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Evaluation of Emory University's King Abdullah Fellowship Program

By

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Evaluation of Emory University's King Abdullah Fellowship Program

By

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Bachelor of Science

Emory University

2016

Thesis Committee Chair: Ghada N. Farhat, PhD, MPH

An abstract of

A thesis submitted to the Faculty of the
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Abstract

Evaluation of Emory University's King Abdullah Fellowship Program

By Lea Ghassan Matar

Background: Strengthening the public health workforce is essential in health and economic development. Public health education and training are crucial for building a proficient workforce and for the advancement of public health related activities. The Kingdom of Saudi Arabia (KSA) faces several challenges related to its public health workforce. To offset these workforce challenges, KSA has embarked on a scholarship initiative to fund the education of Saudi students in academic institutions around the world and in various areas of study. This has led to establishment of fellowship programs worldwide, among them the King Abdullah Fellowship (KAFP) Program at Rollins School of Public Health (RSPH), Emory University. The KAFP is a joint effort of KSA and RSPH to further strengthen public health capacity in the Kingdom. **Key Aims:** The purpose of the evaluation is to: (1) evaluate whether the program is achieving its mission by understanding its impact on the career and professional development of trainees, and (2) pinpoint areas for improvement which will strengthen the program. **Methods:** Using a mixed methods approach: (1) KAFP alumni (n=27) were surveyed to assess impact of KAFP on their professional and career development in the field of public health as perceived by students, and (2) KAFP staff (n=5) were interviewed to assess quality and quantity of support services provided by KAFP that contributed to professional development in the field of public health in KSA, as perceived by staff. **Conclusion:** A little over half of the survey respondents indicated that the KAFP has helped in contributing to public health practice and education in KSA. KAFP staff members indicated that the program provided tailored services that supported students academically, socially and culturally during their stay at RSPH, and enhanced their scientific productivity after graduation through providing opportunities and support for publication and attendance of scientific conferences. Overall, the program has proven to positively impact students and contribute to their professional development. Yet, ongoing evaluation as the program continues to grow and develop is important to maintain and improve its standards.

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Introduction and Rationale

Introduction

Strengthening the public health workforce is essential in health and economic development. It promotes sustainability, strengthens public health capacity and infrastructure, and enhances skills and knowledge crucial for support of current and future public health programs (Haralson, 2010; Lichtveld & Cioffi, 2003). There has been more emphasis on workforce development and capacity building as a response to emerging public health threats (Gebbie & Turnock, 2006). Workforce development covers a myriad of educational and business related activities. Jacobs et al. explain the concept by narrowing it down to four categories including: (1) preparation by schools or agencies for individual's entry or re-entry into the workforce (2) improved workplace performance through opportunities spearheaded by organization (3) response to change and impact on effectiveness in the workplace and (4) workforce participation in relation to life transitions. For over a decade, light has been shed on public health workforce and its importance, however Hunter et al. report that in the U.S. 80% of directors within local health departments lack graduate education in public health (Hunter, Lapp, & Frenk, 2014). In addition, the Commission on the Education for Health Professionals for the 21st Century reported that within articles published addressing education for health professionals; 73% were for medical education, 25% for nursing, and a mere 2% for public health professionals (Hunter et al., 2014). Therefore, investing in public health education and training is crucial for building a proficient workforce and for the advancement of public health related activities (Hunter et al., 2014).

Kingdom of Saudi Arabia: Overview of the Country

Saudi Arabia was established three centuries ago in three stages. The first state was established by Imam Mohammed Bin Saud and Imam Mohammed Bin Abdul Wahhab's alliance in 1744 (1157 A.H.). The second and third states were established by King Abdulaziz Bin Abdul Saud after a battle in 1902 AD resulting in re-gaining control of Riyadh. King Abdulaziz was the pioneer for establishing a unified Kingdom that integrated today's provinces into one state, which was the first to occur in the Arabian Peninsula's history (Heritage, 2013). Saudi Arabia is the largest country by area in the Middle East, occupying most of the Arabian Peninsula, with the desert accounting for 95% of that area (Geographic, 2016). Saudi Arabia produces and exports the largest amount of oil worldwide, accounting for a high percentage of its revenues (Almalki, Fitzgerald, & Clark, 2011). However, the lack of balance among job skills and market needs resulted in high unemployment rates, specifically among young males. The population is 24,573,000 with more than 5 million residing in the capital, Riyadh (Geographic, 2016). Founded in 1932, the modern Kingdom is a hereditary monarchy with the King serving as head of state and government. The Qur'an (Islam's religious text) is considered the country's constitution, and therefore governed according to Shari'a (Islamic) law (Associates, 2016).

Kingdom of Saudi Arabia: Evolution of the Healthcare System

History of the healthcare system.

The World Health Organization (WHO) ranked the Saudi healthcare system as 26th out of 190 worldwide, outranking Canada, Australia, United Arab Emirates (UAE), Qatar and Kuwait (Almalki et al., 2011). Saudi Arabia's first public health department was established as a

result of King Abdulaziz's royal decree which was established in 1925 in Mecca, the holiest city according to Islam located in the west of Saudi Arabia. The initiation of the department proved to be crucial as it provided free healthcare to the local population and pilgrims, yet could not meet increasing health demands that developed in subsequent years. As a result, the Ministry of Health (MoH) was established in 1950 according to another royal decree. In 1970, twenty years after its establishment, five year plans have been put in place in an effort to continually develop public health and the healthcare system in the Kingdom among all sectors (Almalki et al., 2011).

Current structure of the healthcare system.

The health system is currently divided between two sectors: (1) the governmental (public) sector which offers free healthcare and accounts for 78.8% of healthcare services in the kingdom and (2) the private sector which offers services at a fee and accounts for 21.2% of healthcare services in the country (Almalki et al., 2011). Within the public sector, in addition to the MoH which provides healthcare at all levels for the entire population, there are "other" governmental agencies that provide healthcare for specific populations (e.g. the military and national guard).

The Saudi constitution requires that all employees of the public sector, whether citizens or expatriates, receive free and full access to healthcare services. The MoH provides primary, secondary and tertiary care which are provided within primary health care centres (PHC), public hospitals and central/specialized hospitals; respectively (Almalki et al., 2011). WHO reported that in 2009, 5% of the Saudi gross domestic product was spent on public health related expenditures. There are 20 regional directorates-general of health affairs distributed in the Kingdom, and are all supervised by the MoH. Each directorate supervises hospitals and health

sectors, and each health sector supervises PHCs (Almalki et al., 2011). Each directorate has the responsibility of following MoH guidelines and requirements from policy implementation, health services management, private sector service supervision, and coordination with other government agencies (Almalki et al., 2011). The current structure is captured in Figure 1:

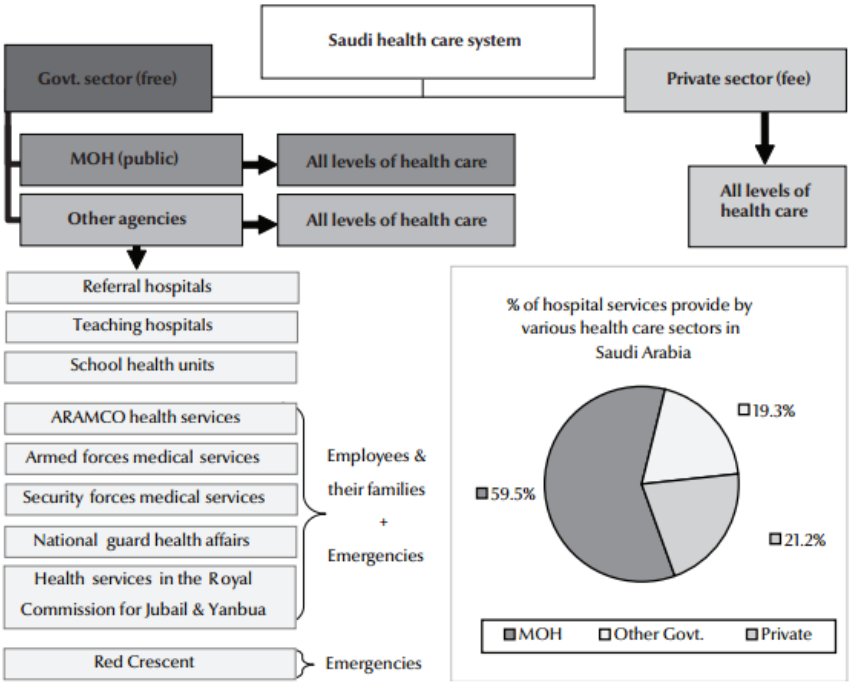


Figure 1. Current structure of the healthcare sector in Saudi Arabia (MOH = Ministry of Health)
Source: Almalki, M., Fitzgerald, G., & Clark, M. (2011). Healthcare system in Saudi Arabia: an overview. *East Mediterr Health J, 17*(10), 784-793

Challenges in the public health workforce.

The healthcare system in the Kingdom initially catered to curative services, and as the system evolved preventative health services were recognized and incorporated. This form of healthcare model proved to be an economic burden, which triggered establishment of preventative health services (Almalki et al., 2011). A ministerial decree was released in 1980 to establish primary healthcare (PHC) services, in response to the 1978 Alma-Ata declaration. The

PHC approach aimed at focusing on eight elements including education, immunization, nutrition promotion, prevention and control, among several others (Almalki et al., 2011).

Despite the success in establishing PHC, KSA faces several challenges related to its public health workforce. As stated in Mahmoud et al., these challenges include: "(1) a shortage in number and distribution of PH workforce; (2) lack of formal training in PH and (3) limited opportunities for on-job training." (Mahmoud, Al-Zalabani, & Bin Abdulrahman, 2016) Using the same formula by the Association of Schools of Public Health to estimate PH workforce shortage in the United States, Mahmoud et al. calculated that there is a shortage of 61,000 workers, projecting a shortage of 82,000 by 2025 (population projection: 37,600,000).

Mahmoud et al. also address needs and challenges faced in Saudi Arabia's public health education and the importance of workforce development through public health education. The latter was highlighted in the following statement: "the development of a framework for graduate competencies in public health was perceived to be a top priority. Moreover, setting a public health workforce surveillance system, building partnership between public health academic institutions and public health services providers, implementing national campaigns to explain what public health is about and illuminating the role of public health workers were also of utmost importance." (Mahmoud et al., 2016)

To offset these workforce challenges, KSA has embarked on a scholarship initiative to fund the education of Saudi students in academic institutions around the world and in various areas of study, including medicine and public health. This has led to establishment of Fellowship programs worldwide, among them the King Abdullah Fellowship (KAFP) Program at Rollins School of Public Health (RSPH) at Emory University.

King Abdullah Fellowship Program

The KAFP was established in 2010 as a joint effort between the MoH in KSA and RSPH at Emory University. The program aims to further strengthen the public health workforce in KSA by graduating candidates from the Saudi health workforce with a Masters of Public Health (MPH) degree from RSPH. To date, there are 46 graduates of the program. Most candidates enrolled in the program are medical physicians, followed by a smaller percentage of nurses and healthcare administrative professionals.

The KAFP exemplifies the concept of an Academic Health Department (AHD), developed by the Council for Linkages Between Academia and Public Health Practice (PublicHealthFoundation, 2016), as it aims to bridge the gap between academia and public health practice, graduate public health leaders, engage in joint education ventures/degrees, and develop practice-based research. Fellows within the program gain educational and technical skills to enhance the public health workforce in KSA. As highlighted in a special commentary by the KAFP: "Current development in KSA's public health sector such as the new Center for Command and Control (established with support from the Center for Disease Control and Prevention (CDC)) and the Center for Mass Gathering Medicine (with support from WHO) exemplify the kinds of initiative that the KAFP is ideally positioned to strengthen. However, the level of knowledge about public health and viable career paths within the field are still limited." (McNabb, Assiri, Alsaggaf, & Memish, 2016)

Problem Statement

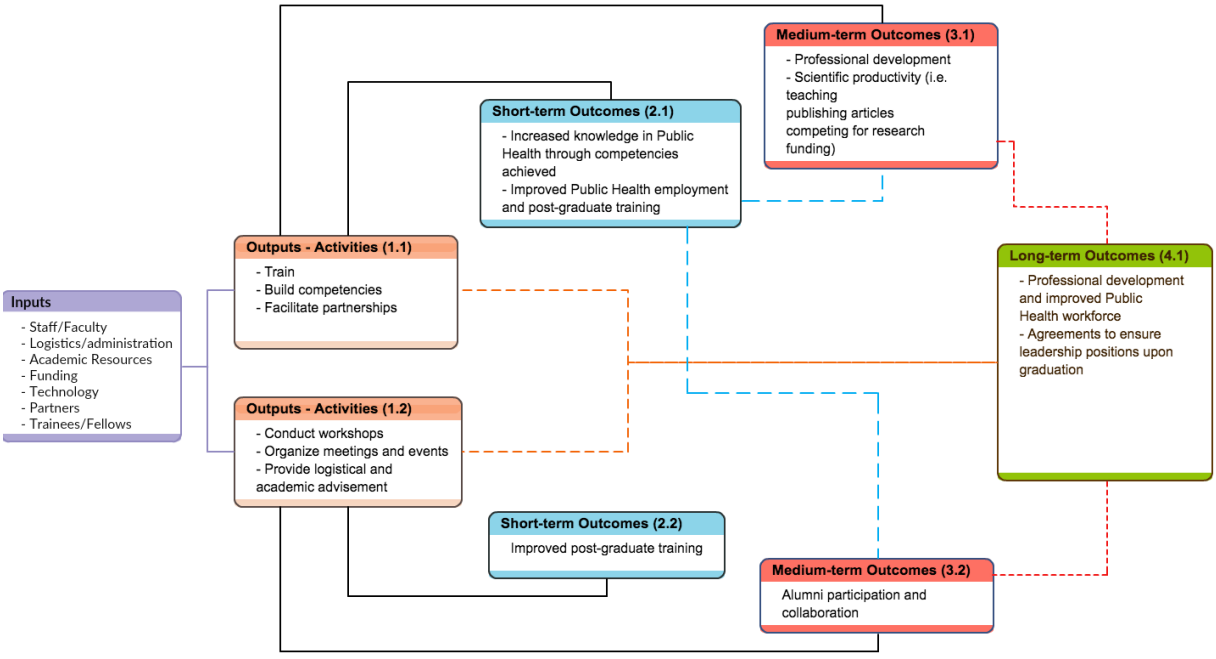
A formal evaluation has not been conducted for the KAFP. Therefore, after graduating five cohorts since its establishment, it is important to understand the impact of the program on

the career and professional development of trainees. It is also important to assess the program's delivery of academic support services to trainees.

Significance Statement

The evaluation is crucial to identify the impact of the program on career and professional development of KA Fellows. It will serve to pinpoint key areas for improvement which will strengthen the program. It is also significant for the identification of potential mechanisms to extend RSPH's partnership with the MoH and trainees beyond graduation. Extending the partnership to the post-graduation phase of trainees, sets the stage for establishing an ongoing and novel global AHD that goes beyond the culmination of MPH training, further bolstering and sustaining the link between academia and public health practice.

Conceptual framework



Research Questions

This research venture aimed at conducting an assessment to evaluate KAFP's achievements to be measured against its mission and objectives. A mixed method approach was used to conduct the research and evaluate specific impact and process indicators. The research questions were: How has the academic program provided to KA fellows during their two-year stay at RSPH impacted their career and professional development? How has the program delivered academic support services to trainees?

Objectives

1. Identify whether the program helped KA Alumni change employment status or enroll in further postgraduate training/studies.
2. Identify whether the program helped KA Alumni develop skills and knowledge (through RSPH competencies) to fill in the gaps in their respective public health fields in KSA.
3. Assess if the program enhanced the scientific productivity of KA fellows and their participation in public health related activities nationally and internationally (e.g., conferences and teaching).
4. Understand how the KAFP academic support services distinguished themselves from those already offered at Rollins School of Public Health (RSPH).
5. Understand how the program effectively used existing resources available at RSPH, and incorporated its own support services to support KA Fellows in successfully completing their program.

Review of the Literature

Health Workforce in the Kingdom of Saudi Arabia

History of labour market.

Saudi Arabia is reported to be one of the top five migrant destinations globally. In a 2012 report, there were approximately 9.4 million foreigners residing in the country. Since the 1930s, Saudi Arabia was exposed to labour immigration, mainly from Western countries and Arab states of poorer socio-economic status. The main contributor to immigration during that time period was the oil exploration (Bel-Air, 2014). Initially, skilled foreign workers shared positions with largely unskilled Saudi nationals. By the early 1970s, the first oil boom improved the economy, diversified the labour market and created jobs for highly-skilled as well as semi-skilled workers. This boom, however, resulted in a disconnect between market needs and workforce recruitment, and high turnover rates. Migrants entered the country without being accounted for by the authorities; hence proper data regarding population size was not available until the 2000s.

Saudi faced a decrease in oil revenue in 1985. Coupled with an increase in population growth, re-evaluation of the redistribution of capacities among the states was in order. Although Saudi joined membership with the World Trade Organization (WTO) by 2005 in an effort to improve the labour market, poverty was on the rise and unemployment rates were reported to reach 12.2% in 2013. After the “Arab Spring”, protests against unemployment were addressed by King Abdullah, with a subsidy package of $130 billion placed in order to “fund new housing programmes, raise the minimum wage of public servants (mostly Saudis), and create more employment opportunities in the government sector.” (Bel-Air, 2014)

In more recent reports, 32% of Saudi Arabia's population consists of expatriates accounting for 56.5% of those employed and 89% working in the private sector. After the transition in labour conditions that Saudi faced, a new policy was initiated called the Nitaqat, an initiative of "Saudising" the country's workforce (Bel-Air, 2014). In an effort to accomplish the latter and depend less on foreigners, the nationalization policy has been implemented to provide nationals with more opportunities ((WHO), 2013). Encouragement of education has increased literacy rates, especially among women; with the rate increasing from 79.7% (15 years old and older) in 2004 to 85.0% in 2010. Higher education has become more common and desired among Saudi women ((WHO), 2013).

Existing health workforce.

Healthcare services in Saudi Arabia have improved dramatically since a 5-year development plan was adopted in 1970 within the MoH (primary health care provider). The eighth national development plan (2005-2009) showed improvements in addressing public health issues. By 2004 there was an increase of primary healthcare centers by 8.9% ((WHO), 2013). Healthcare indicators including immunization, vaccine coverage and maternal and child health were significantly improved as well. The number of healthcare workers also improved; however, a larger percentage of healthcare positions were filled by expatriates, particularly nursing positions ((WHO), 2013). The main disadvantage within the health workforce is the high turnover causing lack of stability within the system. The distribution of human resources for health within the MoH, overall and by nationality and gender, is highlighted in Tables 1 and 2.

Table 1. Health human resources and infrastructure, 2010

Human resources and infrastructure	Rate per 10,000 population
Physicians	9.4
Nursing and midwifery	21.0
Dentists	2.3
Psychiatrists	0.3
Pharmacists	0.6
Hospital beds	22
Primary health care units and centres	0.8

Source: (WHO), W. H. O. (2013). Country Cooperation Strategy for WHO and Saudi Arabia 2012–2016 Retrieved from http://www.who.int/countryfocus/cooperation_strategy/ccs_sau_en.pdf

Table 2. Composition of Ministry of Health health workforce, 2009

Health Workforce	Male		Female	
	Non-Saudi (%)	Saudi (%)	Non-Saudi (%)	Saudi (%)
Physicians	48.0	21.4	14.6	16.0
Nurses	3.9	23.4	51.9	20.8
Pharmacist	8.3	40.1	9.8	41.8
Allied health personnel	5.1	66.7	8.5	19.7
Technical personnel	48.4	39.7	3.2	8.7
Administrative personnel	1.1	77.1	0.7	21.1
Worker (all other)	34.3	43.0	12.2	10.5
Total	18.7	42.8	21.2	17.3

Source: (WHO), W. H. O. (2013). Country Cooperation Strategy for WHO and Saudi Arabia 2012–2016 Retrieved from http://www.who.int/countryfocus/cooperation_strategy/ccs_sau_en.pdf

Key health issues.

Saudi Arabia has been undergoing a demographic and epidemiologic transition, with higher rates of chronic non-communicable diseases particularly diabetes, heart disease and cancer. Cost for treatment of the latter is significant. Fertility rates are also high, contributing to increased population needs for healthcare services. Meeting the needs has been challenging due to the scattered geographic spread of the population. The main challenge in service delivery to this population lies in the inadequate distribution of the health workforce ((WHO), 2013). Key and highly prevalent public health issues that KSA is currently addressing include: (1) maternal and child health (2) genetic disorders (3) communicable diseases (4) non-communicable diseases (accounting for 71% of the nation's deaths) (5) mental health (6) road traffic injuries (7) environmental health and (8) health in mass gatherings (Saudi hosts approximately 3 million visitors every year, specifically during Hajj season) ((WHO), 2013).

Opportunities for health workforce development.

KSA has been working on developing its workforce, particularly in the health sector. The MoH and WHO have been continuously collaborating with national stakeholders and civil society organizations to develop partnerships to work on improving their health care system. In addition, the King Abdullah Scholarship Program (KASP) was an effort initiated to enhance Saudi's educational experience abroad, particularly in the field of medicine and health.

King Abdullah Scholarship Program

Overview.

The King Abdullah Foreign Scholarship program was an agreement between King Abdullah and U.S. President George W. Bush to enhance development and educational opportunities for Saudis through study abroad scholarships at the bachelor, master and doctoral level. The program, established in 2005, was under the Ministry of Education's supervision and aimed to promote high educational standards, exchange expertise, and enhance the level of professionalism nationally ((MoE), 2016). Every five years, the program is evaluated by the King to determine its need. The Saudi Arabian Cultural Mission (SACM) to the United States is an agency established in 1951, which serves as a liaison between Saudi Arabia's government and universities in the U.S. SACM offers administrative support for all students' needs from academic to medical and personal (Alqahtani, 2014). SACM shifted its organizational structure in 1988 and updated its procedures, policies and systems to meet student expectations and needs, as "they strive to provide Saudi students with the best possible educational opportunities at the best education institutions in the United States" (Alqahtani, 2014).

Sponsoring Saudis for educational development abroad dates back to 1876-1953 during King Abdul-Aziz's reign, once the modern Kingdom of Saudi Arabia was established in 1932. Study opportunities mainly consisted of Arab and Islamic studies in Arab countries including Egypt and Lebanon. King Abdul-Aziz's successors then expanded the opportunities to European countries and the U.S. The first supported studies in the U.S. was in 1947 at Texas State University, when 30 students originally enrolled at the American University of Beirut (AUB) transferred to study in the U.S (Abdulrahman M. Abouammoh, 2014). By 1975, there was a sharp increase in the number of students abroad.

The Saudi Arabian government provides a list of fields students can enroll in which currently include: medicine, medical science and health sciences for undergraduate programs and larger, more flexible options for graduate students. Students are limited to the fields provided, but receive the opportunity of selecting their preferred area of study within those fields. Defining areas of study by the Saudi government ensures the market is not over or under-saturated once trainees return to work in their respective fields (Alqahtani, 2014).

Statistics.

Between 2013 and 2014, it was reported that 100,000 Saudi students were studying in Universities and Colleges across the U.S. (Charles Taylor, 2014). There has been a significant growth in enrolled students between 2000 and 2013, reflected in Figure 2.

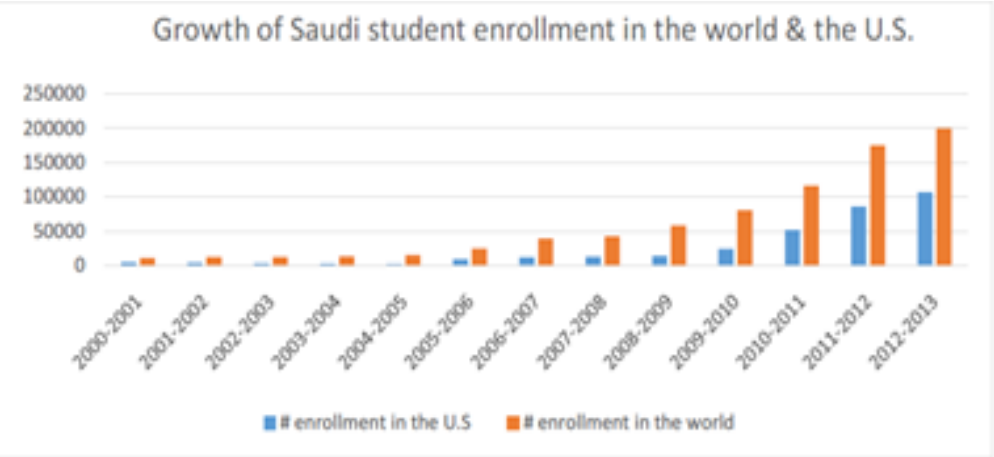


Figure 2. Growth of Saudi student enrollment in the world and the U.S.
Source: Charles Taylor, W. A. (2014). The Impact of Saudi Arabia King Abdullah's Scholarship Program in the U.S. *Open Journal of Social Sciences, 2*, 109-118.

The top three states with the highest number of enrolled students include District of Columbia, Florida and Ohio, as reflected in Figure 3. During the infancy of the program in the

U.S., District of Columbia was the most desired as SACM and Saudi Embassy officials were headquartered there, as well as the K-12 Islamic Saudi Academy offering the same curriculum taught in Saudi Arabia. Currently, among all the Saudis enrolled as a KASP scholar, 60% are in North America (Canada and the U.S.) (Abdulrahman M. Abouammoh, 2014).

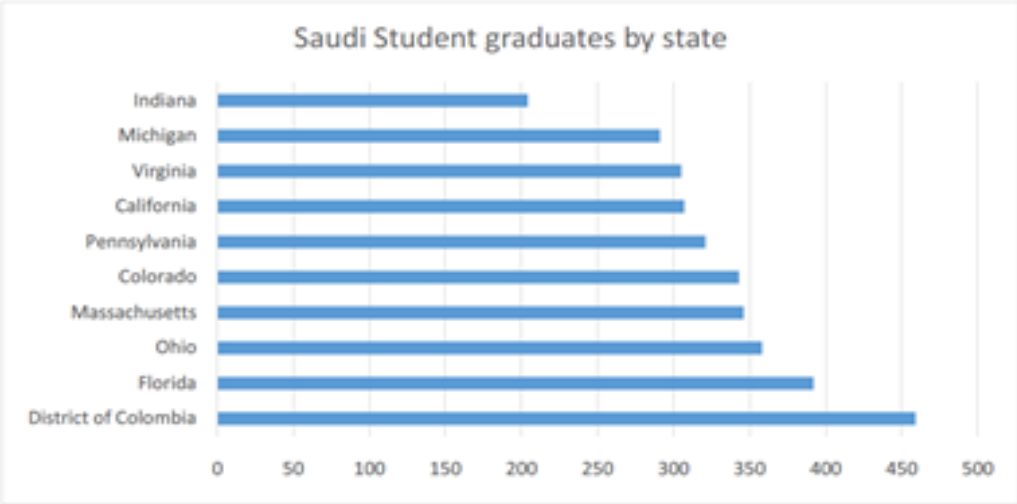


Figure 3. Saudi student gradates by state
Source: Charles Taylor, W. A. (2014). The Impact of Saudi Arabia King Abdullah's Scholarship Program in the U.S. *Open Journal of Social Sciences, 2*, 109-118.

KASP opportunities and benefits.

As introduced, the purpose of the KASP is to provide higher education opportunities for Saudis abroad, to help improve the country's economic outcome and development; as well as provide professional and personal development (Abdulrahman M. Abouammoh, 2014). There are several advantages to the five-year national development plan, with some highlights including: attaining higher educational goals, meeting market needs, exposure to different education systems, environments, and cultures, gaining international standard competencies and skills, and enhancing the academic standards of local universities. The benefits are not only limited to the knowledge and experience Saudis gain, but the impact of representing their

country, values, and culture. This helps create stronger collaboration and inter-cultural relationships (Abdulrahman M. Abouammoh, 2014).

Methodology

The objectives of the evaluation were to identify whether the academic program provided to KA fellows during their two-year stay at RSPH impacted their career and professional development, and to evaluate the program's delivery of academic support services to trainees.

In order to assess the professional achievements of the KA Fellows and the KAFP services provided, a mixed methods research was conducted. The quantitative portion involved administering surveys to KA alumni; the qualitative portion involved key informant interviews with current and former KAFP staff members.

Research Design: A Mixed Methods Approach

A mixed methods approach was used to conduct this study, as it provides benefits of both quantitative and qualitative research. Using this method enhances accuracy, offsets weakness when using individual methods independently and attains a well-rounded response to the research question (FoodRisc, 2016). This is the first evaluation to be conducted for the KAFP.

The qualitative portion of the study is a summary of key informant interviews with personnel who have been part of the KAFP team, or have worked closely with KA Fellows/KAFP team. The role of the staff members ranged from advisors, mentors/directors, and English as a second language instructors. The number of years the staff worked with the KAFP and/or KA Fellows ranged between 1.5 to 8 years. The aim was to understand staff perception of student's successes, opinion about challenges, perception of how the program distinguishes itself from RSPH and what value it offers the students in fulfilling the mission of the program.

The quantitative portion of the study is a summary of Alumni Survey responses of KAFP graduates between 2013 and 2016. There are 46 graduates, of which 27 responded to the survey.

The aim was to measure overall professional performance after graduation including employment status change, post-graduate training/studies, teaching public health courses, submitting grants, and publishing articles.

Instruments

There are several advantages and disadvantages for each instruments used.

Advantages of key informant interviews:

- Less selection bias
- Increased response rate
- Use of visuals
- Build rapport with respondent

Disadvantages of key informant interviews:

- More costly
- More time consuming
- Less anonymity which may increase bias

Advantages of online surveys ((CDC), 2012):

- Increased anonymity and less bias
- Least costly
- Less time consuming in sending and receiving information (vs. regular mail)
- Less selection bias

Disadvantages of online surveys:

- No control over quality of data
- Low response rate without proper follow-up

- Quality of response depends on participants' willingness to respond

Population

A total of 46 students have graduated from the KAFP. KA Fellows who graduated between 2013 and 2016 were part of the study. A total of 5 current and former KAFP staff members, and employees who worked closely with the KAFP and KA Fellows were selected for the key informant interviews. Job descriptions of key informant participants ranged from director, English as a Second Language (ESL) instructor, program associate, and academic advisor.

Indicators

Indicators developed for the evaluation plan were adopted from the Centers for Disease Control and Prevention's (CDC) *Using Indicators for Program Evaluation and Planning.* The outcome indicators were measured against the objectives of the study (and logic model) and matched with the survey and key informant interview questions.

- Increased knowledge about public health, measured by RSPH competencies developed (2.1)
- Improved practice of public health in Saudi Arabia, through positions at MoH or public health organizations (2.2)
- KAFP staff opinion of quality and quantity of support services (3.1)
- Percentage of Alumni enrolled in post-graduate training in public health after graduating from KAFP (2.1, 3.1)

- Percentage of Alumni with change in employment status (i.e., promotion) after graduating from KAFP (2.1, 3.1)
- Percentage of Alumni engaged in public health related activities (i.e., teaching, publishing articles, competing for research funding) (3.1)
- KAFP staff perception of student's achievements and scientific productivity (3.1)

Evaluation Plan

The evaluation plan included the evaluation questions, which were matched to the objectives. For each question, the indicator(s) targeted was identified, the data collection source and method were listed, and the type of analysis performed was highlighted.

Table 3. Evaluation Plan

Evaluation Question (objective number)	**Indicator**	**Data Collection (Source and Method)**		**Data Analysis**
Has the program helped KA Alumni change employment status or enroll in post-graduate training/studies? (1)	(2.1, 2.2, 3.1)	Survey	Self-report from Alumni	Quantitative - basic descriptive statistics
Has the program helped KA Alumni increase their knowledge about public health (measured through professional achievement) to fill in the gaps within their respective public health field in KSA? (2)	(2.1)	Survey	Self-report from Alumni	Quantitative - basic descriptive statistics

Has the program enhanced the scientific productivity of KA fellows and their participation in public health related activities nationally and internationally (e.g., conferences and teaching)? (3)	(3.1)	Survey and Key informant interview	Self-report from Alumni and KAFP staff	Quantitative and qualitative
How do the academic support services distinguish themselves from those already offered at RSPH? (4)	(3.1)	Key informant interview	Self-report from KAFP staff	Qualitative
How has the program effectively used existing resources available at RSPH and Emory, and incorporated its own support services to aid KA Fellows in maintaining good academic standing? (5)	(31.)	Key informant interview	Self-report from KAFP staff	Qualitative

Primary Data Analysis

The descriptive data analysis conducted for survey results was done using Excel. The themes divided for the key informant interviews were divided into three sections and included: KAFP's role in enhancing scientific productivity of KA fellows, KAFP support in comparison to school-wide support for international students, and effective collaboration of the KAFP with the school-wide support to enhance and maintain good academic performance.

Results

The results of the mixed methods approach were summarized according to the objectives and indicators.

Qualitative Key Findings

The themes for the key informant interviews were divided into four sections and include:

- Perception of challenges and opportunities faced by the KAFP,
- Perception of KAFP's role in enhancing scientific productivity of KA fellows,
- Perception of KAFP support in comparison to school-wide support for international students, and
- Perception of collaboration of the KAFP with the school-wide support to enhance and maintain good academic standing.

Perception of challenges and opportunities faced by the KAFP.

Identified challenges were of two types, those faced by students after graduation and those encountered during their program. One of the perceived challenges expressed by staff members is that trainees face several challenges in public health practice once they return to KSA, as there is a lack of public health knowledge and practice in Saudi Arabia. Due to the lack of awareness about the field of public health and its value, the MPH degree of trainees is not recognized the same way other advanced degrees are recognized. A challenge students face during their studies is difficulties in is language and analytical/quantitative skills. One of the main perceived opportunities or benefits by staff members is that the KAFP has tailored academic services to meet the needs of this specific population. The Saudi culture is very

relationship oriented and therefore, the program additionally offered customized social support services to help students with their academic and social adjustment to the U.S. and to Emory.

Perception of KAFP's role in enhancing scientific productivity of KA Fellows.

For the purpose of this study, scientific productivity is defined as participation in conferences, publishing articles, teaching courses in public health and applying for research funding. Based on the staff's knowledge of student engagement in scientific activities post graduation, there are two main activities that the KAFP encouraged, supported, and provided opportunities to enhance scientific productivity: (1) publishing articles and (2) participating in conferences.

Perception of KAFP support in comparison to school-wide support for international students.

Tailored academic and social support services were believed to be key in providing additional benefit to trainees above and beyond school-wide services. The academic support services provided did not operate based on a "one size fits all" principle, as it would be when catering to more than 100 international students school wide. Social support services were unique to KAFP; no similar services were offered to other students school-wide.

Perception of collaboration of the KAFP with school-wide support systems to enhance and maintain good academic performance.

The perception of collaboration with the school in using existing resources varied among staff members; from too much reliance on KAFP, lack of integration, to being unsure about how

the KAFP uses already existing resources. One of the perceived benefits shared by KAFP staff is tailoring support services in order to assist the students academically. Collectively, most staff are unsure of how integrated the KAFP is in terms of using already existing services to enhance what is already in place and customize needed services accordingly.

Quantitative Key Findings

Table 3 presents the percentage of trainees who reached specific goals and KAFP's contribution to reaching goal. Goals included: experienced change in employment status, enrollment in post-graduate training after graduation, teaching public health courses, competition for research funding, published articles and presentation at scientific meetings. The columns present those who indicated "yes" to experiencing a change in employment status and to public health practice (i.e., scientific productivity) and "yes" to KAFP's contribution in reaching the goals. The trainees who experienced a change in employment status, 58% indicated that the KAFP has contributed to them successfully reaching that goal; those who enrolled in post-graduate training, 83% indicated that the KAFP has contributed to them successfully reaching that goal; those who taught in public health courses, 80% indicated that the KAFP has contributed to them successfully reaching that goal; those who competed in research funding and published articles, 100% indicated that the KAFP has contributed to them reaching that goal; and respondents who presented at scientific meeting, 67% indicated that the KAFP has contributed to successfully reaching that goal.

Of the 27 alumni who responded to the survey, most indicated that their scientific productivity was enhanced through the assistance of the KAFP. Scientific productivity was identified as participation/attendance in conferences/scientific meetings, publication of articles,

competing for research funding, and enrollment in post-graduate studies of training. Overall, 51.8% of respondents acknowledge that the KAFP has helped them in contributing to public health practice and education in Saudi Arabia.

Table 3. Percentage of trainees who reached specific goal and KAFP's contribution to reaching goal

Indicated "yes" to successfully reaching goal	Indicated "yes" to KAFP's contribution in reaching goal n(%)
Experienced change in employment status (n=12)	7 (58.3)
Enrolled in post-graduate training after graduating (n=6)	5 (83.3)
Taught in public health courses (n=5)	4 (80)
Competed in research funding (n=2)	2 (100)
Published articles (n=5)	5 (100)
Presented at scientific meetings (n=6)	4 (66.7)

Discussion and Recommendations

This evaluation highlighted the impact of the KAFP on the career and professional development of alumni, as perceived by alumni themselves and KAFP staff. Overall, the program was perceived to contribute significantly to LIST: change in employment status, increased scientific productivity post graduation, and tailored services during their training at RSPH.

Qualitative Results

Perception of challenges and opportunities faced by the KAFP.

One of the perceived challenges of staff members that the KAFP currently faces is the lack of public health practice in Saudi Arabia. The field is relatively new, with no history of public health practice. May trained professionals in the health field are mainly in medicine, and have no formal training in public health. Older professionals who have decision-making powers about career trajectories in public health have been trained in various forms of medicine but not in public health. This adds a strain to the development of the public health workforce once the graduates go back to serve in their country. Due to the lack of knowledge of the field, their degree is not recognized the same way other advanced degrees are recognized, so the system of incentives such as promotion tracks and salary raises are not there for those who decide to pursue public health. This causes an obstacle for public health in general and the program, as it limits and discourages students from joining. Another challenge faced by trainees is the lack of strong language and analytical/quantitative skills compared to their student counterparts at RSPH. Most of the Fellows who have joined the program come from medical backgrounds, and their medical education system is structured in such a way that does not reinforce analytical, statistical and

critical thinking skills. This presents a challenge when selecting the department of their choice, as well as adjusting to the rigorous courses which require analytical and quantitative skills. For example, students interested in joining the Epidemiology and Biostatistics departments have admission challenges due to weak quantitative skills. With the additional academic support of the program, the fellows went through a steep learning curve but were able to circumvent these challenges. In addition to the analytical/quantitative challenges, trainees also face the barrier of English language skills. This is understandable given that it is their second language. The key challenge in this area is the immediate adjustments they have to make in such an academic setting as RSPH, as most are not fluent in English and are not used to writing academic and scientific reports due to the different academic culture they grew up to in Saudi Arabia. Language barriers are also intertwined with cultural barriers they face as they begin their studies in the U.S., manifesting in inadequate participation in group work in classes to poor communication with professors.

One of the main perceived opportunities or benefits by staff members is that the KAFP has tailored services to meet the needs of this specific population. Saudis are very relationship oriented and therefore, the program offered social/cultural services as an added opportunity to help with the fellows' academic and social adjustment to the U.S. and to Emory. The importance of tailoring the program to meet the unique needs of this population from cultural to academic has helped build a relationship with the KAFP staff, which created an environment for them to thrive. The ability to aid the students in becoming more conversant in public health is an important accomplishment that was mainly measured more informally, as it is hard to capture more formally, but more informally through their close interaction with KAFP staff. The ability

to be part of the program is similar to professionalization into public health, where by the end of the two years they become public health professionals and feel they are part of an international community of public health practitioners. They become more conversant in public health issues related to KSA and globally, due to the skill they build at Emory of seeing through the lens of writing and sharing their opinions about important public health issues to them and specifically pertaining to Saudi Arabia.

Perception of KAFP's role in enhancing scientific productivity of KA Fellows.

For the purpose of this study, scientific productivity was defined as participation in conferences, publishing articles, teaching courses in public health and research funding competition. Based on the staff's knowledge of student engagement in scientific activities post graduation, there are two main activities that the KAFP contributed to, to enhance their scientific productivity: (1) publishing articles and (2) participating in conferences. One of the biggest services that is encouraged and pushed for among the fellows is publication of their theses, under the direction and encouragement of Dr. Scott McNabb, Director of the KAFP. A collaboration was forged with the Journal of Epidemiology and Global Health to publish a special issue featuring the work of graduates; the issue was published in 2016 (http://www.sciencedirect.com/science/article/pii/S2210600615000349). This provides them the opportunity to gain an understanding of how to deal with the publishing world. Another major opportunity the KAFP provides is engagement in conferences. Many of the students attend conferences specifically during their stay in the U.S. Dr. McNabb also encourages trainees to participate in national and regional conferences, and when he personally participates in conferences in Saudi Arabia, he invites alumni to participate with him. One of the conferences,

an accomplishment of the program, is the first Alumni Reunion, which included a conference that involved discussion around public health, laws and policies and the future of this discipline in Saudi Arabia. The encouragement, especially the example set by the director is key to step into the scientific world of public health and be engaged in related activities.

Perception of KAFP support in comparison to school-wide support for international students.

The program provided the benefit of customizing the services to students based on their individual needs, which were personalized and customized to help meet their academic needs. The needs varied among the students, therefore, tailoring them to reach their needs in order to academically thrive was crucial to their success and ability to maintain good academic standing. The tailored services also offered the students the opportunity to build a close professional relationship with the KAFP team, especially the instructors. The program felt it had the obligation of getting to know the Fellows on a more personal level to build rapport, which in many cases is important for such a relationship-based culture. The KAFP team are a point contact for students and a main resource to help them or direct them to appropriate resources. The 1:12 ratio of fellows to KAFP instructors allowed more student-teacher focus, through one-on-one meetings and small group tutoring. This is difficult to be offered on a wider scale with more than 100 international students, where other staff may not have the time to provide personalized services. Building a close relationship created a stronger relationship and helped contribute to the success and adjustment of fellows. One point raised to the customized services is the hand-holding approach used by the KAFP team, without which students may not have thrived.

Another support service particular to the KAFP compared to the school is the social support services. As the tailored academic services, social support services were tailored as well, based on particular needs of fellows. The majority of Fellows are religiously observant and have cultural practices that are distinct, many of them live in the U.S. with their families and young children. Their family life is very important to them, and many times if they are facing personal troubles, it can take a toll on their academic performance. Therefore, the acculturation challenge they face is usually addressed by the KAFP, through cultural activities celebrated in the school, to personal one-on-one contact with KAFP staff serving as a reference point when needed.

Perception of collaboration of the KAFP with school-wide support to enhance and maintain good academic performance.

The perception of collaboration with the school in using existing resources varied, from over-reliance on KAFP for support since it is tailored, to lack of integration, and to being unsure about how the KAFP uses already existing resources. One of the perceived benefits shared by KAFP staff is tailoring support services in order to assist the students academically. Yet, with the increased tailoring of resources, many students did not use already existing resources, which could have been for a number of reasons. Based on staff experience, the students did not have the same academic background as their peers, in general, and therefore they were not able to lean on Emory's resources because of their need for additional resources and assistance. Integrating students into Rollins life has always been a consistent effort by the KAFP, and students were encouraged to take advantage of a number of academic resources in order to avoid duplication. However, it has been shown that students did not attend services offered by the school at the

level the program needed them to or were not retaining the information or not acting on the necessary information as needed. The level of attendance and/or retaining of important information provided by the school was mainly assessed by the ESL instructors informally through one-on-one meetings. Therefore, the level and type of services offered in the KAFP may have resulted in duplication of services which caused a lack of integration or disconnect with services already existing at Rollins. Collectively, most staff are unsure of how integrated the KAFP is in terms of using already existing services to enhance what is already present and customize needed services accordingly.

Quantitative Results

The main objective to collect data from the Alumni was to identify their professional development, contribution to the field of public health in Saudi Arabia, program's impact on increasing their scientific productivity. In addition, understanding their perception of the program's impact to help them in contributing to the field of public health in KSA, as well as their understanding of challenges and opportunities, were addressed.

The Alumni also addressed challenges they currently face as public health practitioners, and the common theme across respondents include lack of knowledge, understanding and expertise of public health in KSA, as well as lack of recognition of the degree and lack of acknowledgement by higher authorities inexperienced in the field. Those challenges result in a gap once they return back to enhance the public health workforce in KSA, as they are required to build the field from scratch.

Limitations

The limitations presented in this study are two-fold: (1) limitations in data collection and (2) lack of research in this field. The limitations in the qualitative data analysis include a low number of participants. The staff members who work very closely with the KA Fellows or the KAFP are limited in number due to the small size of the program. Although all informants invited to participate (n=5) in the study participated, the sample size is small due to the small scale of the program and its staff members. The limitations of the quantitative portion include low response rate, incomplete responses and missing data in some instances, and the self-reported nature of the survey and the possibility of incorrect or inaccurate information. In addition, the number of students in each cohort varied from 6 to 16, therefore, representation is different within each cohort. In addition, the findings of the survey vary greatly by year of graduation, since the alumni graduation dates ranged from 2013 to 2016, therefore, there is a three-year difference between the first cohort and the cohort who graduated more recently. Therefore, there may have not been a good representation of professional development and enhancement of scientific productivity for more recent graduates, as longer follow-up is needed to capture impact of program for them.

Another limitation is the lack of studies and evaluations already conducted in this field. There are a few evaluations of the KASP in the U.S., by Abouammoh et al., Taylor et al., and Alqahtani; yet the evaluations are limited in their population group (i.e., limited to specific program and/or University). The type of evaluation already conducted do not evaluate their impact post-graduation, but mainly covers their experience as KASP recipients. This does not give a frame of reference to the true impact on a larger scale in an effort to compare already existing efforts in this field.

Recommendations

Overall the program has proven to positively impact students and contributes to their professional development. Yet, with all programs, continuous evaluation as the program continues to grow and develop is important to maintain its standards. The recommendations listed below cover short, medium and long term operational strategies, which should be fulfilled at different stages.

Recommendations for the KAFP at Emory.

- Integration of services with already existing resources at Emory. Re-evaluate already existing resources at Rollins from academic to social support, and encourage KA Fellows to make use of them.
- Distinguish resources offered at RSPH and the KAFP through newly developed guides. This should be used to prepare incoming students for their arrival.

Recommendations for Post-Graduation Efforts and Workforce Development.

- Develop mentorship programs through an AHD approach that runs beyond graduation
- Create a one-year training program post MPH graduation providing fellows with opportunities to participate in research and other scholarly activities
- Develop mentor-mentee relationships among Alumni to help create career and professional development opportunities for new graduates
- Enhance alumni engagement (advocacy) and collaboration between RSPH and public health agencies and academic institutions in KSA

Conclusion

The KAFP exemplifies the concept of an AHD, and the purpose of this evaluation is to formally capture the impact of the program on professional development post graduation, as well as perceptions of fellows and program staff about whether the program is achieving its mission. The evaluation channeled viewpoints of both the Alumni and staff members to gain a cohesive and multi-perspective understanding of the impact of the program. Although the program has proven to be successful in certain areas, particularly in impacting the career and professional development of fellows, a set of improvement areas are recommended. Continuous evaluation efforts are key, internally within KAFP and across partnerships with the MoH and other agencies in Saudi Arabia, to fully accomplish the program's mission and create a stronger public health workforce in KSA.

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