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An assessment of social accountability among South African pharmacy schools from public domain information

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Abstract

Global health education reform requires training institutions to align their education, service and research activities with the values of social accountability, which include relevance, equity, quality and effectiveness. The alignment with these values aims to ensure graduates who are competent to meet society's priority health needs, especially those of marginalised and underserved communities. This study aimed to qualitatively assess the alignment of activities of the nine South African pharmacy schools with the values of social accountability from information and evidence available in the public domain. Data were collected from pharmacy schools' websites, and related publications and newsletters. Information was grouped into predetermined categories representing the different values of social accountability. A scoring rubric was adapted that assessed the alignment of the information and evidence collected to the values of relevance equity and quality. Each pharmacy school's information was initially reviewed and scored by three independent reviewers. Each of the reviewers cross-checked each other's allocated scores and any variations in scores were settled via consensus between the reviewers. The information of six pharmacy schools was assessed. For relevance, pharmacy schools scored over 50% and above for all their activities. For equity, schools showed most variation in their educational activities, and least variation in their service activities. For quality, schools showed most consistency with education and service activities but most variation occurred in the quality of services. Information from the public domain may be useful in assessing social accountability. The depth of information that schools could share publicly remains a key question.

Keywords: Equity, pharmacy education, quality, relevance, social accountability.

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Introduction

Global health education reform is directed towards the local health care system where teaching and learning is focused on addressing community health priorities (Frenk, Chen, Bhutta, Cohen, Crisp et al., 2010; Boelen, Dharmasi & Gibbs, 2012). In accordance, the international pharmacy education taskforce advocates for needs-based pharmacy education to better prepare graduates for the local health service needs, work within team-based approaches to care provision and engage in public health interventions (Anderson, Bates, Beck, Brock, Futter,

Mercer, Rouse, Whitmarsh & Wuliji, 2009). This necessitates meaningful engagement between higher education institutions, the health system, and communities to address health and social challenges. Social accountability requires academic institutions to direct not only their educational activities, but also their research and service activities to address priority health concerns of underserved communities in a participatory manner that involves all stakeholders (Boelen et al., 2012). The four values that underpin social accountability include relevance, equity, quality and effectiveness. Relevance is defined as the degree to which the most important problems are tackled first. Equity is the school's ability to offer high quality care to all people in all countries. Quality is attaining of satisfactory responses in meeting people's health concerns. Effectiveness entails making optimal use of available resources that have the greatest impact on people's health.

In South Africa, the investigation into social accountability has been led by the Collaboration through Health Equity and Education Research (CHEER) group that conducted peer reviews in health science faculties of nine South African universities (Reid & Cakwe, 2011). The primary research question in these peer reviews focused on transformation and equity, specifically looking at how health education curricula were preparing students for service in rural or under-served areas (Reid & Cakwe, 2011). Peer review evaluation was found to be a useful way to build consensus when assessing social accountability (Michaels, Reid & Naidu, 2014).

However, one of the primary limitations of the previously mentioned self and peer review processes was that of its time and resource intensity (Reid & Cakwe, 2011; Michaels et al. 2014). Another way to attempt to gauge an institution's social accountability status is via the public domain. Since the use of digital technology is integral in connecting people globally (Smith & Leigh, 1997) and along with print media, they underpin an academic institution's activities through which they market their educational programmes, research and services, mainly to recruit students and staff. The completeness and depth of information accessible in the public domain would be indicative of a school's level of transparency to engage various stakeholders. Easily accessible information from electronic media such as websites, publications, newsletters, research databases etc. could serve as primary data sources to determine the social accountability status of academic institutions. For pharmacy schools to re-align their education, research and service activities with local health system needs and priorities, readily accessible and transparent documentation of their programmes is essential in strengthening the health system (World Federation for Medical Education, 2015). This then begs the question: How socially accountable are pharmacy schools in South Africa? One pharmacy school evaluated its undergraduate service learning activities in accordance with social accountability (van Huyssteen & Bheekie, 2015); and documented its attempt to embed the

value of relevance in one teaching course (van Huyssteen & Bheekie, 2015). An assessment of all South African pharmacy schools' aligning of their activities towards social accountability is yet to be conducted. The purpose of this study was to obtain a baseline on South African pharmacy schools' social accountability status from information that was available in the public domain. The objectives of this preliminary study were to collect and assess information and evidence on activities that would indicate alignment with the values of social accountability among South African pharmacy schools. We firstly discuss social accountability, its indicators and how the indicators relate to activities of training institutions. We then contextualise the South African pharmacy training environment in terms of relevance, equity, quality and effectiveness. In the methods, we explain how the social accountability indicators were adapted to measure pharmacy training. Lastly, we present findings of six pharmacy schools and discuss opportunities and constraints as it relates to the dissemination of public domain information.

Social accountability and pharmacy education

Boelen et al. (2012) differentiate social accountability from social responsiveness and social responsibility using a continuum where social responsibility is located at the lower end and social accountability on the highest end. Factors that influence movement from the lower to the higher end of the continuum include formal participation and continuous engagement with various role-players and stakeholders outside of the university, as well as focusing and adjusting activities to priority heath needs of the local population. In short, a socially accountable educational institution aims at training that is contextualized i.e. localized within a health system, focused on health determinants of a specific population, collaborative through partnerships to improve health and produce graduates who are change agents.

Boelen et al. (2012) further identified indicators comprising of a comprehensive list of parameters which underpin social accountability and could serve as an evaluation tool for its measurement. It was termed the conceptualisation, production and usability (CPU) model. It mirrored the three phases inherent in academic cycles, namely planning, doing and impacting for each of their education, research and service activities. Abdalla (2014) used the CPU model to develop a standards framework which included 13 areas/domains and listed standards under each domain for medical schools to measure social accountability within existing accreditation systems.

The first domain addresses the mission and objectives of the school and consisted of 15 standards. It required a mission that addresses the community's health needs in education, research and service. The standards aim to build an alignment between the school's mandate and its commitment to addressing the

community's high-priority health concerns in a continuous and participatory manner. The second domain pertained to the governance and administration of the school and included 10 standards. These standards specify the necessity to institutionalise partnerships among the health system, the community and the other stakeholders. It also required the school to take responsibility for the planning, organisation, quality and delivery of health services by effectively using its resources and its ability to build relations with the stakeholders.

The third domain incorporated the educational programme and consisted of 31 standards. This area addressed the process, content and outcomes of the curriculum, such as training in underserved communities. Educational programmes should consider relevance, quality, equity and effectiveness to address the community's health needs and aim to produce a graduate who can deliver high-quality, relevant, and effective services with equity to the community. The fourth domain was about the presence and effective use of educational resources and consisted of 11 standards.

The fifth domain referred to students (eight standards), specifically the recruitment policies and selection of students from underserved communities. The sixth domain addressed the assessment of students and included 11 standards. It was suggested that assessment systems and policies should regularly monitor students' performances and "produce professional graduates who are aware of their moral obligation towards the society and able to translate the social mission and objectives of the school into reality" (Abdalla, 2014).

Domain seven was concerned with faculty and consisted of 10 standards. Faculty should "help to achieve the schools' missions and objectives in the area of social accountability by participating in community development, service and research in addition to their teaching activities …. The standards in this area encourage the creation of recruitment policies and a promotion system for the staff that ensures their commitment to and support for the social mission of the medical school" (Abdalla, 2014). Domain eight concentrated on the administrative and supporting staff (four standards), whose assistance is required for ensuring the school's accountability towards its community is made possible.

Domain nine focused on the evaluation of the programme and quality assurance and included 10 standards. Domain ten encompassed the school's community health services and consisted of seven standards that "encourage medical schools to actively provide health services in accordance with the community's health needs. This area is important to social accountability standards because medical schools are important stakeholders of communal health" (Abdalla, 2014).

Domain eleven addressed the research, which should be relevant to the community's health needs and consisted of eight standards. Domain twelve

addressed the requirements for the graduate profile and was composed of four standards. This domain primarily required schools to keep in touch and to follow up on their graduates' career choices and progressions and to obtain feedback about not only the graduates' performance in practice but also the needs of the employers and the community (Abdalla, 2014).

Finally, domain thirteen "enhances the continuous renewal and development of this medical school by considering the community's changing health needs. The standards in this area can be considered as a call for keeping an eye on the society's health needs, which are translated through the standards in the other areas, served by the school" It was composed of three standards (Abdalla, 2014). The next section describes how the social accountability values that underpin Abdalla's domains and standards could be interpreted in the South African pharmacy training context.

South Africa's pharmacy education context

South Africa has been rated as having one of the most unequal societies in the world. The inequality directly and indirectly impacts on health, in particular the social determinants of health. This results in a disproportionate distribution of the disease burden to underserved communities. This disparity is further enhanced in South Africa's divided health system (Mayosi & Benatar, 2014). The majority of South Africans (80%) receive care in the public health sector, with only a minority (20%) who can afford medical insurance, seeking private health care. The National Health Act (No 61 of 2003) and the government's overhaul of the health system to a district-based primary health care system are aimed at promoting equality in health care. Attention to the principles of universal access, equity, community participation, and inter sectorial coordination is underway. The National Health Insurance advocates for equitable, efficient and quality health coverage for all citizens (Department of Health, 2011). To this effect, the clarion call for appropriate health professional education is imminent, to ensure that graduates are 'fit for purpose' (Burch & Reid, 2011) against the changing landscape of South Africa's health system. With newly trained pharmacists entering the health system annually, one may question whether pharmacy schools are equipping graduates to work effectively in addressing priority concerns. In this context the values of social accountability could direct the appropriateness of pharmacy education when assessing the relevance, equity, quality and effectiveness (Table 1).

Relevance of pharmacy school activities should be based on the health priorities mentioned previously, in particular the focus should include the quadruple disease burden of HIV and TB; maternal, infant and child mortality; non-communicable diseases, injury and violence (Department of Health, 2011). The prevention and treatment of these diseases needs to be rooted in a clear

understanding of the social determinants of health where health promotion interventions should be directed at communities most at risk and/or most affected which especially include marginalised and underserved communities. By working closely with the local and/ provincial health departments, pharmacy students trained in medicine supply management would be able to ensure that access to appropriate medicines and adherence to recommended prescribing regimen are adhered to, in mitigating the disease burden.

Table 1: Description of pharmacy school's activities in accordance with social accountability values of relevance, quality, equity and effectiveness (Abdalla, 2014)

Value	Pharmacy school's activities		
	Education	Research	Service
Relevance	The educational programme reflects priority health issues i.e. the quadruple burden of disease and health of underserved communities	Research planning and conduction is directed to address the disease burden and needs of underserved	Service is directed towards the community's important health problems
Quality	The educational programme address production of graduates with needed competencies to deliver quality service within the context of the society eg. SAPC accredited	Research planning and conduction address health problems using the high quality methods available	Service delivered is evidence based and with appropriate technology
Equity	The educational programme exposes students to problems of all categories in the society. The programme can accept students from all those categories and access is available for students from underserved areas	Research planning and conduction are directed towards the problems in all categories of society.	Service provided is available to all people.
Effectiveness	The educational programme emphasizes effective personal, community and population-based health service	Research planning and conduction have greatest impact on health with optimum use of the available resources	Service delivered has greatest impact on health with optimum use of the available resources

Equity includes the school's ability to offer high quality care to all people in all countries. In addition, the South African context also requires equity in student and staff numbers of schools as per the transformational agenda pertinent to the

South African context. Recruitment policies should focus on attracting students from rural and underserved communities and encourage their graduates to take up careers in rural and underserved communities as well as the public health sector. The low pharmacist to patient ratio (1:3849) and the inequitable distribution of pharmacists between the public (29%) and private (63%) impacts on the quality of care (South African Pharmacy Council, 2011). To address the pharmacy workforce deficit, the South African Pharmacy Council (SAPC), mandated pharmacy schools to double student enrollment, and introduce a new curriculum in 2013 from the first study year of the four year degree. In terms of its services, the school can define high-risk populations, identify barriers in the health service, and deployed students to health facilities which offer care to marginalised communities from underserved areas. In addition, addressing the needs of high risk groups such as pregnant women, children, elderly and people with disability is essential.

Quality refers not only to attaining technical capability and competence, but the use of evidence-based data and appropriate technology to deliver comprehensive care taking into account the social, cultural and consumer expectations. A large focus is the continuous evaluation of the school's activities to measure outcomes. In terms of the health system the national core standards would be an important document to consult (National Department of Health, 2011).

Effectiveness refers to a pharmacy school having the greatest impact on the health of its population, while making best use of its resources. For schools it would mean developing local practice standards, evaluate patterns of health service and contribute to health care reform. Pharmacy schools would design educational programmes to foster inter-professional learning to strengthen team-based approaches to care provision. Population-based approaches such as promoting rational medicine use to curb poly-pharmacy among practitioners, and pharmacoeconomic evaluations on adherence to standard treatment guidelines and provincial protocols would be a focus. Developing skills in monitoring and evaluation of prescribing patterns at health facilities would enable students to apply concepts of pharmacovigilance where stewardship programmes, such as antimicrobial stewardship could be implemented (Van Jaarsveld, 2012).

Methodology

The non-experimental, cross-sectional, qualitative consensus-based, descriptive study was conducted from March to August 2015. At the time of data collection, nine pharmacy schools were accredited training institutions as per the South African Pharmacy Council. Inclusion criteria demanded an active website offering access to each school's education, research and service activity profile, which had to be updated after 1 January 2013. Exclusion criteria entailed schools that had neither an active website nor offered access to their activity profile and

/or was updated before 1 January 2013. Five final year pharmacy students undertook the research as part of their final year course requirements (University of the Western Cape, 2015). They were familiar with the concept of social accountability from their undergraduate service learning course which was conducted in the previous two years of study.

Data collection and analysis

Each student was randomly assigned to independently collect online information of one or two pharmacy schools' profiles from the pharmacy school's website and related newsletters and published research articles. Data collection was performed via Google and Google Scholar. Search terms included the following: "Africa social accountability", "Boelen social accountability", "HRH SA 2030","medical education in Africa", "National Health Insurance", "NHI SA", "Pharmacy training South Africa", "Rhodes University Pharmacy", "Re-engineering of PHC in South Africa", "SAPC", "SAPC exit level outcomes", "SAPJ", "social responsiveness", "Potchefstroom Pharmacy", "SA disease burden", "TUT pharmacy", "SAQA", "North West University pharmacy", "Nelson Mandela university pharmacy", UKZN Pharmacy", "UWC Pharmacy", and, "Wits Pharmacy".

Data were grouped according to adapted domains and standards based on Abdalla's (2014) framework. The domains included (1) mission and objectives, (2) governance and administration, (3) educational programme, (4) educational resources, (5) students, (6) student achievements, (7) human resources (faculty staff), (8) human resources (administrative and supporting staff), (9) programme evaluation and quality assurance, (10) community health service, (11) research, and, (12) graduates. Abdalla's (2014) thirteenth domain entitled 'continuous renewal' was excluded from our assessment. A school's strategy and involvement in renewing its activities in accordance with changing needs of the health system and employment opportunities would be determined once a student cohort completed its curricular cycle. For this study period, such information would only be expected to be available in 2017, as the current student cohort completes their undergraduate training under the new curriculum.

Under each domain, standards for the pharmacy schools were stated and numbered as they appeared in the Abdalla standards booklet (2014), with the only exception in replacing the term "medical school" with "pharmacy school" (Appendix 1). Standards were grouped as they applied to a particular activity (education, research and services) in relation to each value (relevance, quality, equity) (Table 2). The values of equity, quality, and relevance were considered for this study; effectiveness was eliminated because such evaluations do not traditionally form part of a school's function, and would therefore not be available in the public domain. Certain standards were duplicated as they applied for some activities and values. For example, standard 2.3 in Table 2, 'the

pharmacy school must set a planning process to direct the institution's education also applies to, service and research and for the values of relevance, quality and equity respectively. A total of 45 standards were thus evaluated.

Table 2: The adjusted standards plotted on the social accountability grid for pharmacy schools (Abdalla, 2014)

Value	Activities of Pharmacy schools		
	Education	Research	Services
Relevance	1.2	1.3	1.3
	1.3	1.14	1.4
	1.4	2.3	1.14
	1.14	11.7	2.3
	2.3		2.9
	3.1		7.8
	3.3		7.9
	3.15		8.4
	3.17		10.1
	3.18		10.3
	3.24		10.5
	9.4		
	12.1		
	12.2		
	n=14	*n= 4*	*n= 11*
Quality	1.1	1.14	1.4
	1.6	2.3	1.14
	1.11	3.21	2.3
	1.12	7.10	3.25
	1.14	11.1	10.3
	2.3		10.6
	3.4		10.7
	3.10		11.8
	3.11		
	3.13		
	3.16		
	3.20		
	4.3		
	5.3		
	6.1		
	6.7		
	7.4		
	9.1		
	n= 18	*n= 5*	*n= 8*
Equity	1.14	1.14	1.4
	2.3	2.3	1.14
	3.2		2.3
			10.2
			10.5
	n= 3	*n= 2*	*n= 5*

For each standard, an adjusted rubric (Table 3) (Abdalla, 2014) was used to assign scores based on the depth of information that was available for each school's activity profile.

Table 3: Rubric to assess information pertaining to pharmacy schools' activities

Score range	Depth of information on schools' activities
0%-10%	School offers few statements about activities being done. Lacks explanation, no supporting evidence supplied. Incomplete information, no examples or links offered to substantiate activities.
11%- 30%	School makes mention of few activities being done. Supports statements with few photos and minor descriptions offered. Few examples offered, but is lacking in detail.
31%- 49%	School offers some description of activities. Information lacks depth. Some photos with partial descriptions about activities. No links offered to strengthen evidence on activities.
50%- 60%	School offers some degree of detail on activities being done. No concrete examples or links to substantiate activities either being planned or done.
61%- 80%	School offers detail on activities. Some concrete examples with links to other sources of information to substantiate activities being planned, underway or done. Lacking in depth of information
80-100%	School's activities are clear-cut. Furnishes complete information about range and depth of activities, supported with links to relevant information sources. Transparent with sharing documentation

To minimise inter-rater variability, two students independently assessed the original reviewer's scores allocated to the assigned school (Figure 1). The three students collectively discussed any disparities in their score allocation and reached consensus to arrive at a final score. For example, for University A, the original reviewer 1 assigned a score of 30 for services based on pictorial evidence; while reviewer 2 gave a score of 20 because pictorial evidence does not conclusively demonstrate the depth of service level of taking place. Following a discussion between the reviewers, consensus on a final score of 25 was reached. The scores obtained were not analysed statistically because a consensus approach was preferred for this preliminary study.

Ethical approval to conduct the study was not deemed necessary as information for each school was accessed from the public domain. Each school was randomly coded alphabetically to maintain anonymity, avoiding direct data and assessment linkage to any particular school.

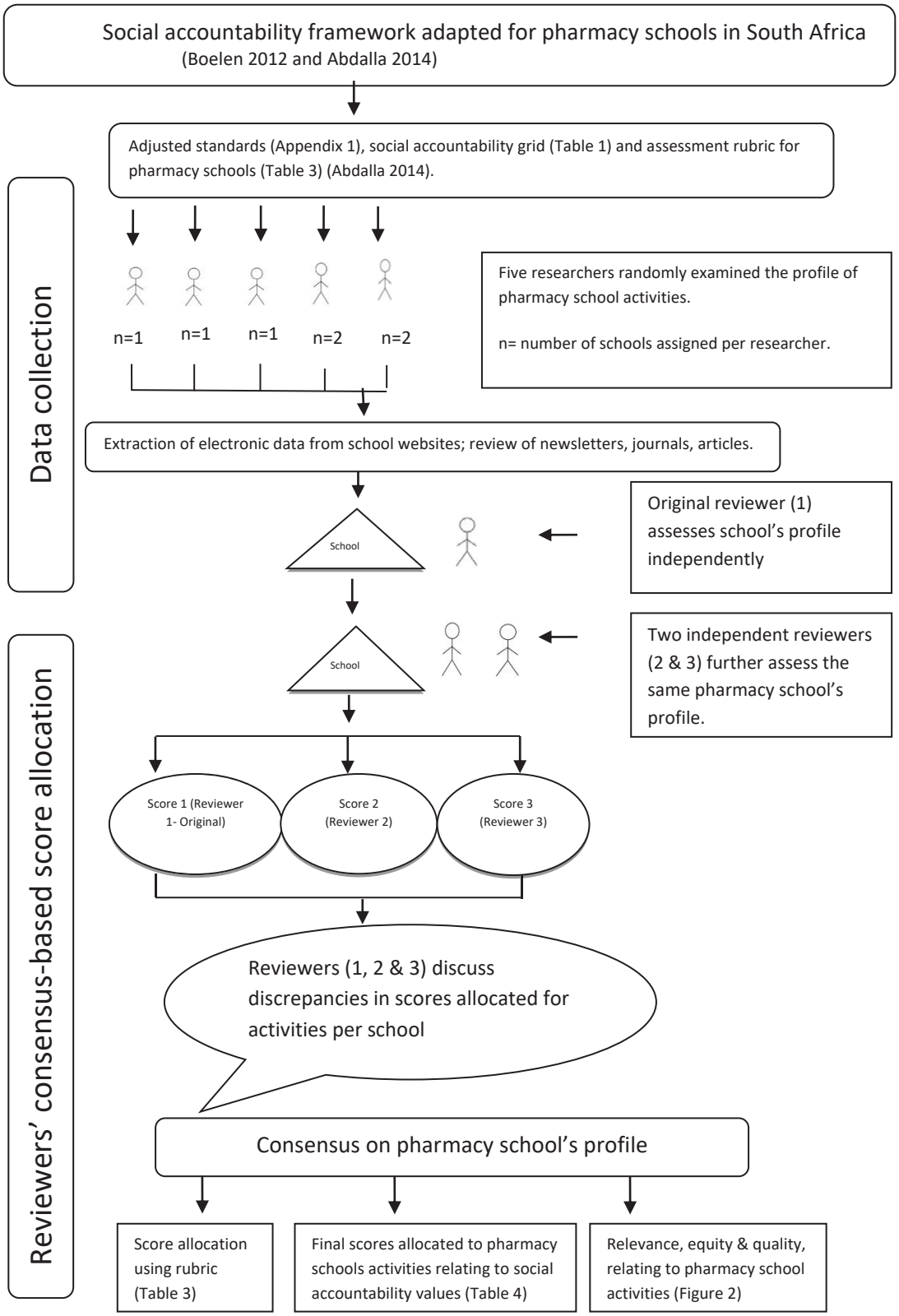

Figure 1: Methodology flow diagram

Results

This preliminary study aimed to assess the social accountability status among nine pharmacy schools using information from the public domain. Three pharmacy schools were excluded: one was transitioning towards a new university; the other required proof of student registration to gain access to curricular information, and a third school (E) had minimal information that could be extracted from their website to reach any conclusive finding. Data on six pharmacy schools were analysed and their social accountability status assessed. The schools were labeled alphabetically to maintain anonymity. The results on the assessments on pharmacy schools' education, research and service activities as they relate to the values of relevance, equity and quality are summarised in Table 4.

Table 4: Final scores (%) allocated to pharmacy schools' activities as they relate to the social accountability values of relevance, equity and quality

Pharmacy School	Relevance			Equity			Quality		
	Education	Research	Services	Education	Research	Services	Education	Research	Services
A	50	75	64	67	50	60	67	80	36
B	71	50	64	67	50	80	72	80	98
C	79	100	91	100	100	100	72	100	75
D	57	75	73	33	50	80	67	80	38
F	79	75	64	67	50	60	83	80	75
G	76	75	73	67	90	88	61	60	75

Relevance, equity and quality

In general, all pharmacy schools scored 50% and above in terms of relevance for all their activities (Figure 2). For relevance in educational practices, four schools (B,C,F,G) attained scores over 60%; with two schools (A,D) attaining scores within 50% - 60% range. With regard to relevance in research, school C attained the highest score (100%) and three schools (A,F,G) attained 75%. For relevance in service activity, school C dominated (91%); followed by two schools (D,G) obtaining 73% and three schools (A,B,F) reaching a score of 64%.

In terms of equity, most variation occurred in the educational activities and least variation in the equity of services provided by the pharmacy school. With regard to equitable educational practices, school C achieved the highest score (100%), and four schools (A,B,F,G) received the same score (67%). For equity in research, two schools (C at 100%, and G at 90%) dominated and four schools (A,B,D,G) achieved 50%. As far as equity in service was concerned four schools

(C at 100%, G at 88%, B and D at 80%) achieved high scores; another two schools (A,F) reached a score of 60%.

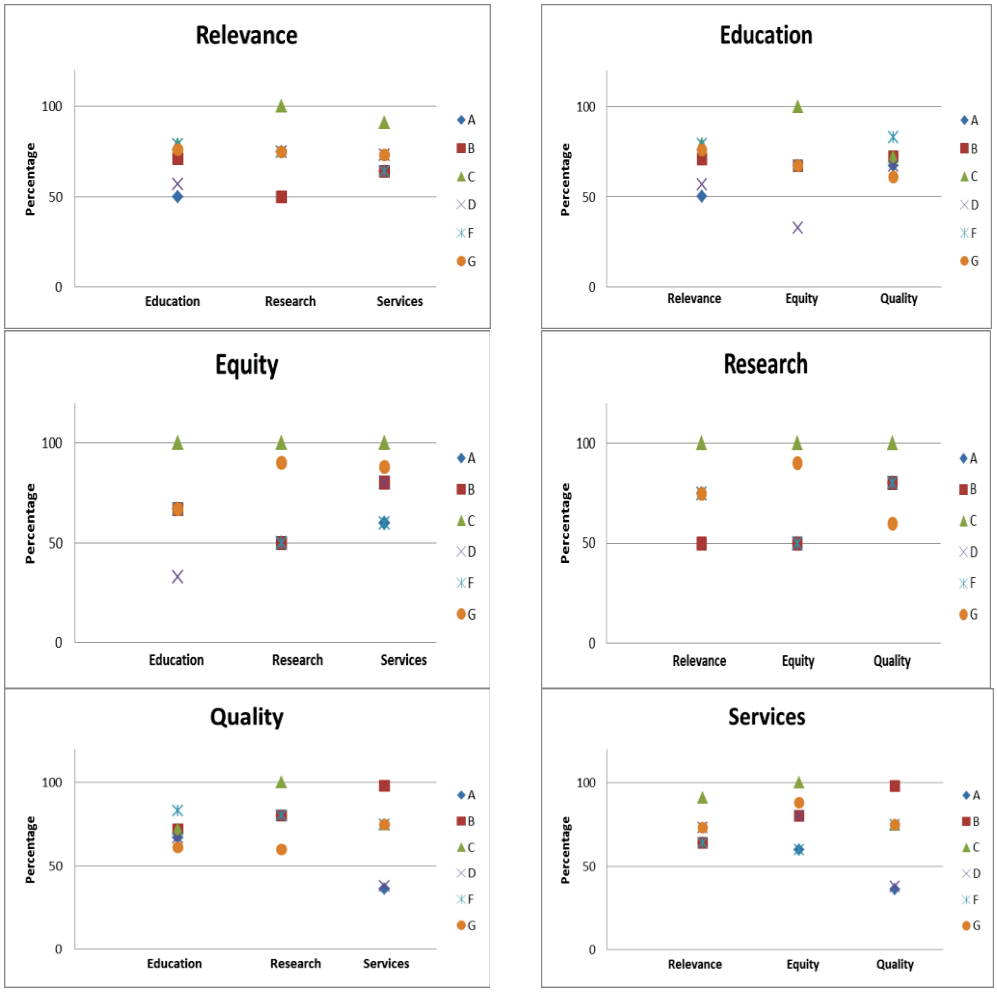

Figure 2: Percentage relevance, equity and quality attained by South African pharmacy schools' education, research and service activities.

Quality seemed to follow the opposite tend in degree of variation as compared to equity, with educational activities showing most consistence and quality services showing most variability. For educational practices, school F attained the highest score (83%) for quality of their programmes. Schools B and C received scores of 72%; followed by another two schools (A,D) which attained 67%. School G attained the lowest score of 61%. With regard to research quality, school C achieved the highest score (100%); four schools (A,B,D,F) attained 80% and two schools (EG) 60%. In assessing the quality of services school B dominated (98%), and three schools (C,F,G) achieved 75%. Two schools scored below 50% (A at 36% and D at 38%) for quality of their services.

Discussion

This qualitative study explored the use of information from the public domain, offering a preliminary insight into the status of pharmacy schools' activities as they relate to social accountability. With health education reform translating into a global phenomenon alongside widespread digital/technological advancements, universities are showcasing their activities extensively through electronic media. This discussion focuses on opportunities and constraints as it relates to the dissemination of public domain information in terms of social accountability.

Standards for which school activities that were mainly reported upon were their mission, vision, objectives, educational programmes, staff profile, student selection and achievement, community outreach and research. The standards that schools had least reported upon were governance and administration, programme evaluation, quality assurance and continuous renewal. One possible explanation for the poorer reporting is that these standards may be regarded as internal matters which schools might not deem it necessary to share onto the public platform. As compared to this online review, the advantage of institutional peer review is that it offers direct face-to-face panel discussions and access to in-depth information to make more conclusive findings about activities alignment with social accountability standards (Michaels et al., 2014).

In addition, with social accountability being a relatively new phenomenon, pharmacy schools would need to re-visit the depth of information that they would be willing to make accessible publicly. Since pharmacy schools largely function autonomously, and usually compete with each other in their activities, staff might be selective about the type of information that they are willing to post onto websites. On the flipside, with instant access to information becoming entrenched in every sphere of society, schools which are transparent and market their activities extensively, are more likely to be recognised locally and globally. In this regard, governance in schools would not need to be 'protected', but should be seen as an opportunity towards open, authentic public engagement.

In terms of the results, the social accountability values were well represented in information and evidence from the public domain, except for variations in equity of the educational programmes and the quality of service. Accordingly, researchers who evaluated social accountability of nine health science faculties in South Africa found that explicit information on equity was missing from health science faculties' mission statements (Reid & Cakwe, 2011). Public information on equity is important as it reflects South Africa's transformative agenda aiming to ensure equity in all sectors of society. Even though all six pharmacy schools scored over 50% for equity in research and service, one school did not provide enough information and evidence of equity in their educational programme. With pharmacy being recognised as a scare skill, schools are under

scrutiny to increase student enrolment to address the country's workforce deficiency. Pharmacy student recruitment from rural and underserved communities is an imperative for pharmacy schools to ensure retention in these high priority areas. In addition, staff profiling to meet the country's demographic needs is a top priority. One major barrier in recruiting and /or retaining South African black educators in academic positions is the competitive lucrative salary offers from the public and private health care sectors. While pharmacy schools operate autonomously, more rigorous engagement between them and the SAPC through regular monitoring of activities would be required to address inequities.

As mentioned earlier, the value of quality was well represented in terms of educational and research activities of pharmacy schools. However, in terms of quality of services, two schools scored below 50%. Universities traditionally place emphasis on education and research, the service activity (or community engagement) was only recently recognised (2005) as a third pillar of their core activities (Joint Education Trust, 2005). This disparity could possibly explain the slow re-orientation of pharmacy schools towards their service activities, because it does not represent either a significant portion of academic faculty performance evaluations or garner subsidies from government. This variation is left open to interpretation as schools might lack guidance about partnership building and their ability to engage meaningfully with each other. SAPC, as the accreditation authority, focuses its exit-level outcomes on student competence and not on the school's activities *per se*, resulting in an anomaly when using standards to measure a school's social accountability status. Many of the SAPC's exit level outcomes are directed at competencies aimed at product-centredness focusing on laboratory-based techniques and clinical training (SAPC, 2010), to meet the biomedical model of care, with some inferences towards patient-centred, community- and population-based approaches. SAPC would need to revise the current exit level outcomes in accordance with clear-cut social accountability standards (Boelen et al. 2012) to keep abreast with local and international trends in health education reform (Frenk et al., 2010).

Finally, activity information available on pharmacy school websites largely focuses on content and process and minimally on outcomes. Reid et al. (2011) also found that programme evaluation was rarely performed apart from scheduled accreditation visits by the Health Professional Council of South Africa. It was also noted that only one out of the nine health science faculties investigated, only one systematically followed up on the career choices and the quality of their graduates' practice. A sure way to measure outcomes would involve interactive networks with graduates. South African pharmacy schools have minimal contact with alumina post-graduation because of structural barriers. Educators especially in research-intensive universities are under constant pressure to increase their research output to meet annual targets. Invariably, this restricts their engagement with graduates or alumni, which

requires an institutionalised effort due to the resource intensiveness of establishing and maintaining interactive networks. The current detached nature in which pharmacy schools operate creates a 'silo effect', resulting in inequitable relationships with pharmacy practitioners, widening the gap between education and practice. Graduates and/or alumni are an under-utilised resource which South African pharmacy schools could consider to strengthen the health system (Frenk et al., 2010). For pharmacy schools to align their activities with the continuous renewal standard, educators and pharmacy practitioners would have to establish meaningful multi-sectorial partnerships, not only with their graduates, but also the health service and community, to embed efforts aimed at curricular relevance.

There are several limitations to this study. Data obtained from websites may not be reflective of actual activities taking place at schools. Reviewer visits to pharmacy schools would be needed to assess supporting evidence in their activities. For qualitative assessments, rigorous reviewer training to standardise the scoring process; and supplementation with objective data is required to increase the rigour of the study.

Conclusion

This study demonstrated that information collected from the public domain could be useful in determining at least a preliminary assessment of social accountability of pharmacy schools in South Africa. In comparison to peer review methods it was less resource intensive. However, a key question that this study highlights is: what depth of information could or should be shared in electronic media/ public domain about pharmacy schools' activities?

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