Using Social Marketing to Promote COVID-19 Vaccination Uptake

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Using Social Marketing to Promote COVID-19 Vaccination Uptake: Lessons from the "AUBe Vaccinated" Campaign

Background/justification of the problem

The Lebanese Ministry of Public Health, informed by the National Coordinating Committee, in partnership with numerous international organizations launched a National Deployment and Vaccination Plan for COVID-19 Vaccines in early 2021. However, the plan was not followed by a comprehensive, national-level strategy to promote vaccine uptake while ensuring appropriate supply. As of March 2021, only about 6% of the population residing in Lebanon had been vaccinated. Some early reports indicated that 33% of the population was vaccine-favorable (Internews, 2021), with some non-representative surveys showing larger acceptance among university students (Hamdan et al., 2021).

In April 2021, the American University of Beirut (AUB) spearheaded other private institutions in Lebanon and committed to privately purchasing and administering 90,000 doses of Pfizer BioNTech to cover 45,000 individuals including students, faculty, staff, and vulnerable populations who had no access to vaccines (AUB, 2021). An institution-wide working group was formed to manage the vaccination drive (the "Vax-WG" committee), including representatives from the AUB Medical Center, Pharmacy, Registrar, Office of Student Affairs, Human Resources, Communication Department, Security Office, Information Technology, and members of the Faculty of Nursing, Medicine, and Health Sciences.

The Vax-WG committee leveraged our expertise in health and risk communication and social marketing to develop an overarching social marketing strategy. In this paper, we present the social marketing strategy and reflect on its implementation, communication strategy, and the results obtained until the end of 2021. At the beginning of 2022, AUB had access to new vaccines and started offering third doses of Pfizer and Moderna (Spikevax), which were not part of the initial communication strategy.

Aims and Objectives

According to AUB leadership, the goal of the campaign was to vaccinate at least 95% of the AUB community to build "herd immunity" and allow a safe return to on-campus learning by the start of the new academic year 2021-22 (i.e., last week of August 2021). Following a nationwide containment strategy, access to campus would have been restricted to vaccinated individuals.

Based on our market analysis and formative research, we defined two main strategic goals: 1) facilitate access to vaccines and 2) create vaccine demand. Specific behavioral objectives were to 1) *register* for the vaccine using the Ministry of Public Health COVAX platform – the only way for anyone residing in Lebanon to get vaccinated; and 2) *get* at least one dose of the vaccine to access campus.

Target market profile

According to the official statistics, in March 2021, the core AUB community included 15,369 individuals, including 1,324 faculty members, 3,285 staff, and 9,495 students (7,794 undergraduate and 1,701 graduate). The extended community encompassed dependents of AUB faculty, staff, and students, alumni, their close and extended family, and vulnerable populations reached through academic partnerships, volunteering, and humanitarian action. In April 2021, AUB committed to vaccinating 45,000 individuals by purchasing 90,000 doses of the Pfizer vaccine.

The campaign initially focused on the core AUB community, which was segmented according to the type of membership (faculty, staff, and students), and the need to access campus as follows: 1) those who needed to access the campus during the summer semester (approximately 4,000+ students and 1,000+ staff); 2)

those who needed to access campus in the Fall semester (9,400+ students and 4,500+ staff). The third group, including recent graduates, long-time alumni, dependents, and other vulnerable populations, followed the first two priority groups.

Another segmentation variable we considered in the strategy was the intention to get vaccinated. Based on the results of our formative research (described below), between June and July, about a third of the estimated AUB community was "in favor of the vaccine" and expressed their intention to get vaccinated as soon as possible. In line with strategic goal #1, we prioritized those in favor of the vaccine, as they were ready and willing to adopt the desired behavior. The "vaccine-hesitant" were targeted as part of strategic goal #2 (demand creation).

Systematic Planning and Citizen Orientation

In developing the vaccination campaign, we followed a 10-step social marketing process adapted to COVID-19 vaccine uptake, outlined in a seminal paper by French and colleagues (French et al., 2020), as depicted in Figure 1 below.

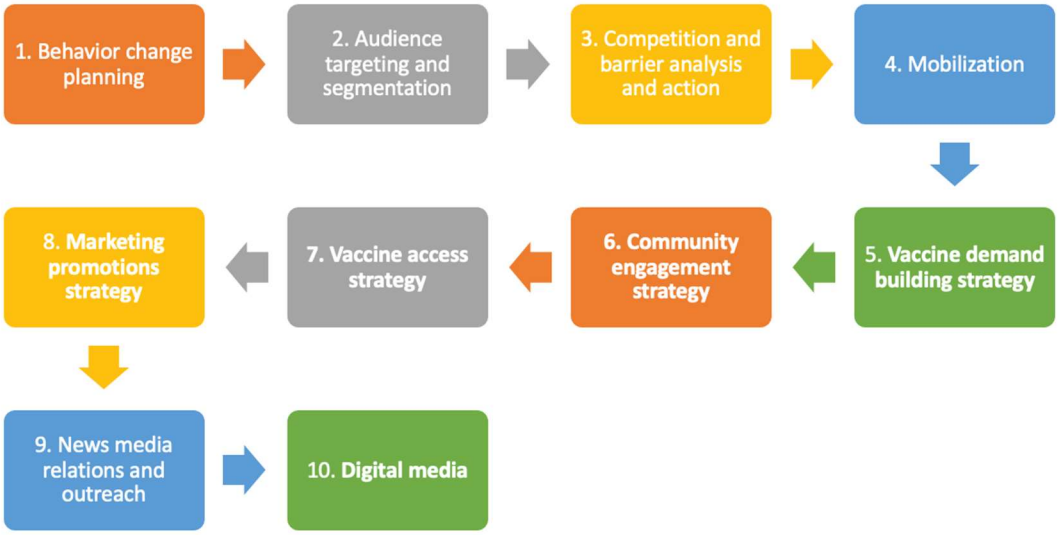

Figure 1. Guidelines for developing a pre-emptive COVID-19 vaccination uptake strategy (adapted from French et al. 2020)

We used the social marketing framework as it has been used to address vaccine hesitancy, particularly in child immunization programs, in various contexts, countries, and settings (Cates et al., 2014; Ling et al., 1992; Nowak et al., 2015; Opel et al., 2009). According to French and Evans (2021), exposure to a COVID-19 vaccine campaign produces changes in awareness, knowledge, attitude, and beliefs, which directly affect the intention to vaccinate, which in turn has a direct effect on the vaccination uptake. At the same time, social marketing-based campaigns aimed at improving vaccine uptake should account for the perceived social influences and structural and economic influences of behavior (Evans and French, 2021). Our strategy was based on formative research, used to gain insight from the target population about the intention and beliefs about the vaccine, and on a careful situation analysis based on our familiarity with the context we operated.

Steps 1-3 – Strategic planning based on formative research: Between June 10 and July 30, 2021, we conducted a web-based survey of the AUB community to assess the vaccination status, intention to get the vaccine, and the reasons for delaying vaccination, and preferred communication channels.

The intention to get a vaccine was assessed through a 7-point likelihood scale (7=definitely yes; 1=definitely not) as a response to the question "How likely would you get the Pfizer BioNTech if this was offered to you next week?", as done in recent studies (Zhang et al., 2022, 2021). In line with the literature on vaccine hesitancy (e.g., Hamdan et al., 2021; Nowak et al., 2015), we defined three groups: those who responded "definitely," "very likely," or "somewhat likely" were considered "in favor of vaccine"; those who answered "somewhat unlikely," "very unlikely," or "unsure" were considered "hesitant"; those who responded "definitely not" were considered "vaccine-resistant."

The survey was completed by 5,664 individuals, mostly students (4,249/5,664, 75%), staff (694/5,664, 12%), and faculty members (450/5,664, 8%). Most of the sample was unvaccinated (4,959/5,664, 88%) and in favor of the vaccine (4,782/4,959, 96%); "vaccine-hesitant" were 2%, and "vaccine-resistant" were 1%. The main reasons for delaying the vaccine were *concerns about the Pfizer vaccine* (side effects, efficacy, safety) (292/601, 49%), *logistical issues*, i.e., not knowing how to schedule an appointment, time conflicts (119/601, 20%), and *current infection* (81/601, 13%), followed by not being in the country (54/601, 9%), and mistrust in the Ministry of Public Health (23/601, 4%). The preferred communication channels were emails, followed by text messages/WhatsApp and social media.

Based on the formative research results, we decided to start the campaign by facilitating access to vaccines for those "in favor" and then creating demand for the "vaccine-hesitant." We strived to simplify the vaccination registration and administration process by explaining how to do it and making a booking system. The second was to create demand by addressing the target audience's concerns, particularly the issues of safety, efficacy, and side effects.

Steps 4-7 – Mobilization and vaccine administration: While the formative research activities were conducted, we mobilized the Immunization Center and coordinated with the Ministry of Health, responsible for supplying the vaccines. This was because there were limitations in vaccine availability and capacity. While the Immunization Center could administer up to 2,000 vaccines/day as a walk-in service, the Ministry could not provide more than 500-800 doses/day for both the AUB and the external community.

In the first two weeks of the campaign, the Immunization Center could accommodate only walk-in vaccinations. Thousands of AUB community members visited the Immunization Center on the same day following the initial email the Vax-WG sent to outline the strategy. This resulted in long queues and many community members expressing their discontent to Vax-WG members and volunteers. Listening to this feedback urged us to create a Microsoft Bookings system to absorb the high demand. At the same time, we decided to send emails using a more diluted, segmented approach. The Registrar and the HR Office provided, respectively lists of students and staff who needed to access campus because of summer work activities. Social media messages were not used to restrict the numbers.

Steps 8-10 – Communication strategy: We developed a coordinated communication strategy leveraging the institutional communication channels to maximize the reach of the messages among the core AUB and external communities, following the strategic goals.

Competition Analysis

Our analysis was based on the information collected through the formative survey. Factors hampering vaccine uptake included beliefs about vaccine safety and efficacy based on traditional and social media misinformation. Low vaccine uptake in the country was fueled by a small but vocal anti-vaccine movement fueled by inaccurate and sensationalistic media reporting and social media disinformation. In addition to the pandemic, Lebanon was (and still is) vexed by multifaceted social, political, and economic crises, with the scarcity of fuel, electricity, food, and the deterioration of the Lebanese currency, which made the vaccines a low priority issue. Also, another monetary barrier to the behavior was the spiraling cost of fuel, which made it difficult for some members of the AUB community to travel to Beirut to get their shot.

The Social Offering and Intervention Mix

The social offering of this campaign was the Pfizer BioNTech vaccine (*product*) which was offered for free (*price*) to all AUB community members. The place was the AUB Immunization center, located in the heart of Ras Beirut, in the northwest part of the Lebanese capital city.

The promotion strategy included the following elements:

- **Branding:** The Office of Communications created a logo and slogan for the "AUBe Vaccinated" campaign (Figure 2), used in all communication materials, encompassing the campaign website, emails, booking system, and roll-up available on campus entrances.

Figure 2. Campaign logo and slogan

- **Email invitations and updates:** Based on formative research insight, we used emails to inform the AUB community about the strategy, explain the logistics (how, when, and where to get the shot), and invite them to visit the Immunization Center. The Vax-WG used weekly (or more frequent) communications to the entire AUB community. The strategy was launched during the third week of June 2021.
- **Booking system:** Piloted and launched after the first two weeks, a booking system was developed using Microsoft Bookings. We created different pages for first and second-dose appointments. The booking system was piloted for two weeks and introduced at the end of July 2021.
- **Website:** A campaign website was created at the end of July to keep an archive of all email communications, and to provide more information about the logistics (how, when, and where to get the shot), and resources addressing the common concerns about safety and efficacy concerns with frequently asked questions and pages highlighting the vaccine benefits. The website included also links to book the vaccination appointments and a summary of the overarching strategy.
- **Digital media:** Even though the AUB community expressed preference towards emails, to be more inclusive of segments of the community who were not active email users, we summarized the content of the emails into posts diffused on the institutional accounts on Twitter, Facebook, Instagram, and invited users to diffuse messages among the informal social networks on WhatsApp. Social Media messages were written in English and Arabic for wider outreach.

Monitoring and evaluation: We used different sources and types of data to monitor and evaluate the process and impact of our campaign. We listened to the community by analyzing unsolicited and unprompted feedback provided via email, social media, and informal personal communications with students and colleagues. We monitored the clicks on the booking system pages to understand the level of demand. We tracked the number of vaccinations provided by the Immunization Center. We used all this information to refine the strategic decisions and adjust when necessary.

Results and Learning

It took about four weeks to absorb the initial demand, including about 6,000+ members of the community who needed to access campus during the summer term. The walk-in system, fueled by controlled email invitations, allowed us to manage the high demand until the booking system was launched at (the end of July) when the Immunization Center could accommodate about 2,000-3,000 appointments/week.

The week before the start of the new academic year (the last week of August 2021), the Immunization Center increased its capacity, administering more than 8,300 vaccines/week (see Figure 3 below), reaching about 75% of the AUB community.

Then, we focused on the demand creation strategy, resorting to biweekly social media posts aimed at promoting the booking pages in addition to more direct email invitations and reminders. The messages we diffused aimed at changing the perceived social norms (Burchell et al., 2013) by demonstrating that “more than 75% of the community has already engaged in the behavior”. Messages also highlighted the benefits of the vaccine (i.e., returning to campus, protecting each other) and the costs of the alternative behavior (inability to access campus) while respecting individuals’ voluntary decisions. The email and social media posts generated 44,000 clicks on the link, promoting the first dose of the vaccine between August 20 and September 17, 2021.

Considering that about 3,000 students registered for courses in the Fall semester, the Provost and the Registrar decided to restrict access to Moodle, the institutional learning management system, to those who did not provide a vaccination certificate or registration for a vaccination appointment. This policy proved to be a ‘shove’ tactic that motivated the vaccine-hesitant, allowing the campaign to attain its target by reaching 98% of the core AUB community by the second week of September 2021.

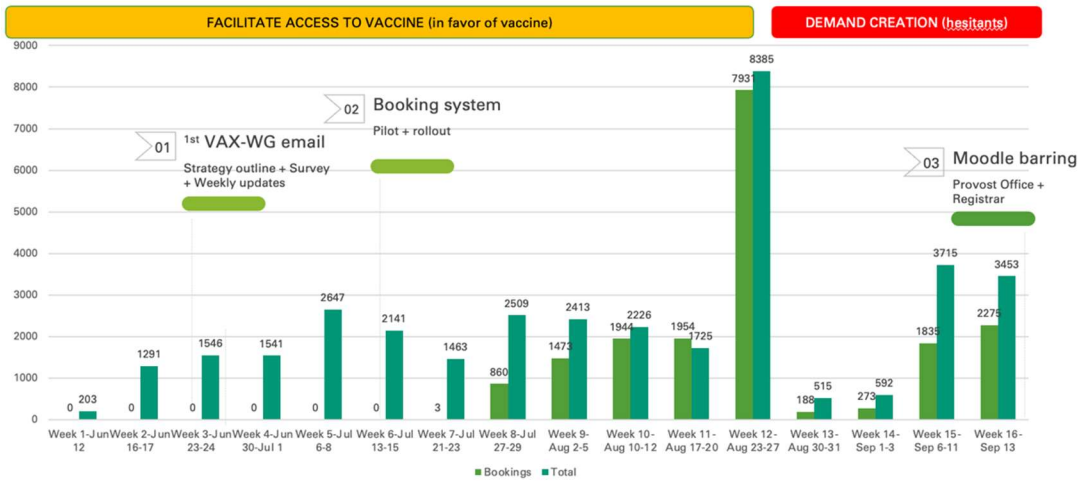

Figure 3. Number of vaccines administered and bookings, and campaign milestones

This campaign taught us numerous lessons. First, an effective and efficient vaccination drive needs to rely on a joint inter-departmental collaboration; without the coordination of the Vax-WG committee, the campaign could not be implemented, considering the external influences and the limited resources available. Second, social listening and community engagement are fundamental tools in any social marketing and risk communication campaign (Sommariva et al., 2021). They allow for the detection of problems and identify potential solutions. Third, we learned to be flexible and to adapt the strategy to the circumstances, especially when considering structural and economic influences (Evans and French, 2021). Fourth, combine different approaches and tactics to accommodate the needs and wants of the target population, as one size does not fit all.

Conclusions and Recommendations

Social marketing was a valuable framework to plan, implement, and evaluate a COVID-19 vaccination drive targeting a university community in very low resource settings. This approach and methodology could be used to plan similar campaigns in other similar contexts, in Lebanon, or abroad. To effectively implement and scale up a similar campaign, a multidisciplinary, inter-departmental, and intra-organizational entity (e.g., a working group or committee) should be created. Clear roles and responsibilities should be shared among the members and organizations participating in a vaccination drive to maximize efficiency and effectiveness. Finally, social listening and community engagement should be carefully embedded in the social marketing planning process to maximize vaccine uptake.

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