A scorecard for assessing functionality of community health unit in Kenya

Duncan Ager1,*, George Oele1, Samuel Muhula1, Susan Achieng1, Moses Emalu1, Mildred Nanjala1, Sarah Kosgei1, Susan Wanjiru1, Peter Ofware1, David Ojakaa1, Meshack Ndirangu1, Lennie Kyomuhangi1

1Amref Health Africa in Kenya, Wilson Airport, off Langata Road, Nairobi, Kenya

*Corresponding author:
Duncan Ager, Amref Health Africa in Kenya, Wilson Airport, off Langata Road, Nairobi, Kenya

Abstract

Introduction: in 2005, Kenya's Ministry of Health (MOH) in its quest to improve health outcomes developed the Community Health Strategy (CHS) as a key approach. The MOH and partners grappled with the challenge of managing the functionality of the Community Health Units (CHUs). Amref Health Africa in Kenya developed a replicable CHUs Functionality Scorecard for measuring and managing the functionality of CHUs.

Methods: we designed and piloted the CHU Functionality Scorecard at 114 CHUs in Rift valley province in Kenya. The scorecard categorized CHUs as Functional, Semi-functional, or Non-Functional. We used before and after design to assess the functionality of the CUs.

Results: over seven quarters (January 2012 to September 2013). The proportion of functional CHU increased from 3.5% to 82.9%, Semi-Functional reduced from 39% to 13% while Non-Functional reduced from 58% to 4%. The greatest improvements were noted in Community Health Volunteers (CHVs) receiving stipends, CHVs with referral booklets, monthly dialogue days, actions planning, chalk boards, and CHVs reporting rates.

Conclusion: the CHU functionality scorecard is a valuable tool for the management of performance, resource allocation, and decision making. We recommend the adoption of the Functionality Scorecard by the Kenya Government for country-wide application. We recommend: further work in defining Advanced Functionality and incorporating the same into the scorecard; and implementation research on long term sustainability of CHUs.
Introduction

Experiences in the last decade have demonstrated that in resource limited settings, health interventions that focus on building capacities at individual, household, and community levels for appropriate self-care, prevention, and care-seeking behavior are effective in improving maternal, newborn, and child health outcomes [1-3]. Such interventions have potential to address socio-cultural root causes of delays in decisions to seek skilled care from health facilities.

In the quest to improve access to equitable health services and health outcomes Kenya’s Ministry of Health developed the Community Health Strategy as a key approach [4,5]. At its design, the Community Health Strategy included: establishing a Community Health Unit to serve a local population of 5,000 people; instituting a cadre of well trained Community Health Volunteers (CHVs) each providing services to 20 households; supporting every 25 CHVs with a Community Health Extension Worker (CHEW); and ensuring that the recruitment and management of the CHVs is carried out by Community Health Committees [6]. One of the strategic objectives for the health sector is to increase national coverage with the Community Health Strategy by strengthening and/or establishing 8000 Community Health Units across the country [7]. Since 2006, the Ministry of Health in Kenya has deployed the Community Health Strategy for delivery of an essential package of preventive and promotive health services at the community level [8]. Through this strategy, households and communities are empowered with skills to take an active role in health and health-related development by increasing their knowledge, skills and participation. The intention is to strengthen the capacity of communities to assess, analyze, plan, implement and manage health development initiatives thus effectively contribute to the country’s socio-economic development.

Programme setting

In 2012, Amref Health Africa was supporting more than 700 Community Health Units geographically dispersed across the then eight provinces of Kenya (now 47 Counties). These CHUs were working with over 13,000 CHVs and close to 4000 members of CHCs, to deliver MNCH, HIV, Tuberculosis (TB), Water Sanitation and Hygiene (WASH) related health outcomes at the community level. The CHUs were supported through more than 36 projects of Amref Health Africa. They were spread across the rural, nomadic pastoralist, and urban informal settlement settings. Most of the Community Health Units had CHEWs, and all were linked to a local health facility. After its design, the Community Functionality Scorecard was piloted in one of the projects that was supporting 114 Community Health Units in the Rift Valley Province.

Design of the community health unit functionality scorecard

Amref Health Africa developed a functionality scorecard with valid parameters and assessment tools aligned to the national community health strategy guidelines. Based on national guidelines and Amref Health Africa’s position on the role of CHVs, we operationally defined 17 functionality parameters required for a Community Health Unit to attain basic functionality (Table 1). We classified the parameters into inputs and outputs, and under outputs classified three as cardinal elements; we defined cardinal elements are those without which a Community Health Unit cannot be considered as functional even if it meets all other requirements, because of the pivotal role each of them plays in enabling the unit deliver health outcomes.

We further sequentially ordered the 17 parameters to represent the journey that a Community Health Unit follows from inception to basic functionality (Table 2); this was to enable rational decision making in investing resources, since fulfillment of certain parameters are pre-conditions for latter parameters i.e. there is a cause-effect relationship and interdependency among the elements of functionality.

The scorecard articulates interdependency amongst the various Community Health Units’ structures and elements namely: the importance of a strong workforce and materials; motivation and performance management; comprehensive capacity enhancement of the work force; an enabling environment for all actors such as means of transport for CHVs and community health extension workers; importance of embracing sound processes in selection of community health committees for strong governance, and CHVs; health information systems; effective supportive supervision; and sustainability.

In order to translate data on the functionality elements into a score card, a score of one (1) is awarded when a criterion is met and zero (0) when it is not. The total score is calculated out of 17 and a percentage obtained for each Community Health Unit. Based on the percentage score obtained, a CHU is categorized as either Functional, Semi-functional, or Non-Functional (Table 3). Finally we translated the functionality parameters into a checklist (Table 4).

Application of the community health unit functionality scorecard

We managed the application of the Functional Scorecard through an eight steps process, working with and supporting the Ministry of Health counterparts and CHUs. The Ministry of Health Sub-County Health Management Team (SCHMT) took lead in the assessment process – from design of the assessment to analysis and interpretation of data, identification and prioritization of actions, and review of progress.

Step 1: conducted mapping to identify the community health units to be assessed

Working with the SCHMTs, we identified 114 Community Health Units that had been formed. We then developed a data entry template in micro-soft excel, allowing entry of information on the location of each Community Health Unit, the link health facility, the catchment population, and all the Functionality Parameters (Table 4).

Step 2: identified and orientated personnel on data collection

We oriented project officers, community health strategy focal persons, and research assistants as data collectors using the checklist covering all the elements of the functionality scorecard (Table 4). This orientation took one day. During pilot testing, it took approximately thirty minutes to
Step 5: data dissemination and validation

The initial assessment was conducted between 30th April 2012 and 5th May 2012 and covered 114 Community Health Units. During a period of five days, the trained data collectors visited each of the CHUs. Respondents included CHVs, community health extension workers, and Community Health Committee members. CHVs were the respondents for the background information and service delivery; Community Health Extension Workers were respondents in performance enhancement elements and community based health information systems; and Community health committee members were respondents in leadership and governance sections.

Step 4: data entry and analysis

Data was entered into an Epi info database and cleaned using the same program. The data was then transferred into a Micro-soft Excel spread sheet and presented in the form of a scorecard method. In the scorecard method, a particular parameter was depicted by figure one while absence of a parameter is equated to zero (Table 5). We conducted descriptive analysis and generated reports presented in tables and chart. In the actual scorecard, entries of figure one were shaded green, while entries of figure zero were shaded red to foster rapid identification of areas of weakness.

Step 5: data dissemination and validation

We shared the data with Community Health Extension Workers, Community Health Volunteers, and Community Health Committees for verification and validation. Any errors or anomalies are corrected at this point.

### Table 1: functionality parameters of a community health unit classified into inputs, outputs, and cardinal elements, and operational standards

| Functionality parameter | Operational standard |
|-------------------------|----------------------|
| **Inputs**              |                      |
| Community health extension workers trained | Two extension workers trained per Community Health Unit |
| Community health committee trained | Seven to 13 members of a community health committee trained using the national curriculum |
| Community health volunteers trained | All community health volunteers trained on the basic package of the national curriculum |
| CHVs provided with commodity kits | Each CHV provided with a portable bag with commodities and tools agreed upon with the sub-county health management team |
| Trained CHVs have MoH 513 and 514 reporting tools | All trained CHVs have MoH 513 and MoH 514 tools as part of their kit |
| Community unit has a chalk board | The Community Health Unit has a chalk board (MoH 514) or an improvised one such as a blackboard displayed in a public place |
| Trained CHVs have MoH 100 referral booklets | All trained CHVs have MoH 100 referral booklet and there is evidence they are using them |
| Transport mechanisms for use by the CHVs | The Community Health Unit has at least 10 functional bicycles, and another appropriate mode of transportation for use by CHVs |
| Support supervision | The sub-county health management team conducts data informed support supervision visit to the Community Health Unit at least every six months |
| Output based stipends | CHVs reporting using MoH 514 tool receive standardised upon stipend based on submission of a complete report each month |
| **Outputs**              |                      |
| Action planning | The community health committee has a current written action plan for the Community Health Unit clearly stating the activities, planned dates of the activities, persons responsible, funds required, and sources of funds. Community health committee meetings | The community health committee meets each month and there are five minutes |
| CHVs monthly meetings | The CHVs conduct monthly meetings to address needs and there are five minutes |
| Cardinal Elements | At least 80% of CHVs in a Community Health Unit are reporting using MoH 514 tool |
| CHVs report monthly | Community health committees holding quarterly dialogue days with CHVs and community members, and minutes of the meetings are filed |
| Dialogue days conducted | The Community Health Unit conducts monthly health action days based on the community health committee action plan and informed by data from the chalkboard MoH 514 |
| Health action days | The Community Health Unit conducts quarterly health action days |
| Sustainability initiative | The Community Health Unit has a livelihood strengthening initiative for CHVs |

### Table 2: the 17 functionality elements of a community health unit organized sequentially to represent the journey that it follows from inception to maturity

1. CHEWs trained
2. CHC trained
3. CHVs trained
4. CHVs supplied with CHV kits
5. All trained CHVs have MoH 514
6. CHV reporting rate above 80%
7. CHU has a chalk board
8. All trained CHVs have referral booklets
9. CHU action plan developed
10. Quarterly CHC Meeting held
11. CHVs monthly Meetings
12. All reporting CHVs (MoH 514) receiving stipend
13. Monthly dialogue days held
14. Quarterly Health Action Days held
15. DHMT supervisory visit conducted
16. CHU has bicycles for use by CHVs
17. CHU having a sustainable initiative (IGAs)

### Table 3: functionality categories and corresponding ranges of percentage scores

| Functionality categories | Range of percentage (% scores) |
|-------------------------|--------------------------------|
| Functional              | >80% + All the three cardinal attained. |
| Semi-Functional         | >50% to <80% |
| Non-Functional          | <50% |

### Table 5: template for functionality scorecard for each community health unit

| Country | Sub-county | Name of Community Health Unit | Functionality scorecard |
|---------|------------|-------------------------------|-------------------------|
| Country | Sub-county | Name of Community Health Unit | Functionality scorecard |
| Inputs  |            |                               |                         |
|         |            |                               |                         |
| Outputs |            |                               |                         |
|         |            |                               |                         |

Note: The three (3) cardinal elements (15, 16, 17) MUST all be fulfilled for a CU with ≥80% score to be functional.
Step 6: reporting

We prepared summary reports for each Community Health Units (see template used for this in (Table 3) and an overall report to the Sub-County Health Management Team for use.

Step 7: action planning

The Community Health Extension Workers and Community Health Committees in each CHU provide leadership for dialogue on the report and preparation of plan of action for improvement with technical support from the respective Sub-County Health Management Team.

Step 8: monitoring and evaluation

The sub-county community strategy focal person is the custodian of the database. Assessment on functionality is done quarterly and the Scorecard updated to track performance of each community health unit.

Results

Demographic and institutional factors associated with health facility delivery

We observed marked improvement in the functionality of targeted Community Health Units as a result of application of the scorecard over a period of seven quarters (January 2012 to September 2013) using the definition of the parameters there was a uniform understanding of the formation and management of the Community Health units in the province, sharing of the scorecard every quarter brought competition among the CHEWs, CHCs and CHVs between different units with end results in improved engagement of the Community on health issues, the report rates moved from 40% to 80% actually it doubled. The cardinal parameters became the measure of performance (Figure 1). During this period, the proportion of functional Community Health Units increased from 3.5% (4 out of 114) to 82.9% (116 out of 141). The tool could easily be used to assess functionality of all community health units whether in rural, urban, nomadic or urban areas with difficulties. The greatest improvements were noted in CHUs receiving stipends, CHVs with referral booklets, monthly dialogue days, action planning, chalk boards, and CHV reporting rates (Table 6).

Table 6: comparison of scores on community health units functionality elements between the first and seventh quarter

| Functionality Parameter | Quarter 1 (n=114) | % Score | Number (n=140) | % Score | Percentage change |
|-------------------------|-------------------|---------|---------------|---------|------------------|
| CHEW trained           | 63 (55%)          | 127     | 84%           | 112     | 94%              |
| CHV trained            | 75 (66%)          | 133     | 95%           | 126     | 93%              |
| CHV supplied with CHV kit | 53 (50%)       | 91      | 66%           | 120     | 86%              |
| All trained CHVs have referral booklet | 53 (50%) | 94 | 67% | 130 | 93% |
| All trained CHVs have referral booklets | 53 (50%) | 94 | 67% | 130 | 93% |
| Action plan developed  | 9 (8%)            | 53      | 48%           | 103     | 74%              |
| Quarterly CH meeting held| 62 (55%)        | 127     | 81%           | 115     | 68%              |
| CHV meeting held       | 77 (67%)          | 109     | 78%           | 126     | 89%              |
| Reporting CHV receive stipend | 0 (0%) | 129 | 92% | 340 | 100% |
| CHUs Dialogue days held| 26 (22%)          | 129     | 92%           | 118     | 84%              |
| Quarterly CH action days held | 46 (39%) | 109 | 78% | 103 | 74% |
| CHV meeting held       | 77 (67%)          | 109     | 78%           | 126     | 89%              |
| CHV has referral book for CHWs | 31 (27%) | 120 | 86% | 330 | 100% |
| CHV has referral book for CHWs | 31 (27%) | 120 | 86% | 330 | 100% |
| CHV reporting rate above 80% | 42 (37%) | 113 | 81% | 116 | 82.9% |

Figure 1

changes in functionality status of community health units over a period of seven quarters

Discussion

The results show that the Functionality Scorecard as an effective tool for managing Community Health Units to achieve basic functionality thus laying the foundation for them to deliver health outcomes. The application of the scorecard led to marked improvement in 16 elements of functionality, with marked changes in CHVs with referral booklets, Community Health Units holding monthly dialogue days and action days guided by evidence based actions plans, and CHV reporting rates. Notably these had been the weakest elements at the beginning of the application of the scorecard. Supporting Community Health Units to ensure they have tools, are conducting dialogue days and action days, reporting and using the data for local decision making are crucial steps in enabling them deliver value in terms of health outcomes. Although we did not use the Basic Functionality Scorecard to assess health outcomes, data from several Community Health Units managed by Amref Health Africa Scorecard has indicated marked improvements in health outcomes. For example, in one of its programs in Makueni County which is using the CHUs adopted the scorecard and they noticed that the skilled attended delivery improved from 37.5% to 44.2% in 12 months, and newborn deaths declined to zero from four in the previous year. These findings are consistent with other findings of Amref Health Africa with regards to the effectiveness of the Community Health Strategy in delivering health outcomes especially related to maternal and child health outcomes [3]. Amref Health Africa is now working to improve the Functionality Scorecard so that after a Community Health Unit has attained basic functionality, effort shifts to moving it towards advanced functionality. The primary principle of the Community Health Unit Functionality Scorecard is to inform and influence decision making among stakeholders involved in the management of Community Health Units. As evidenced in this paper, Amref Health Africa has used the tool to manage progression of Community Health Units towards basic functionality and now moving them towards advanced functionality. Sub-county health management teams and project teams are using the scorecard using the eight steps process described under results, enabling them make the following decisions and act: gather baseline data on functionality and set benchmarks to track performance of Community Health Units; plan and set priority actions for specific Community Health Units, ensuring that investments in each unit address the weak or missing elements and in a logical order; equity in resource allocation between different Community Health Units, as well as between different sub-counties, since allocation is based on needs - for example, the sub-county health management team is able to direct implementing partners to address priority needs within existing units; rapidly identify Community Health Units that can be moved from basic functionality to advanced functionality through provision of key technical skills; provide performance based incentives to CHVs using a fair and objective platform to guide provision of performance based incentives to CHVs. Application of the Functionality Scorecard has emerged as a motivation to CHVs, Community Health Committees, and Community Health Extension Workers since the teams are able to clearly assess and validate their performance.

Conclusion

The community health unit functionality scorecard is a valuable tool for the management of performance, resource allocation, and decision making for multiple and geographically dispersed community health units. The scorecard can be used by health projects that use the community health strategy as a service delivery platform to improve health outcomes at scale. We recommend the adoption of the Functionality Scorecard by the Kenya Government for country-wide application. We recommend further work in: defining advanced functionality and incorporating the same into the scorecard; and implementation research on long term sustainability of community health units.

Abbreviations: CHEW - Community Health Extension Worker; CHV - Community Health Worker; MNCH - Maternal, Newborn, and Child Health; CHC - Community Health Committee; MOH - Ministry of Health; RH - Reproductive Health; TB - Tuberculosis; PMTCT – Prevention of Mother to Child Transmission of HIV; WASH – water sanitation and hygiene.
What is known about this topic

- The government of Kenya is working on formally rolling out standards for measuring functionality of community units to track their performance. We have recommended this scorecard to the government for consideration;
- There still exist glaring gaps in implementation of the community strategy in Kenya with noticeable disparities in functionality of community units across the country. In spite of this, communities appreciate the community strategy and its contribution to improved health status in Kenya;
- Kenya currently has about 2,500 CUs and is in the process of establishing additional 8,000 CUs by 2017.

What this study adds

- The scorecard for measuring the community health unit functionality is the first of its kind in Kenya. The tool is simple and user friendly;
- The tool is instrumental for the guidance on what one needs to have to initiate a community health unit since the score card parameters are also the steps in initiating a unit from what needs to be done first to the last;
- The score card is a management tool to help assess the performance, resource allocation and decision making. It is able to provide guidance on budgeting for a CHU.

Competing interests

The authors declare no competing interest.

Authors’ contributions

oversight on field implementation. Both Duncan Ager, George Oele, working with Moses Emalu, Sarah Kosgei provided technical support during the functionality assessments, undertook analysis of data, and coordinated the translation of findings into reports and actions at the various levels. Susan Achieng coordinated the drafting of the functionality scorecard as a management tool. Meshack Ndirangu provided overall technical guidance in the conceptualization and operationalization of the Functionality Scorecard, and detailed editing of this paper. The other co-authors contributed to operationalization of the scorecard and provided technical inputs into this paper. All authors have read and agreed to the final manuscript.

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