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EDITORIAL

Commentary for Special Issue “Public health is new in Saudi Arabia. With this degree, I can go back and help to develop the field there.” — Naif Mohammed Alraihan, King Abdullah Fellow, Rollins School of Public Health, 2015



1. Overview

In May 2010, His Excellency Dr. Abdullah Al Rabeeah (previous) Minister of Health of the Kingdom of Saudi Arabia (KSA) visited Emory University, Rollins School of Public Health (RSPH) to sign a memorandum of understanding (MOU). This MOU contained elements of collaboration that included the challenge to train MoH staff in the sciences of public health practice (e.g., epidemiology, biostatistics, program monitoring and evaluation, public health surveillance).

What emerged that year was the King Abdullah Fellowship Program (KAFP); a joint effort of the Ministry of Health (MoH) of KSA, the Saudi Arabian Cultural Mission (SACM), and the RSPH. The KAFP was established to further strengthen the healthcare in KSA by boosting the public health capacity there, raising the quality of the professional workforce, and promoting mutually beneficial scientific collaboration.

Since its inception, the KAFP has grown in numbers and visibility, serving as a premier career development program in public health. To qualify for this 2-year scholarship, candidates are required to have worked four years at the MoH as physicians and be committed to returning to work in KSA after completion of their Master of Public Health (MPH)

degrees. By May 2015, 30 students will have graduated; 28 students are currently enrolled.

At RSPH, KA Fellows gain in-depth knowledge about core principles, theories, and best practices in public health. They have the benefit of RSPH's location adjacent to the Centers for Disease Control (CDC) headquarters, a proximity that provides our faculty and students with unparalleled opportunities for collaboration, joint research, teaching, continuing education and mentoring. At the same time, Fellows research issues of critical importance to the KSA healthcare landscape, completing at least 200 h of in-country fieldwork (called a practicum) and writing a research thesis.

The issues that students face during the acceptance, matriculation, and post-graduation phases of their MPH program point to the opportunities and challenges that exist for Saudis as both students studying in the United States and health professionals working to more firmly establish and expand the public health field currently taking shape in the KSA.

2. Admissions process

Initially, KAFP candidates are interviewed and screened in KSA by KAFP alumni who know what the students will face. After this, qualified

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candidates apply directly to Emory, just as any other student would. During the application phase, candidates are judged on their transcripts, statements of purpose, Graduate Record Examination (GRE), and Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) scores. Standardized test scores are a major component of admissions criteria at RSPH. Because the test scores of KAFP candidates have generally been lower than those of other applicants, there has been resistance to offer them admission, which has been a major challenge to the KAFP.

The KSA applicants do not “look good on paper”. There are a several reasons why KAFP applicant performance on these exams is low compared to other applicants. The GRE contains information based on North American cultural norms and therefore can be considered culturally biased [8]. Due to different cultures, languages, and educational systems, foreign students tend to score substantially lower than Americans [7]. The use of topics such as sports, literature, and art in questions may make it more difficult for someone of a different cultural background to answer correctly within the allotted time period, no matter how intelligent or proficient in English they are. Furthermore, it was determined that GRE scores under-predicted grades received by older students and over-predicted the graduate ability of younger students [5]. This observation could be an

explanation for the situation of KA Fellows, who, as mid-career professionals, have been able to outperform expectations drawn from their GRE results (Fig. 1). Although their performance on the GRE may be lower than that of other applicants, their performance in the actual MPH program is commensurate with that of other students (see Tables 1–6).

While scores on both the TOEFL and IELTS exams are reliable indicators of English proficiency, it should be noted that correlations are negligible between TOEFL and GPA [4]. This is because above a certain level of English proficiency, other factors such as previous experience with subject matter, determination, academic aptitude, cultural awareness, and financial security have greater influence on academic success [6]. Medical training and work experience provide KA Fellows with both background knowledge and vocabularies well adapted for common class topics. In addition, KA Fellows, like any other students, have the ability to preview and review course material, record lectures, use dictionaries, and ask questions in and out of class. These facts allow KA Fellows to overcome any possible English weakness. Another factor unique to KA Fellows, which may explain their ability to succeed beyond what their standardized test scores predict, is the academic support they receive. KA Fellows receive supplemental instruction and editing assistance from full-time English as a Second Language (ESL) instructors as well as from tutors

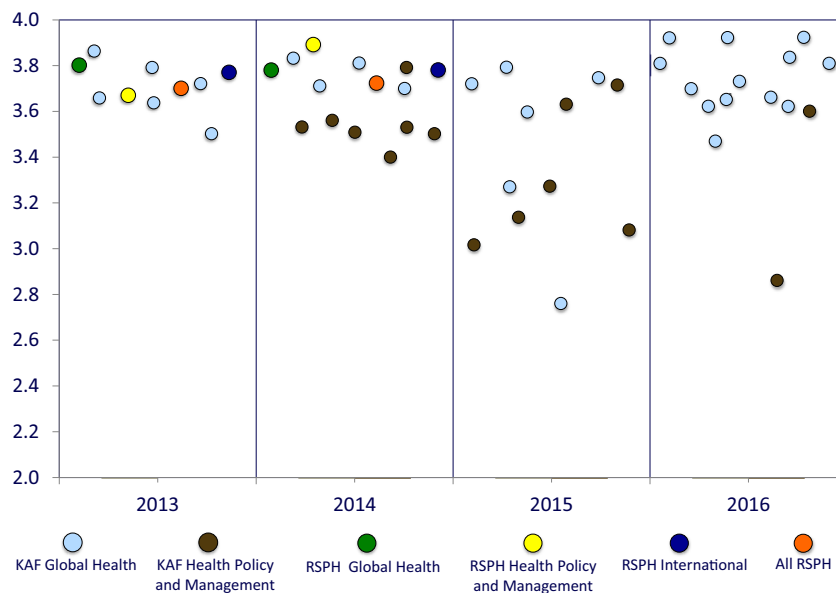


Fig. 1 Overall grade point averages of King Abdullah Fellows compared to Rollins School of Public Health (RSPH) graduates, by Department and Graduating Class, 2015–2016.

Table 1 Overall grade point averages of King Abdullah Fellows, Hubert Department of Global Health, Rollins School of Public Health, 2013–2016.

Class of 2013	3.86	Class of 2014	3.83	Class of 2015	3.79
	3.79		3.81		3.75
	3.72		3.71		3.72
	3.70		3.70		3.60
	3.65				3.27
	3.50				2.76
Class of 2016	1	3.92	8	3.70	
	2	3.92	9	3.66	
	3	3.92	10	3.65	
	4	3.84	11	3.62	
	5	3.81	12	3.62	
	6	3.81	13	3.47	
	7	3.73			

Table 2 Overall grade point averages of King Abdullah Fellows, Health Policy and Management, Rollins School of Public Health, 2014–2016.

Class of 2014	3.79	Class of 2015	3.72
	3.56		3.63
	3.53		3.27
	3.53		3.14
	3.51		3.12
	3.40		3.08
Class of 2016			3.60
			2.86

in biostatistics, epidemiology, data analysis and accounting. KA Fellows also receive cultural awareness training upon arrival.

On the Saudi side, once they have been accepted, MoH employees often have a difficult time securing leave from their jobs, which often delays their arrival. Additionally, Ramadan, a holy month for Muslims, has occurred over the summer

in recent years, resulting in delays in public and government sectors, and also affecting students’ arrival [9]. Students routinely miss orientation on account of these issues. After they have received approval for leave from the MoH and been accepted to Emory, the Ministry of Civil Service must provide the final clearance for their departure. Yearly, students experience significant delays in this process, which impedes their ability to adjust to life in a new country in time to start their first semester without stress. Sometimes they arrive after classes begin.

3. Experiences at RSPH

Past and current Fellows have studied in the Global Health and Health Policy and Management (HPM) departments, concentrating specifically in Infectious Disease, Community Health, Public Nutrition, Health Policy, and Health Management. In these departments, KA Fellows have thrived. Fig. 1 shows that KA Fellows earned GPAs of

Table 3 Thesis topics of King Abdullah Fellows, 2013 Cohort.

Hisham Bashawri	Sleepless in Makkah City, Saudi Arabia: prevalence and risk factors of insomnia and the variations in sleep quality among visitors of Primary Health Care Centers
Mohammad Al Khalawi	Evaluation of Tuberculosis public health surveillance, Al-Madinah Province, Kingdom of Saudi Arabia, 2012
Fawaz Al Rasheedi	Measles trends in the Kingdom of Saudi Arabia, 2002–2012
Fatima Al Slail	A descriptive study of cardiovascular risk profiles of adults with type 2 diabetes from Hospitals in Urban Saudi Arabia over a five year period (2008–2012), Riyadh, Saudi Arabia
Osama Mohammed	Dengue fever in Makkah, Kingdom of Saudi Arabia, 2008–2012
Saud Alzahrani	Analyses of foodborne disease outbreaks during Hajj, Makkah, Kingdom of Saudi Arabia, 2009–2011

Table 4 Thesis topics of King Abdullah Fellows, 2014 Cohort.

Hamoud Al Garni	Trends of reported cases of Hepatitis b virus infection, Kingdom of Saudi Arabia, 2009–2013
Rana Al Helali	Evaluation of home respiratory therapy delivered to patients in the Ministry of Health's Home Medical Program (HMP) and Administered through the Madinah HMP Center, Kingdom of Saudi Arabia, 2013
Abdullah Alshahrani	Trends in the reported cases of Hepatitis c virus infection, Ministry of Health, Kingdom of Saudi Arabia, 2008–2012
Abdulaziz Aloufi	Trends of reported human cases of Brucellosis, Kingdom of Saudi Arabia, 2004–2012

Table 5 Thesis topics of King Abdullah Fellows, 2015 Cohort.

Alanoud Alsaari	Meningitis in KSA 1994–2014: secondary data analysis
Fahad Almutairi	Tuberculosis in KSA 2005–2013
Hassan Aldosari	Distribution and determinants of MERS COV in KSA 2012–2015
Mai Jamdar	Malaria in KSA 2002–2012
Marei Alrouaili	Colorectal cancer in KSA: incidence and determinants 2001–2010

Table 6 Minimum required English as a second language test scores, by Department, Rollins School of Public Health, 2015.

Department	TOEFL (IELTS)
Global Health	80 (6.5)
Health Policy and Management	80 (6.5)
Behavior Sciences and Health Education	60 (6)
Epidemiology	100 (7)
Biostatistics and Bioinformatics	85 (6.5)
Environmental Health	80 (6.5)

≥3.5 out of 4. The average GPA of each graduating class of KA Fellows is comparable with the average overall GPAs of their respective department, the average overall GPA of international students, and the average overall GPA of the entire school (Fig. 2). In light of the strength of their track records and the immediate and growing public health needs in KSA, it is important that KA Fellows be able to study in all departments of the school, acquiring deep skills in other critical areas like epidemiology, biostatistics, environmental health, and behavioral science and health education.

Students from KSA bring special assets to the school and contend with particular challenges. They have excelled academically (Fig. 1) and drawn from their experiences as health professionals in KSA. They have acted as cultural ambassadors. In 2013, a female physician KA Fellow was invited and delivered the school-wide commencement speech at graduation (www.youtube.com/watch?v=oclsVbFpwnE).

Her speech now has >16,000 downloads. They have been active outside of the classroom too, publishing editorials in the student newspaper and founding the Saudi Students Association, the first such organization on Emory's campus.

The challenges KA Fellows face while studying here are several. English is their second language, and most have not had a rigorous formal English language education, so participating in group projects and writing papers can be a struggle at first. They also lack exposure to higher-level math, which they do not study in medical school and may not have taken since 10th grade. In addition to these academic issues, there are personal challenges. KA Fellows generally have larger family sizes than other students, and along with that, increased family pressures (taking care of small children, dealing with illnesses) that take them away from their studies. Additionally, the cultural and religious atmospheres of KSA and the United States are vastly different, and adjusting to life in the United States (while also helping family members adjust) can be difficult. Lastly, these physicians must live under the financial strain of earning only half of their salaries in an expensive city.

4. Experience returning to KSA

After graduating, KA Fellows return to KSA with a global orientation to public health, highly motivated to address KSA's own priority health issues. According to a survey of KAFP alumni, the majority

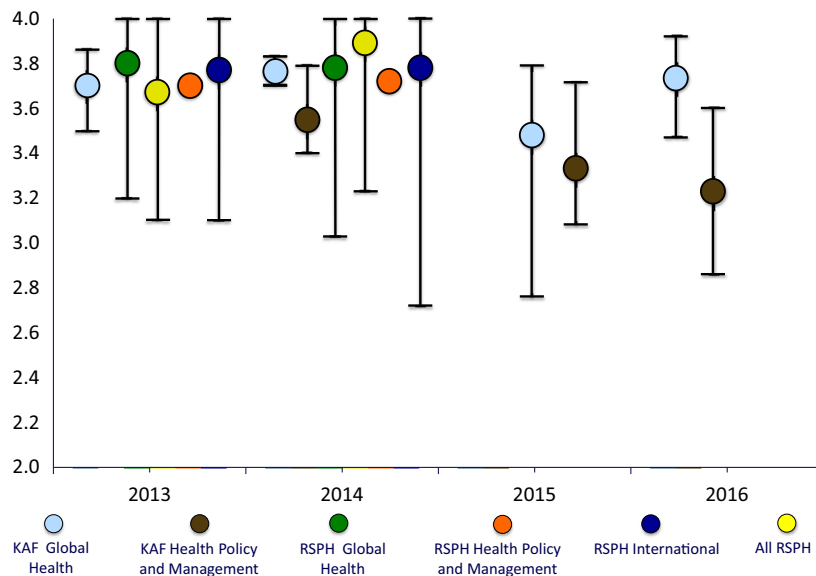


Fig. 2 Overall mean and range grade point averages of King Abdullah Fellows (KAF) compared to Rollins School of Public Health (RSPH) graduates, by Department and Graduating Class, 2015–2016.

of graduates considered earning their MPH at Emory to have been a positive and transformational educational experience. Half of the survey respondents indicated that their positions had changed and responsibilities grown since graduating.

Today, KAFP alumni are working on the front lines of public health: leading the MERS-CoV surveillance effort in Madinah, directing the National Diabetes Prevention and Control Program, heading up the Health Policy department in Eastern Province, supervising training in Makkah for the Center for Mass Gathering Medicine, coordinating quality control in the Infectious Disease department, and studying for PhDs and board certification in Community Medicine.

One of the main hurdles upon their return is the lack of a clear career path. Public health as a field is still new in KSA. The late King Abdullah invested tremendously in the health sector and specifically the public health sector. Current developments in KSA's public health sector such as the new Center for Command and Control (established with support from the CDC) and the Center for Mass Gathering Medicine (with support from WHO) exemplify the kinds of initiatives 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.

The recent growth and transformation of the field in some ways mirrors that of the public health field's emergence in the United States. In the first

part of the 20th century, successes that accompanied the implementation of preventive measures inspired stronger governmental and societal involvement in public health. In 1935, through the Social Security Act, the government allocated funding to support public health services and workforce training (Future of Health). In 1946, the federal government established The Centers for Disease Control and Prevention (CDC), which is now at the forefront of U.S. public health efforts to prevent and control infections and chronic diseases, injuries, workplaces hazards, disabilities, and environmental health threats [2]. The CDC then formed the Epidemic Intelligence Service (EIS) in 1951, an applied epidemiology training and service program through which officers conduct epidemiologic investigations and public health surveillance within and outside of the United States [3]. Since then, government organizations and universities across the United States have instituted preventive medicine residencies and fellowships, where health professionals gain hands-on experience in public health agencies at the federal, state, and local levels [1].

As RSPH prepares to enroll the fifth cohort of Fellows in 2015, we are confident that we are educating some of the world's most dedicated and talented public health leaders, who are returning to KSA well equipped to provide leadership and innovation for addressing the major causes of illness and death in the Kingdom.

5. Recommendations

- Increased involvement of the KA alumni group in selection and screening of candidates.
- Establish career paths for public health professionals, including graduates of MPH programs.
- Board certification for public health (or preventative medicine) programs.
- Streamlined process between MoH and Civil Service so that students can travel here earlier to prepare for classes.

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Scott J.N. McNabb

*Rollins School of Public Health, Emory University,
Atlanta, GA, USA*

E-mail address: scottjnmcnabb@emory.edu

Abdullah M. Assiri

*Ministry of Health, Saudi Arabia
Rollins School of Public Health, Emory University,
Atlanta, GA, USA*

Samar Alsaggaf

*Medical and Health Science Programs, Saudi Arabia
Cultural Mission, Saudi Arabia
George Washington University, USA*

Ziad A. Memish

*College of Medicine, Alfaisal University, Riyadh,
Saudi Arabia*

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