Poster # TUPE0341

Data Quality Assessment Tool in HIV Care and Treatment Facilities in Kenya – A Case Study

M. Sheriff[1], C. Katingima[1], C. Kimani[1], M. Hawken[1], S. Saito[2], D. Hoos[2], D. Nash[2]

[1]International Center for AIDS Care and Treatment Programs (ICAP)/Columbia University, Nairobi, Kenya, [2]ICAP/Columbia University, New York, United States

BACKGROUND & AIMS

Background:

- Complete and accurate documentation of care and treatment service provision facilitates improvement in patient care, assessment of program progress and impact
- Incomplete documentation of clinical and other information on enrolment and subsequent follow-up visits can disrupt continuity of care
- Technical support can help in the process of improving quality of data and patient care
- ICAP (International Center for AIDS Care and Treatment Programs) has developed tools to assess data quality at facilities with the goal of improving patient care through better information provided to the patient care team

Aims:

- To assess the impact of efforts to improve documentation of clinical records
- To plan for further improvement activities including staffing, training and management
- To provide accurate information to program and facility staff on the quality of record keeping at the facility

METHODS

- Assessments of the quality of documentation was conducted semi-annually in 2 rounds in 2007-8, at 20 ICAP- supported Ministry of Health (MOH) HIV care and treatment facilities in Kenya based on the established Standard Operating Procedures for Data Quality Assurance (DQA)
- Completeness was measured for the following 8 data elements at each patient visit:
  - Date of initial/follow-up visit
  - Weight
  - Pregnancy status
  - TB status
  - New Opportunistic Infections,
  - Co-trimoxazole
  - ARV drug regimen
  - Date of next appointment.
- Completeness: whether each data element was recorded on the patient card at initial and all follow up visits (Figure 1 & 2)
  - Randomly selected 10% of the patient cards
  - Entered a '0' score if the data element was filled in and a '1' score if it was missing
  - % missing is calculated by adding the scores for all the 8 data elements and dividing by 8
    - If the patient was male then the pregnancy variable was not assessed (not part of the numerator or denominator)
    - If the patient was a pre-ART patient then the ARV drug regimen variable was not assessed (not part of the numerator or denominator)
  - % completeness =100-% missing (Figure 3)
- Consistency was measured for the following 8 data elements:
  - Patient ID
  - Sex
  - Age
  - Entry point
  - Pregnancy status at enrolment if female
  - Co-trimoxazole start date
  - WHO stage at eligibility
  - Weight at start of ART
- Consistency was measured by comparing entries for the 8 data elements recorded on the patient card against the pre-ART and ART Registers
  - Randomly selected 10% of the patient cards
  - Entered a '0' score if the entry in the patient card and pre-ART or ART Register matched; '1' if they were inconsistent; '2' if data was missing in Register but Present in Patient Card; '3' if data was missing in Patient Card but present in Register; '4' if data was missing in both Patient Card and Register
  - Inconsistency score=

  [Sum of scores for all the 8 data elements / the total possible score (=32)]x 10
  - If the patient is a male then the pregnancy variable was not assessed (not part of the numerator or denominator)
  - If the patient was a pre-ART patient then WHO stage at eligibility and Weight at start of variables was not assessed (not part of the numerator or denominator)
  - Consistency Score = 10-inconsistency score
  - The QA score ranges from1 (poor) to 10 (excellent) and is generated for each patient record as well as averaged for all records assessed
- % completeness and consistency scores were stratified by HMIS training and staff rotation status at the sites
  - HMIS training – Training on Health Management Information System for HIV clinics. Involves orientation on data collection tools and reports
  - Staff rotation – in the various clinics in the hospital, including the HIV clinic, 6 months prior to DQA exercise

Figure 1: Patient Card (Front side)

Figure 2: Patient Card (Reverse side)

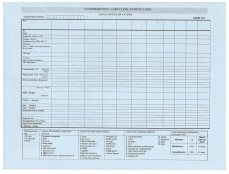


Figure 3: Completeness worksheet for paper-based records

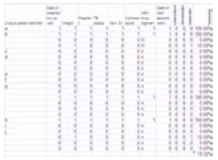


Figure 4: Consistency worksheet for paper based records

Serial number	PID	v1	v2	v3	v4	v5	v6	v7	v8	Numerator	Denominator	Completeness	QA score out of 10
1	0	0	0	0	0	1	0	0	1	8	32	0.25	7.50
2	0	0	0	0	0	1	0	0	1	8	32	0.25	7.50
3	0	0	0	0	0	1	1	1	1	12	32	0.38	7.81
4	0	2	0	0	2	1	0	0	0	12	32	0.38	6.25
5	0	1	0	0	2	1	0	0	0	12	32	0.38	6.25
6	1	0	0	1	2	1	1	1	1	16	32	0.50	6.88
7	0	0	0	0	0	0	0	0	0	0	32	0.00	10.00
8	1	0	0	0	0	n/a	1	0	n/a	1	24	0.04	9.58
9	1	0	0	0	0	n/a	1	0	0	1	25	0.04	9.58
10	1	0	0	0	0	n/a	1	0	0	1	28	0.04	9.64
													8.25

IMPLEMENTATION

- DQA assessments were carried out at each site semi-annually in 2007
- The assessments lasted1-2 days per site, depending upon patient volume
- Monitoring and Evaluation Officers and Data Entry Clerks were trained in the methods
- Data confidentiality and security measures were followed
- Feedback of results were made to facility staff through the multi-disciplinary team (MDT) meetings

RESULTS

- DQA exercises in 20 facilities revealed overall % completeness increased from 60% in round 1 to 81% in round 2. Overall consistency score increased from 5 in round 1 to 8 in round 2 (Figure 5)
- Facilities that underwent HMIS training prior to the DQA had a higher % completeness than facilities that did not undergo training (64% v.s. 48%) (Figure 6)
- Facilities that did not have staff rotation within 6 months prior to the DQA exercise had a higher % completeness than facilities that had staff rotation (71% v.s. 52%) (Figure 7)
- Consistency scores, however, did not improve with training or absence of staff rotation
- HMIS training and no staff rotation may be factors associated with high quality patient records

Figure 5: Overall % completeness and consistency scores for round 1 and round 2 DQA exercises in 20 ICAP-supported MOH HIV care and treatment facilities in Kenya

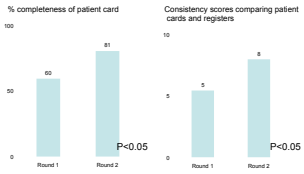
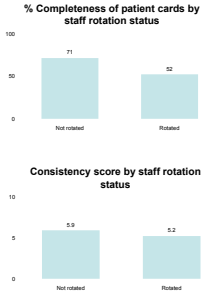


Figure 6:Data completeness & consistency with HMIS Training in round 1 DQA exercise in 20 ICAP-supported MOH HIV care and treatment facilities in Kenya

Figure 7: Data Completeness & consistency with staff rotation & Staff in round 1 DQA exercise in 20 ICAP-supported MOH HIV care and treatment facilities in Kenya



CONCLUSIONS

- The simple quality assurance tool can :
  - Assess on-going data improvement activities
  - Identify factors that might be associated with improved quality of documentation
  - Improve record keeping and help clinicians provide higher quality care
- Factors that are associated with high data quality should be investigated further in multivariate analyses
- Staff rotation in the hospital may be disruptive to continuity of patient care
- Efforts should be on-going to assess and improve quality of documentation

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