line highly active antiretroviral therapy (HAART) from stavudine (D4T) to AZT-based regimens following safety concerns associated with D4T.

- In 2008, 50% (22,050/43,329) of persons on HAART users were using AZT-based regimens.

- Spontaneous reports to **TIPC** of anemia-AZT-based HAART: most commonly reported adverse event in 2008 (34/58 reports).

Aim of Confirmatory Study Requested by MoH

♣ To determine the incidence of and risk factors for anemia in adults on AZT-based HAART

Corbell C., Katjitae I., Sagwa E., Mabirizi D., Nwokike J., Mengistu A., Lates J, Stergachis A.

Methods: Retrospective Cohort Study

1) Record-linkage and validation

Linkage of 3 databases used in the public sector:

¬ <u>Pharmacy electronic ART dispensing tool (EDT)</u>: Contains HAART dispensing records and select patient demographics.

¬ <u>National laboratory database, Meditech</u>: laboratory values and some demographics for persons tested through the Namibian Institute of Pathology (NIP).

¬ <u>Electronic patient medical record system (ePMS)</u>: clinical information and demographic information of HAART users

Methods:

1) Record-linkage and validation

- Persons who initiated HAART between January 2007 and June 2008 identified from EDT and linked to Meditech and ePMS using probabilistic record-linkage (PRL) methods.

- Matching variables: Last name, first name, date of birth, date of start HAART and facility.

- Validation by random selection of records for manual review of Patient Care Booklets.

Methods:

2) Retrospective cohort study for incidence of anemia

- **Two cohorts** of HAART users initiated between January 2007 and June 2008:
  - ϖ AZT-based cohort
  - ϖ D4T-based cohort

- **Eligibility criteria**: 19-65 yrs; at least one Hb reading after HAART.

- **Outcome**:   Anemia defined as Hb<7.0 g/dl at least 1 month after starting HAART.

- **Follow-up** of records to June 30th 2009.

3) Nested case-control study design for risk of anemia associated with AZT-based HAART

- ♣ Subsample of cases and controls identified from the two HAART cohorts.

- ♣ **Cases**: Persons with Hb below 7.0 g/dl

- ♣ **Controls**: Persons with no anemia diagnosis frequency matched to cases using a ratio of 3 controls for every case.

- ♣ Identify additional covariates by manual abstraction of Patient Care Booklets.

- ♣ Target sample size: 105 cases and 315 controls required.

Comments on Case Study

- ♣ Follow-up of a key safety signal generated from National Pharmacovigilance Center's spontaneous adverse event reports.

- ♣ Results should be informative to HAART Technical Advisory Committee and other stakeholders.

- ♣ Assess the feasibility of the platform for assessing the safety and use of HAART to support evidence-based decision-making.