



IMMUNIZATION THROUGH THE LENS OF A SOCIAL MARKETER: A LITERATURE REVIEW

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ABSTRACT Social marketing may be effective way to promote immunization in India by improving awareness levels and service delivery mechanisms. Key to its success is identification of real barriers and concerns, that negatively affect immunization's demand. Strategies to apply 4Ps of marketing and solve the identified problems may not be successful if those are not curated depending on context, demography and geography.

KEYWORDS : Immunization, Social marketing, Marketing mix, Partially immunized, Vaccine awareness

INTRODUCTION

Only 65.3% of total Indian children between the age of 12-23 months were reported fully immunized in 2013 [1], leaving the rest (6.6% completely un-immunized and 28.1% partially immunized) vulnerable to diseases that are easily preventable. However, the bigger issue is the tepid Y-o-Y growth of immunization rates in India despite the state operating a Universal Immunization Program (UIP), which covers 10 diseases and is 'free of cost'. As per a WHO report in the year 2015, following are the key reasons for children to be left out partially immunized or completely un-immunized in India:

- Awareness and information gap (33%);
- AEFI apprehension (32%);
- Child travelling (13%);
- Operational gap (12%); and
- Others (10%).

To achieve high immunization rate, it is imperative to boost the demand for immunization services by making these known, available and accessible to all. This paper is intended to view the problems cited above from a standpoint of Social Marketing, a methodology that deploys the proven concepts of commercial sector to cause change in socially important behaviors. An attempt has been made to suggest potential solutions using a structured and tailored approach that is inspired by commercial marketing techniques.

METHODOLOGY

This paper is a review of literature available about social marketing's application in immunization promotion campaigns, however, the search was expanded to cover literature relating to social marketing's application in public health, immunization promotion methodologies and overcoming of vaccine hesitancy. A special focus was laid at collecting literature relating to low income and emerging economies. This paper is not meant to be an exhaustive review of literature on the above-mentioned topics, but an attempt was made to perform a thorough search of published material and identify most relevant articles.

Following 18 keywords were used in Google Scholar: social marketing immunization, social marketing for vaccination, social marketing healthcare, social marketing applications, vaccine hesitancy India, immunization promotion, social marketing immunization low income economies, effectiveness of vaccination promotion, effectiveness of immunization promotion, immunization promotion Africa, promote immunization campaigns, immunization program promotion, vaccine hesitancy survey, vaccine hesitation India, social marketing examples in healthcare, social marketing examples Africa, immunization promotion ideas Africa and vaccination marketing Africa. Majority of articles retrieved were from the following databases: PubMed (US National Library of Medicine National Institutes of Health) and SAGE Working Group on Immunization; and only the articles published in year 1995 and after were considered. Further, additional literature was identified from references and bibliography. Finally, 19 articles were reviewed that were relevant to the topic of this paper.

DISCUSSION

Social marketing has been effective to improve immunization rates by raising awareness and changing people's behavior in various parts

of the world, which faced challenges like those faced in India. Immunization promotion in Pakistan, targeted towards low-literate population, helped increase vaccination completion rates of DPT-3/Hepatitis B by 39%. In Mexico, strategically tailored communication approach utilizing social marketing concepts proved effective in encouraging parents to get their children vaccinated [7]. In rural counties of North Carolina in United States, coverage of Human Papillomavirus (HPV) vaccination increased by 2% within six months of social marketing initiative, which helped to raise awareness and reduce barriers to access the service [11]. In an urban low-income population group in US, targeted social marketing campaign motivated parents to act and get their children vaccinated [10]. For whom it didn't have that great an impact, it often ended with an act of parents reaching out to a doctor and understanding immunization status of their children. Successes such as the above-mentioned show the potential of social marketing techniques to improve immunization coverage in rural, urban and under served areas of the world.

Takeaway:

Successes of social marketing in other parts of the world demonstrate its potential to be successful in India. Often, social marketing is perceived just to be a promotional campaign. However, it encompasses much more. It is "a process that applies marketing principles and techniques to create, communicate, and deliver value in order to influence target audience behaviors that benefit society (public health, safety, the environment, and communities) as well as the target audience"- Philip Kotler, Nancy Lee, and Michael Rothschild, 2006. Social marketing deploys techniques like segmentation, targeting & positioning, and marketing mix (4Ps: Product, Price, Place and Promotion) to build a holistic strategy to raise awareness and improve service delivery. Steps to develop a social marketing strategy include: formative research and planning, strategy development, pre-testing, evaluation and implementation [8]. This paper may cover only the first two stages of social marketing strategy.

Formative Research and Planning: Situation Analysis

World Health Organization (WHO), in the year 2015, identified awareness and information gap (33%), AEFI apprehension (32%), child travelling (13%) and operational gap (12%) as the key reasons for children to be left out partially immunized or completely un-immunized in India. However, due to the diversity of socio-cultural patterns in India, these reasons may acquire different shades in different contexts/geographies. Therefore, it would be useful to dig deep in these concerns to identify context-specific causal factors behind lack of immunization [2].

Qualitative research, using techniques such as questionnaires, focus group discussions and depth interviews with parents, may help understand parent's motivations, beliefs, concerns, apprehensions and most importantly the influencers regarding immunization habits [2, 3, 10, 13]. These exercises may also be carried out with Frontline Health Workers (FLW) and other medical practitioners to capture their opinion about factors causing lack of immunization.

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Conduct qualitative research to identify context/geography-specific issues causing lack of immunization. Research like above when carried out in Nigeria revealed context-specific concerns: lack of trust in vaccine, long waiting time at healthcare facility, long walking distance to health centers and inadequate information provided by FLWs [6]. Similarly, in research conducted as part of 'Immunize Australia' program, it was learnt that many parents did not realize the importance of timely vaccination and there was a lack of belief in the perceived seriousness of certain Vaccine Preventable Diseases (VPD) [3]. To promote child influenza vaccine, focus group discussions were conducted with parents, teenagers, pediatric health-care staff and immunization experts to identify potential barriers and facilitators [3]. Thus, qualitative research highlighted unfavorable behaviors/attitudes that require to be altered and identified operational deficiencies in service delivery.

To conduct an effective research in an Indian setting, it must be ensured that respondents are asked to discuss about all aspects of product, price, place, promotion and people, such as (not an exhaustive list):

- how they perceive immunization (product) and its benefits;
- what do they forego to get their children vaccinated (price);
- how accessible they feel are current immunization centers (place); and
- how do they come to know about immunization related information (promotion); and
- what is their perception about FLWs and other medical professionals (people).

With 28.1% children between the age of 12-23 months partially-immunized, probing would be required to get the respondent speak about real issues that lead to drop-outs. Further, research in India may be constituted keeping in mind cultural, religious, geographical, gender and status barriers. Moreover, it may cover all relevant sects of the population to ensure representativeness. Identification of influencers through these discussions must be treated as a crucial activity as it would aid in developing the communication strategy for immunization campaigns.

Formative Research and Planning: Segmentation and Identification of Target Market

Target market is "a well-defined set of customers whose needs the organization plans to satisfy. Target market may be the total focus of the organization or it may be viewed as only a starting point for later expansion to other market segments. There are many groups and you probably won't target them all"- Philip Kotler. For a social marketer, it is crucial that resources are utilized to cause maximum impact. Tobacco cessation program, a social marketing based initiative by Washington State Department of Health in the year 2000, utilized resources to alter behavior of only those who had some desire to quit smoking (nearly 70% of the total smoking population) [5, 6]. The remaining 30% were not targeted at all. However, a similar approach may not be effective in marketing immunization, as immunization's benefit is realized only when entire community adopts it.

Takeaway:

Knowledge, Attitudes and Behavior (KAB) is an effective criterion to segment people into target groups.

Hence, all parents form the target market for immunization, as they decide whether to get their children immunized or otherwise [7]. However, for prudent resource utilization, social marketing efforts in immunization would focus to alter behavior of only those parents, whose children are left partially immunized or un-immunized. Since reasons behind lack of immunization are context/geography specific, it may be ineffective to deploy 'One size fits all' strategy, indicating a need for segmenting the market based on based on geography, demographics, religious beliefs, behaviors, influencers, etc. and develop targeted communication strategy for each group [2]. National Cancer Institute's 'five a day for a better health' campaign developed targeted messages for Hispanic population to overcome a cultural barrier that prevented them from eating locally available produce [6]. Research has proven that segmentation based on Knowledge, Attitudes and Behavior (KAB) is effective in creating population groups, that may be targeted using social marketing [3]. Following are those population groups (may not be relevant in all situations) [8]:

- **The poorly reached:** Those who limited access to services, and in the case of more integrated populations, factors related to convenience of the service;
- **The unconcerned:** Those who consider immunization a low priority and do not perceive Vaccine Preventable Diseases as a real risk;
- **The active resisters:** Those with personal, cultural and religious beliefs which discourage vaccination; and
- **The hesitant:** Those who have concerns about safety of vaccination, and are unsure about needs, procedures and timing of immunization.

However, in the process of customer segmentation in India, several other groups may emerge, such as (not an exhaustive list):

- **The uninformed:** Those who do not have enough awareness about immunization and its benefits or about how do they avail those services; and
- **The socially bound:** Those who wish to immunize their children and are aware of its benefits, however, are afraid of social costs associated with it.

Different communication strategies, involving group-specific messages, relevant messenger and channel may be developed to reach out to each of these groups.

Strategy Development: Marketing Mix

"The marketing mix refers to the set of actions, or tactics, that a company uses to promote its brand or product in the market. The 4Ps make up a typical marketing mix - Price, Product, Promotion and Place" [19]. In immunization, a 5th P-People may be added to the defined 4Ps.

Product

Product includes "actual features or characteristics of the offering, the benefits derived or received from using the offering or performing the advocated behavior, and how the offering relates to the end user's interests and needs" [3]. As per European Centre for Disease Prevention & Control, immunization, as a product, may be defined as follows [8]:

• **Core Product:** Benefit received by parents who adopt the advocated behavior of getting their children vaccinated, such as (not an exhaustive list):

- Protection of child from fatal diseases;
- Contribution towards the good life of the child;
- Fulfilling duty of a parent;
- Feeling of being responsible;
- Protecting others in society from communicable diseases; and
- Fulfilled requirement for school admissions

• **Actual Product:** The vaccine itself is the actual product. This may include:

- Vaccine, syringe, cotton and anti-septic; and
- Parents' perception about:
the authenticity of vaccine;
safety of syringe and vaccination in general; and
personnel administering the vaccine.

• **Augmented Product:** Everything else associated with the product such as (not an exhaustive list):

- Friendly healthcare personnel;
- Clean and easy to access healthcare centers; and
- Free counselling on other diseases.

The key difference between marketing immunization vis-à-vis a commercial product is that immunization prevents an occurrence of bad event, which may or may not occur, whereas consumption of a commercial product leads to occurrence of a good event. Further, benefits of immunization are intangible/behavioral in nature, which are difficult to appreciate whereas those of commercial products are tangible and easy to appreciate. Literature suggests to promote short term benefits of immunization (Ex. feeling of safety) over its long-term benefits (Ex. protection from disease), however, usefulness of this ploy has yet not been proved [3].

Takeaway:

Immunization as a product is more than a physical vaccine itself. It comes with associated benefits.

Studies prove that if immunization is viewed as a social responsibility, vaccination acceptance rate would improve [2]. If parents receive social appreciation upon getting their children immunized, more parents would be motivated towards immunization. Hence, social acceptance and appreciation should be promoted as the most important benefits of immunization.

Price

Although government's immunization schemes provide vaccine at free of cost, there still exists a price that is incurred by parents in getting their children immunized, which may constitute the following:

- **Psychological/Emotional cost:** concerns related to vaccine safety;
- **Social cost:** cost of going against the generally accepted norm;
- **Access cost:** cost to reach immunization centers;
- **Opportunity cost:** work foregone for the time spent in immunization; and
- **Physical cost:** pain of injection.

Takeaway:

Price may not only be monetary, but may be psychological, social, access, opportunity and physical in nature.

The product should be viewed as the benefit offered to people in exchange for the costs they incur, which may be monetary or otherwise. Throughout the immunization age of the child, parents should perceive immunization to be attractive enough such that benefits outweigh the costs. If at any point, costs are perceived to be higher than benefits, parents would lose incentive to get their children immunized, leaving them partially immunized and vulnerable. Parents must be incentivized for timely and complete immunization. A common way of incentivizing parents, as cited in research, is to make complete immunization compulsory for children's admission in schools [3, 8]. In an Indian setting, an option to monetarily incentivizing parents, using direct debit facility, may be explored as a feasible option, especially to bolster coverage in districts that have worst indicators/figures. However, potential of its success would depend upon the impact these incentives have created in other public health areas, if any.

Price patterns may be context/geography specific. In some communities, social cost of immunization may be extremely high while in others, accessibility may be the key barrier. Formative research should ensure that these patterns are identified during discussions with parents, FLWs and healthcare professionals. From a marketer's perspective, all listed costs could be minimized using intelligent 'Product', 'Place' and 'Promotion' strategies.

Place

It is the process and method used to bring the product or service to the consumer. It encompasses accessibility, distribution, availability and convenience. In immunization, place may include government health centers, hospitals, immunization sites, private clinics and quacks [3].

In a large country like India, where healthcare infrastructure is not matured, accessibility of healthcare centers, especially in rural settings, remains a barrier for people to immunize. Furthermore, migration of people cause children to drop out mid-way from immunization schedule. In urban areas too, difficult access to health care facilities, due to distance, out of pocket expenses, travel time, etc. [7] are crucial hurdles to successful implementation of immunization programs. Commercial marketing applications show that consumer behavior can be sustained by improving customer experience and expanding reach [4]. Research conducted in seven European countries revealed that personalized communication and improved service delivery ('place') fosters increased vaccination [4, 3].

Immunization, as a product may require a different place strategy compared to any other commercial product. Immunization requires recording of customer details (patient), updating customer records (vaccination card) and inspecting any adverse effects (AEFI) and is administered only by a trained professional. This limits the distribution of vaccines to a network not as widely spread as that of a commercial product. However, many attempts have been made across the globe to improve accessibility. In the Polio eradication initiative in Pakistan, transit clinics were set-up to vaccinate those on the move [3]. To promote influenza vaccine in United States, schools were used as a place to disseminate information. In Karachi, home based educative

sessions proved to be beneficial in improving awareness and improved demand of immunization [9].

Takeaway:

Detailed literature indicting successful 'Place' strategies remained unavailable, however, strategically placing immunization centers is the minimum.

Under 'Mission Indradhanush' in India, immunization days are conducted wherein healthcare workers travel to underserved and high-risk areas to provide immunization services. However, as per research, these programs may have adverse effects as parents expect such service during entire immunization schedule (which may last up to 2 years at least) and in treatment of other healthcare services; and fail to turn up at healthcare centers themselves, if the program were terminated [9].

Although research does emphasize on strategic location of immunization sites, however, detailed literature about its application remains unavailable. In the given scenario, it may be useful to explore innovative mobility solutions in healthcare such as mobile healthcare units to deliver immunization.

Promotion

Promotion conveys the benefits and features of the product to the target audience. It comprises of a message, a channel and a messenger. Success of 'Immunize Australia' program may be greatly attributed to its promotion strategy: new communication channels, community education programs that included TV/radio ads and posters in clinics, and a series of immunization promotion days [3].

Immunization promotion campaigns compete not only with other healthcare promotions, but also with promotions of commercial products, for ad space and to gain customer attention [6]. Therefore, it is crucial, that within the limited exposure to the target audience, promotions can get the right message across.

Message

Literature regarding application of social marketing in immunization provides plenty of practices that should be followed while designing the message. An important requirement that emerged was the need for localization and blending of cultural patterns into the messages and promotional content [5, 7]. A message may be interpreted differently by individuals of different demographics, especially in India. Therefore, effective communication should be tailored to address socio-cultural context of the receivers. Message should ensure that it arouses the audience emotionally and has the potential to change the behavior [5]. In an Urban-low income setting in United States, it was proved that culturally appropriate messages were successful to increase parental awareness and improve their behavior to immunize [10].

Second, message should provide detailed information regarding the product, its benefits, how to access the product, etc.; should be relevant and understandable [3]. In Mexico, mothers cited inadequate information as key reason for lack of immunization [7]. It was stated that mothers did not know what to do if the immunization card was lost or if the child was ill. This often led to the child being dropped-out from the immunization schedule.

Takeaway:

Effective messages are galvanized in cultural pattern, emotionally appealing, provide comprehensive information about product, possess a real story and promote active behavior.

Third, experiences recommend that a communication strategy, which is aimed at increasing immunization coverage should use powerful stories that resonate with the audience by engaging their emotions [5]. Just using rational argument and data would not work. It has been cited that communication strategies which use compelling story about a single victim are more appealing than the ones that just use data. Moreover, only those services should be promoted that would be provided to all people regardless of the socio-economic status or place of residence [7].

Fourth, active behavior, where people reach out to healthcare facilities for services, should be promoted, as 'active demand' is an affordable way to maintain attained goals. However, these facilities should be accessible easily (through an effective 'Place' strategy). In Mexico,

social marketing changed people's behavior from passive, when people just waited for FLWs for a home delivered health service, to active, where people themselves seek services at healthcare facilities [7]. This stems from the fact that the Mexican campaign promoted voluntary rather than compulsory participation of the community in immunization.

Last, Community Based Participatory Research (CBPR), wherein community is involved in designing and planning message content and promotional places, may be conducted. This has proved to be effective in luring vaccine acceptance among low-income African Americans [10]. CBPR bring about a sense of ownership within the community, which then tries to make the initiative a success and ensures a sustained coverage levels [7].

Channel

Researchers advocate the use of multi-channel strategy to get the message across to target audience [6, 11]. National Health Week in Mexico used curated content, such as cartoon characters and popular songs to promote immunization on radio and TV [7]. Further, it deployed posters, flyers, newspaper ads and made announcements in key public places. Promotional activities also harnessed support from schools, NGOs and private companies [7]. To promote immunization days in India, an integrated multi-channel approach may be adopted that covers simultaneous mobilization from mass media and people support (FLW and other healthcare personnel). It is also worthy to consider using clinics, local media channels, TV news commentary as means to disseminate information.

Healthcare professionals are important channels to disseminate information. The quality of interaction between them and parents play a decisive role in determining the completion of vaccination schedule [17]. In Burkina Faso, high drop-out rates and parents negative outlook towards immunization were attributed directly to healthcare professional's inadequate information sharing practice [17]. In Pakistan, to address the needs of low income population, FLWs conducted five-minute educative session using easy to understand pictorial cards at homes with mothers [9]. The cards conveyed three simple messages: how vaccines save children's life, logistical information regarding how to get the vaccine and importance of retaining immunization cards and role it plays in school admissions. This high-quality interaction between the FLW and mothers lead to improvement in immunization rates. Other important traits of healthcare professionals are discussed in 'People' section.

Takeaway:

A multi-channel strategy should be adopted to promote immunization programs in India.

Among various channels, mass media, specifically, has proved to be very effective in social marketing [7]. In India, mass media was utilized during Polio eradication mission, anti-tobacco campaign, domestic violence campaign, etc. In Pakistan, the main source of information to people regarding social marketing in immunization was print media [4]. In Mexico too, although a multi-channel strategy was deployed, most common means of acquiring information were TV and radio [7].

On the other hand, innovative and out of the box channels such as strategic 'miking' and door to door canvassing proved to be effective in Mozambique [17]. This indicates that determination of channel is context driven activity. What is relevant in northern India may not be relevant in southern part of the country.

Anti-vaccine messages and videos on social media were cited as a challenge to deal with, however, no literature was available that could illustrate the use of social media as a channel to promote vaccine.

Messenger

Aristotle realized 2000 years ago that persuasion required not only a reasonable argument backed by data points but also a trustworthy messenger. Immunization messengers may be anyone who share a common goal as that of the parents, can establish trust, develop a positive relationship with the parents [5]. While all these may be satisfied by doctors/FLWs, with rising concerns about immunization, a broader societal communication strategy must be followed [5].

Social marketing related survey conducted in Pakistan revealed that 81% of respondents thought religious leaders could be effective

messengers for immunization [4]. Other research also indicates that interaction with influential local leaders can positively affect vaccine uptake [17]. The stated that the people's belief in the clergy made them influential and worthy to be followed. This may hold true in certain regions of India too, where people are conservative and the clergy are influential individuals [17]. Literature also suggested that non-profits were better and more trustworthy messengers as compared to commercial organizations [5].

People:

People are those who deliver immunization or communicate information relating to it [2]. In an Indian context, these may be the Frontline Health Workers (FLW), ANMs, Medical Officers, private practitioners and other staff of healthcare facilities. The role of communication between those mentioned and potential customers, the parents, is an important factor as per research [3, 17]. These personnel are influencers and their dialogue with parents is expected to communicate benefits of product. Practitioners are trusted source of information; their re-enforcement of social marketing messages adds value beyond the effects of mass communication [6, 2].

FLWs and other healthcare professionals should be motivated to perform their job and take ownership of the program. Polio eradication mission in Pakistan saw low productivity of FLWs as they were underpaid and perceived the program to be imposed by someone from outside Pakistan and not locally owned [18]. This prevented them from taking ownership and performing up to their potential. It is important to address these concerns as FLWs play critical role in establishing trust and acceptance of vaccines in the community [17].

Takeaway:

Healthcare professional and parent relationship is pivotal to success of social marketing in immunization.

FLWs and healthcare professionals delivering information are expected to possess good inter-personal and communication skills so that they succeed in convincing parents in their target population [3]. They are expected to use real stories about real people who have been affected by vaccine preventable diseases [5, 17]. In various programs, lack of immunization was partly attributed to inadequate communication by FLW to parents [4]. Although, it was also stated that this scenario may exist due to overburdened FLWs, which is the case in India too.

Literature also elucidates the important role played by existing consumers (parents) of the product (immunization) to realize its benefits and convince others to consume it. Social marketing efforts in Pakistan noted that most parents agreed about the positive outcomes of immunization and tried to convince others [4]. This may complement the work of FLWs and act as a catalyst to increase vaccine uptake. Moreover, this leads to formation of community networks, consisting of peers as well as FLWs, which have been a proven way to build trust and acceptance of vaccines [17]. Application of community networks include: primary school children visiting homes to encourage mothers to get their children immunized with DPT in Mumbai slums. This kind of community motivation lead to an increase in vaccine acceptance and coverage rate [17]. Other instances like such have been observed in Bangladesh, Honduras, Angola and Zimbabwe.

1.Challenges

While social marketing may find its application in public health in general, it may face certain specific challenges in immunization. Solutions to these challenges are localized and context driven.

Vaccine: A difficult product to sell

- The long-term benefit of vaccination is prevention of a bad event, that may or may not occur, as opposed to a good event happening. Its benefit is intangible and may not be appreciated easily.
- Its benefit is achieved only if the adoption rate is very high, i.e., intention is to acquire all potential customers. Unless this is satisfied, benefit is not realized by the population as herd immunity is not attained.
- There exist certain influencers such as cultural, religious and political leaders who play an important role in consumer's decision making process. In various situations, it may be difficult to get their buy-in to promote immunization.
- External factors such as lack of trust in government, healthcare providers and health system may translate into lack of trust in

vaccine, leading to reduced demand and low coverage rates.

Understanding the Problem in India

- It may be challenging to understand context-specific issues and incorporate those in 4Ps framework in a vast country like India. However, if these contextual factors are ignored, all efforts may fail despite meticulous planning.
- Designing, implementing and sustaining an effective marketing campaign may warrant setting up of large scale institution and financial resources.

Anti-Vaccine Movement

- Vaccine programs may face anti-vaccine agitations, social/cultural norms in certain communities and opposition or ban on vaccine by certain political groups.
- Mass media makes new theories about vaccine safety a public debate without deliberating on facts and accounting opinion of the scientific community [5, 2]. This leads to false impression about vaccines in the minds of public, which is further promulgated simply by repetition if the content on popular media as well as social media.

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