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PROMOTING TRANSPARENCY AND ACCOUNTABILITY WITH DISTRICT LEAGUE TABLES IN SIERRA LEONE AND MALAWI

Johan Sæbø, Christon M. Moyo and Petter Nielsen

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Johan Sæbø
Dept. of informatics
University of Oslo
P.O. Box 1080 Blindern
0316 Oslo
Norway
johansa@ifi.uio.no

Christon M. Moyo
Dept. of informatics
University of Oslo
P.O. Box 1080 Blindern
0316 Oslo
Norway
moyochris@gmail.com

Petter Nielsen
Dept. of informatics
University of Oslo
P.O. Box 1080 Blindern
0316 Oslo
Norway
pnielsen@ifi.uio.no

Abstract:
Objectives: With the increased attention to transparency and accountability in health sector management, this paper looks at how this can be promoted at district levels in two developing countries, Sierra Leone and Malawi. Using league tables for ranking districts and facility performance, the effects on transparency and accountability is examined.
Methods: Drawing on long-term action research in the two countries, we have supported development of league tables at district levels. Our practical aim of this work has been to design and develop a tool that helps districts create and change league tables as they please, based on indicators relevant for them. This has been done in a participative manner. The research covers 3 years in Sierra Leone and 2 years in Malawi.
Results: Our findings show that such tools have positive immediate effects, most notably on providing new information about relative performance, and improving data quality. They contribute to understanding of health indicators, their applicability, reliability, and relevance at various levels of the health sector. League tables are also suitable for communicating priorities, giving higher levels a way to signal what health facilities are held accountable by.
Conclusion: League tables are a promising tool for advancing transparency and accountability at district levels. An implication for policy is that access to peer data is necessary to evaluate your own performance. The true benefits of league tables at district level can only be reaped when they are easily changed and replicated, becoming an integral part of routine district monitoring and evaluation.

1. Introduction
Transparency and accountability are widely held as key building blocks of well-functioning health service provision. Global health initiatives are now almost exclusively based on the paradigm that health providers are held accountable by the public, and transparency is the key to achieve this. In 2015, leaders of the global health agencies signed a five-point call for action to strengthen health measurement and accountability (MA4Health, 2015). Two of their aims are to strengthen country health systems to "use data at all levels" and promote accountability by holding "transparent review of progress at facility, subnational, national, (MA4Health, 2015) regional, and global levels" (p. 1). These goals are explicitly addressing the slow development of evidence-based management rooted in local data, despite the large progress of many countries to strengthen the data collection and processing capacities.

One set of tools that have been widely implemented to provide patient - provider transparency and support accountability is league tables that rank health service providers, both private and public, according to a set of service delivery indicators (Foley and Goldstein, 2012). While the benefits of league tables include helping to make informed decisions, providing a platform for health service evaluation, and incentivizing behavioural change, there are also restraining factors related to data quality issues, creative reporting, and stigmatization of (apparently) poor performers (Adab et al., 2002). Similar tools, such as scorecards (African Leaders Malaria Alliance, 2016), and the balanced scorecard (Edward et al., 2011) are also used to enhance transparency and assess countries' health performance.

Common for these efforts is that the tool is linked to a beneficiary-provider relationship, either for patients to assess prospective health service providers, or for funders to assess effects of interventions on a national scale. At the same time, the benefits of strengthening transparency and accountability also within the health system and health provider organizations have received much less attention. Where league tables have been applied as an evaluation and management tool for the health system itself, it is at national or regional levels only. The literature on the use of league tables as a management tool within the health system remains thin, the literature on development and use of league tables for district level management is almost non-existent.

In this paper, we describe efforts that directly address these gaps, namely the design and use of league tables for intra-organizational transparency and accountability at district levels of health systems. Based on studies in Sierra Leone and Malawi, we evaluate the introduction of league tables, and the implications for transparency and accountability. We argue that league tables can be a powerful tool for increased performance also at this level. For this to take place the tool needs to be simple and flexible, focusing on conveying relative performance rather than being an overly intricate management and strategy tool.

2. Related Literature
The World Development Report 2004, published by the World Bank, brought transparency and accountability to the forefront of the international development agenda. The terms have since become widespread, and linked to almost every major international initiative, such as the Millennium Development Goals and now the Sustainable Development Goals. Also in the health sector, countries are urged to put transparency and

accountability as leading principles to improve service delivery (MA4Health, 2015 and Chan et al., 2010). Despite the prominence, and a growing literature of examples, lessons from the field and evaluations, research on transparency and accountability is reflecting that they can mean all things to all people (Fox, 2007). Their current use originated from two ideological strands, one being New Public Management in the nineties, where market mechanisms were applied within organizations to make managers more accountable, and the other being a response to the failure of democratic institutions to cater to the poor (Joshi, 2013). With this background, transparency as a concept is applied widely, such as a public value to fight corruption, to denote open decision-making by governments and nonprofits, or as a complex tool of good governance (Ball, 2009). More minimalist definitions include the degree of openness in conveying information (ibid) and governments' willingness to disseminate policy-relevant data (Hollyer et al., 2011). The definition of accountability is even more elusive, but can be seen as referring to a relationship between two actors where answerability, being the duty to inform what one part is doing, and enforcement, being the capacity of the other part to wield power and implement sanctions, are key parts (Schedler, 1999). Transparency is thus often seen as prerequisite, but not sufficient, for accountability. Furthermore, accountability can serve several purposes, such as to control the misuse and abuse of resources and authority, to provide assurance that resources and authority is used appropriately according to standards, and to promote improved service delivery through feedback and learning (Brinkerhoff, 2004).

Our ambition in this paper is not to discuss what transparency and accountability can be, but instead focus on concrete examples where openness of data within public health management can improve data quality, decision making, and ultimately public health services. Accountability in this setting is not necessarily between the government and citizens, but can equally be analysed horizontally and vertically between government branches, as in our case between health districts or between districts and national level (George, 2003). We define health districts as the first administrative level above service provision, and they are typically semi-autonomous in relation to budgeting and organizing the majority of health services through primary health clinics and district hospitals (Görgen, 2004). As such, they are routinely performing evaluations on their performance. In most developing countries however, the information they need for this is not readily available, is of poor quality, and they lack the tools to adequately compare their relative performance (AbouZahr and Boerma, 2005 and Braa and Sahay, 2012). It is in this context that we will have a particular look at the league table as a tool for improving transparency and accountability.

A league table is a tool for displaying the comparative ranking of organizations in terms of their performance (Adab et al., 2002), and is widely used in the public sector (Foley and Goldstein, 2012). League tables are especially suited for identifying good and poor performance, as well as the degree of variance (Marshall et al., 2014). The term league table is sometimes used interchangeably with other tools, such as scorecards and report cards (McNamara, 2006), and has much in common with the more comprehensive balanced scorecard (Edward et al., 2011 and Inamdar et al., 2002). Common for all these tools are that they seek to evaluate performance based on relevant key indicators, while the league table in addition focuses explicitly on relative performance and ranking. Without this information, across health districts for instance, "providers tend to view their

performance as average or above average" (McNamara, 2006, p. 102), curbing incentives to improve. League tables have also been used in several sectors to promote accountability of public or private providers by sharing this information to citizens. They are increasingly applied in the health sector in developing countries (see for example Misra and Ramasankar, 2007; Kossi et al., 2012; Moyo et al., 2016; and Tashobya et al., 2016), as are scorecards through large international initiatives (African Leaders Malaria Alliance, 2016).

Despite their widespread use, league tables are not without controversy. They are criticized for offering only a snapshot of the situation, thereby hiding fluctuations, promoting creative reporting, steering resources towards services included in the ranking, and lacking contextualization (Foley and Goldstein, 2012 and Adab et al., 2002). When used as a link between providers and the public, there is a risk that performance is self-reinforcing as good performers will attract richer patients or better students (Goldstein and Leckie, 2008).

The design of league tables will determine how effective they are in promoting transparency and accountability. McNamara (2006) examined a range of implementations, and presents some guiding principles of their design. The most comprehensive league table examined had 35 indicators, while most were much smaller in scope. The indicators included in any league table should be reliable at the provider-specific level, and should be feasibly tracked within local constraints. This implies that for league tables to be relevant at district level, they should include indicators which are relevant and valid also at individual clinic level. Indicators should also cut across different health programs to give a broad picture. Furthermore, one should choose indicators where there is wide variation, and that are actionable. Again, in our case, that would include indicators for which services the district administration has authority and resources to address locally. A study of district league tables in the health sector in Uganda found that it was especially de-motivating when key indicators of performance was seen to be outside the control of the district managers (Tashobya et al., 2016). Indeed, it was questioned if these tables could be seen to measure "district performance" at all when they were designed centrally using indicators totally dependent on central policies and financing (Innocent, 2005). Finally, an important point is that league tables should be replicable routinely, based on local data. A country-oriented balanced scorecard approach in Afghanistan was found to be too comprehensive for local levels to replicate, and could only be done annually by relying on survey data (Edward et al., 2011). Interestingly, and contrary to what we present in our paper, all league table implementations found in the literature were annual, and, where they were also used at local levels, designed by a central authority.

3. Research Objective and Methods
Our research is part of a long-term engagement across the developing world to strengthen health information systems (Braa and Sahay, 2012). We specifically report from two of the countries, Sierra Leone and Malawi, where initial prototypes of league tables proved promising to support local information use. Our practical aim of this work has been to design and develop a tool that helps districts create and change league tables as they please, based on indicators relevant for them. The research objective of this paper is to look at the effects of these district league tables on transparency and accountability.

The research has been carried out according to tenets of action research (Baskerville, 1997). Two of the authors have extensive experience in the countries, engaged in strengthening their respective national Health Management Information Systems (HMIS). In Sierra Leone, the first author spent considerable time on numerous visits from 2008-2011. The visits lasted from one week to two months, focusing primarily on four districts and the national level of the Ministry of Health and Sanitation. In Malawi, the second author holds a senior position at the Ministry of Health, being engaged in HMIS strengthening for more than fifteen years. He facilitated the planning, participated in data collection, and in following up the participating districts on their use of league tables. The first author also visited Malawi twice in relation to developing league table prototypes, and supervising master students who were developing an app to design and manage league tables. The third author has been involved in data analysis and writing.

The league tables discussed in this paper were developed and introduced with the aim to assist public health management, which is primarily done at district level in both countries. Our focus on the health district as an organizational entity within the public health sector is motivated by its role as the first administrative level for the vast majority of public health services. The districts are responsible for planning, monitoring, evaluating, and giving feedback to health posts, clinics, health centres and district hospitals.

In Sierra Leone, league tables were made ad-hoc, manually pulling data from the national HMIS into spreadsheets. This was made at the national level, and distributed to districts through quarterly health information bulletins. The experiences from Sierra Leone formed the basis for later research in Malawi. The two cases are thus connected through the action research carried out by the authors. We consider the overall structure, routines, aims, and skills level within the public health system in the two countries adequately similar for comparing design, appropriateness, and effects of league tables.

In Malawi, a first round of prototyping in 2014 attempted to create league table templates within the software used for the HMIS. Despite promising reception at district levels, the software presented some limitations on the ability to customize the league tables, so an app was developed to give more flexibility in this regard, as well as to give better visual representation of the data. During two months of 2015, the prototype was tested and further developed in Malawi. Four districts were included in the research, where we showed a league table of all districts, as well as helping to design district-specific tables ranking health facilities. Discussions were held on selection of indicators and status of data quality and accessibility.

The selection of the districts in Malawi for testing the prototype league table was based on availability of data in the HMIS central server, accessibility and proximity of the districts from where the research team was based, and availability of Non-Governmental Organizations (NGOs) supporting data management in the districts. The league table was demonstrated to the following groups of users: district programme coordinators; district HMIS officers; zonal health officers; national programme managers and NGOs and development partners.

Both the early ad-hoc tables in Sierra Leone and the later league table app in Malawi would use data already present in the HMIS. No additional health data collection was

thus necessary for this study. The league tables only use aggregate data, and no data on individuals were encountered or used. As per the researcher-client agreements of the action research projects, access to all aggregate data was in agreement with the relevant authorities.

Data analysis was carried out by all authors based on field notes, documents like the Sierra Leone quarterly health bulletin, and email correspondence with health staff and students involved in the development, testing, and implementation of the league tables. For this particular paper, emphasis was given to identify users' reception of the league tables, discussions relating to data quality and significance of the indicators, and feedback relating to design and the functionality of the league table app. In particular, we have looked for effects of transparency and accountability by examining users' reaction to be compared and ranked through league tables.

A limitation of our study is that the two cases are relatively small and cover too short time to analyse the long term effects. We nonetheless believe there are some general lessons to be learned from them, both relating to appropriate design of both league tables and an app to make them, and the short-term effects of introducing them in settings with poor data quality and visibility.

4. Findings from Sierra Leone
In the period 2008-2011, Sierra Leone embarked on strengthening their national HMIS. The process included redesigning their reporting forms, introducing electronic data collection and processing, and formalizing the information system organizationally with trained Monitoring and Evaluation (M&E) officers in each district. The M&E officers are in charge of collecting paper reports from the various health facilities, enter this data in the electronic tool, and conduct analysis on relevant health indicators for periodic district reviews. At the same time, the Ministry of Health and Sanitation published a quarterly health bulletin where the first league tables were introduced. Ranking the districts the league tables were produced ad-hoc, by extracting the data from the database to populate a table in a spreadsheet. The indicators covered key data from mother and child health as well as indicators of data quality. The details of the case is documented earlier (Kossi et al., 2012), but four points are worth summarizing.

First, the initial league tables ranking districts were based on data of poor quality, especially due to low reporting rates. The "reporting rate" was indeed one of the indicators included in the table, and it communicated to all districts that improving this was a priority for the new system. Reporting rates are relatively easy to improve, but in a situation where information is not used and little feedback is given back to the districts, the rates had deteriorated. For the next bulletin, the reporting rates had increased.

Second, the league table's internal ranking of the district highlighted their relative performance. For example, one district scored very low on institutional delivery rate, possibly due to its urban nature which meant that comparatively wealthier people used the many private clinics available, and the comparatively poorer people in the shantytowns were struggling to pay the fees at the public clinics. The district then announced that certain services were free at public health centres, and started collecting the data from the private clinics, and subsequently improved their score for this indicator.

Third, a district replicated the league table for their sub-districts, and presented it to the community leaders at monthly meetings. Issuing diploma to the top performing communities, they inspired local community leaders to implement bye-laws regarding traditional birth attendants, and to push higher levels for increased funding for health services.

Forth, the league tables had to be created ad-hoc, by pulling relevant data from the system to spreadsheets. This was cumbersome, necessitated some skills, and meant that only one district was identified as having made such tables themselves. The technology did not at the moment support easy re-creation or alteration of tables, which could have led to more widespread use. To develop such technology became an important part of further work with league tables, in Malawi.

5. Findings from Malawi

In Malawi, the routine health management information system (HMIS) is paper based at health facility level and computerized at district and national levels, like the situation in Sierra Leone. The HMIS is used for collecting data routinely, reporting on activities in the health facilities.

Several prototypes of digital league tables were developed based on the HMIS software. The motivation behind this approach was to utilize the already existing system, thus minimizing the need for development and organizational change. All relevant data is already collected through the HMIS, and the health workers have experience in using it. A first attempt was made at making templates based on existing functionality, but these templates were considered as not flexible enough for district users to easily change the indicators. An independent app was thus developed by two students, which would access all data from the HMIS, be available from the HMIS menu bar, and resemble as much as possible the HMIS user interface. This gave us freedom to experiment with features specific for league tables, such as color-coding performance and change the way indicators were contributing to the ranking. Examples of the latter include weighing indicator values differently and being able to include indicators of different arithmetic logics. The league table app, as the HMIS, was web based and designed specifically for creating and editing simple league tables. The figure below shows a sample league table to the left and the editor page to the right.

The league table application: To the left an example league table with two indicators, ranking a set of districts. To the right side parts of the editor for the same league table. A simple user interface is important to promote custom league tables

The league table app, and various template league tables, were tested within a set of already existing district management structures, infrastructure and practices. The District Health Management Team (DHMT) is the main structure for managing health services at the district level, consisting of more than twenty managers in each district.

The effects of introducing league tables in terms of improving information transparency in the health sector in Malawi are many. Since the league tables have not been in use over a long time period, our focus in this case is not primarily on the effects of the use of the league tables, but the implementation effects when introducing and implementing it.

First, an immediate effect of the league table experiments showed to be improved visibility of data quality issues, such as missing or incorrect data. Two main problems were either lack of reporting, meaning there would be blank spaces in the league tables, or incorrect or missing population data, which are fundamental in the calculation of many of the indicators. Both influenced the score and ranking in the league tables. As in Sierra Leone, the implication of poor data quality became more visible, and district staff members would investigate the causes of this. With access to peer data, staff would also question the data quality of other districts. For instance, they would question why other districts have over 100% of some population-based indicators, which is typically caused by too low (old) population figures.

Second, the initial selection of indicators was done by the research team, based on standard key indicators of important mother and child health services. But in each district, district teams were encouraged to select the indicators for their own tables. This encouraged participation in the development and use of the league table, promoted understanding, built consensus and ownership among the district managers. Going through the process of testing the league table has helped the districts and the staff to appreciate the importance of understanding the meaning and interpretation of the health indicators. For example, some indicators are only really relevant when based on a large population, and do not lend themselves to month to month analysis at local levels.

Third, the initial selection of indicators also communicated what the central level emphasizes. The key indicators for mother and child health thus signalled what the districts are held accountable for at the national level. Thus the initial league tables (ranking all districts) also functioned as a communication channel between the central Ministry HQ and the districts.

6. Discussion
In this section, we discuss the two cases of league table implementations related to transparency and accountability.

The league tables created were based on data already collected and available, but in practice the data from different organizational units and health programmes was seldom seen together. The league tables' role in transparency is to bring data together and visualize their comparison. In Sierra Leone, which did not use an online HMIS, data from other districts was not available and the league tables as such also filled the role of distributing this data to a wider audience. But even in Malawi, where such data was available through the online HMIS, the district management did not access this to compare their performance with others. One obvious strength of league tables is that they create and make transparent this new information, namely relative performance. When

data from the various ranked entities is available, the league tables add to this by aggregating a score from the included indicators, showing how the different entities perform against each other. This has a clear value, as without this information there is a tendency to assess one's own performance better than the average (McNamara, 2006). The main contribution of the league tables towards transparency is this visualization of relative performance.

Another immediate effect in both cases was transparency of data quality. This was partly because the indicator "reporting completeness" was included, and partly because poor data negatively influenced the other indicator scores. The direct influence of data quality on score and ranking, as well as increased transparency of the differences in data quality across the ranked entities, made data quality issues much more visible.

In relation to accountability, the league tables fill two important roles. First, the ranking is a direct measure of performance, and is thus a feedback tool indicating who is performing well, and who must improve. In our cases, no sanctions were applied on poor performers, except the potential (but not intentional) "shaming" of being one of the poor performers. This is not to be underestimated, but the "shamed" must be in a position to themselves improve on the relevant indicators to avoid demotivation (Tashobya et al., 2016). In Sierra Leone the indignation of being amongst the poorest performers repeatedly led to action to improve on data quality, collect data from the private sector, and improve services. There could potentially be a tension here, between a negative sense of being controlled or shamed, and the more positive intention of using this accountability as feedback and an occasion for learning (Brinkerhoff, 2004). In our cases, this performance accountability was received positively, leading to discussions on how to improve data quality. The other important role of the league table is to communicate what the involved entities are held accountable by. While one of the critiques against league tables is that they are based on a few indicators which again can lead to an undesirable prioritization of resources, such prioritization might be exactly what the ministry of health or district intends. By basing the league tables on a handful of indicators, those who make it signal that these indicators are important, and that the ranked entities are held accountable by how they perform in these areas.

Our study also shows that league tables work well both within the health sector, and between the health sector and the civil society. An example of the latter is the distribution of league tables to community leaders in Sierra Leone, who went on to implement bye-laws and calling for more funds upon seeing the community's low institutional delivery rate. This resonates well with the current body of literature, which focus on transparency and accountability between the public sector and the civil society. However, we also want to stress the benefits of using league tables as an intra-organizational management tool, without necessarily sharing the tables with the wider public. The benefits related to transparency and accountability are applicable also in the routine management of health services, as both cases show. As a feedback tool, the league table can foster accountability by communicating within the health sector which indicators the relevant actors are held accountable by, although the benefit of this is dependent on an able bureaucracy (Brinkerhoff, 2004).

In both Sierra Leone and Malawi, the league tables were positively received at local levels. In Sierra Leone, the national league table was replicated at district level, despite

the absence of any assisting tool. In Malawi, the league tables were welcomed as a potential useful tool in the district management meetings. One major challenge is that indicators that are valid at the national level are not necessarily so at local levels. One example is "Maternal mortality rate", which is the annual number of female deaths related to pregnancy per 100.000 live births. With small populations the indicator score will be erratic. Furthermore, smaller clinics may not offer all services. League tables at local levels would need to rely on other indicators that at national level, and regional differences may even lead to different districts making different tables. The development of the league table app in Malawi is an example of coupling this needed flexibility with standardized functionality to assist in locally customized league tables. However, this functionality needs to be balanced with making the tool simple enough to make league table development a replicable exercise for changing needs (Edward et al., 2011).

The development and implementation of the league table app presents some lessons for designing relevant league tables. First, league tables must be flexible and allow users to customize and adjust to meet local needs and specificities, such as functionality for adding, deleting, weighing, and inverting indicators. Second, customization and adjustments must be easy and not require skills beyond what is available at the district level. Third, to get institutionalized, the league table should be built as an extension to, or integrated with, the existing HMIS software and thus allow seamless reuse of data and indicators. The reuse of data will avoid double reporting, and contribute to speed up the implementation process. Building the league table as an extension of the HMIS software also support the ease of use since district managers are already familiar with the technology.

7. Conclusions

To conclude, we summarize the effects of district league tables on transparency and accountability. For Ministries of Health and district managers, we see league tables as a rather simple tool that can be used to make some small, but quick, steps towards improving data quality and service delivery. First, league tables will through its transparency trigger entities to reflect about indicators and own performance, and compare themselves with other entities on the same level. Where data is missing and performance is poor, league tables can become an incentive for change and improvements. Often poor data is "hidden" when aggregated to national level, but becomes much more visible at lower levels. Second, the design in terms of selection of indicators will be perceived by lower levels as a call for focus. This signal may also be perceived as communicating expectations and what one is accountable for.

Some implications of our work are also worth noting. For a district to see how they perform in comparison with other districts, they need access to peer data. This is not given, even with the introduction of online information systems where this technically is feasible. Structures of data approval and access still limit the access to peer data in many countries. Lastly, for districts themselves to be able to make league tables, any supporting technology should balance the more advanced functionalities with simplicity. The true benefits of league tables at local levels can only be reaped when they are easily changed and replicated, becoming an integral part of routine district monitoring and evaluation.

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