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Maternal and Child Survival Program

Natural Social Spaces

How Do We Research Social Media and Development Trends, Dynamics, and Impact?

Learning from a Polio and Routine Immunization and Social Media Research Initiative in Ukraine

Discussion Paper

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The Maternal and Child Survival Program (MCSP) is a global, $560 million, 5-year cooperative agreement funded by the US Agency for International Development (USAID) to introduce and support scale-up of high-impact health interventions among USAID's 25 maternal and child health priority countries,* as well as other countries. MCSP is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

* USAID's 25 high-priority countries are Afghanistan, Bangladesh, Burma, Democratic Republic of the Congo, Ethiopia, Ghana, Haiti, India, Indonesia, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Yemen and Zambia.

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Introduction

Increasingly, development action, discussion, and debate are taking place on social media platforms. This includes Twitter, Facebook, Vkontakte[1], Instagram, Snapchat, and their ilk, at the general population level, as well as hundreds of smaller niche platforms. The technology that makes these platforms possible has only been with us for 23 years or so[2], but it is already pervasive.

The platforms being used are not generally those of governments or international and other development agencies and organizations. Instead, they are made up of people in their online spaces and communities sharing information, ideas, opinions, and opportunities to engage and organize with other people who share their interests—around relationships, jobs, family, and friends—as part of their membership in physical and identity communities, on topics such as health, education, and the environment, and so much more.

This situation provides a challenge for those of us engaged in local, national, and international development who are trying to improve situations that are of concern to ourselves and others: How do we research the impact of social media processes on development progress? Answering this question requires moving way beyond user sessions, page views, and events as measured by Google Analytics and other web counting software. Reach does not equate to impact. It also requires moving beyond a project and organizational focus. Most online- and social-media-related development action has no connection at all to the specific platforms and social media accounts set up by governments and development organizations. Most of the action will just be people doing their thing, with others with whom they congregate, online in their spaces.

The immunization situation in Ukraine provides an excellent example of this dynamic and challenge. Ukraine is still recovering from a period in which its immunization rates fell to a level that were among some of the worst in the world and is in the midst of a major measles outbreak[3]. Ukraine also has some of highest online participation and usage rates in the world[4]. These dynamics provide the all-important context for the learning on research methodologies and social media outlined below.

This dynamic of low immunization rates and high online engagement provided the opportunity to look at the role of social media in a country that needed to address the only polio cases in Europe and widespread outbreaks of measles and other vaccine-preventable diseases. To undertake an effective response, Ukraine had to handle an almost pervasive collection of rumors, false information, and medical processes that were not rooted in known medical efficacy. These messages were prevalent on online platforms throughout Ukraine. The communities that government and other development organizations needed to engage—parents, medical personnel, community leaders, local and national politicians, traditional and online media (for example, bloggers), etc.—were also all online.

Within that context, as with all health and development issues, the most important initial research priority is to understand what is happening, and why. On those questions, specific to online action and social media, there is little specific methodological guidance. This is still a new area for development research.

[1] Vkontakte (VK) is an online social media and social networking service based in Saint Petersburg, Russia.
[2] The first email was sent in 1971 but social media began with the introduction of sites like Sixdegrees.com 23 years ago in 1996. However, the social media sites we know today have only been around for 15 or 16 years—LinkedIn and Facebook started in 2003 and 2004, respectively. See this link for a simple graphic representation of the history and continued evolution of social media.
[3] See, for example, the World Health Organization (WHO) news release, Ukraine restores immunization coverage in momentous effort to stop measles outbreak that has affected more than 12 000 this year, in which WHO states: *In 2008, 95% of eligible children in Ukraine received their second (and final) recommended dose of measles-mumps-rubella vaccine (MMR) on time according to the national routine schedule. By 2016, this rate had fallen to 31%, the lowest coverage in the WHO European Region and among the lowest in the world. In addition, in 2016 only 19% of children received the third recommended vaccine dose of diphtheria-tetanus-pertussis (DTP) and 56% of children received the third recommended dose of oral polio vaccine (OPV).*
[4] The Ukraine has a 93% internet user rate compared with 95% for the USA and UK, 76% for The Russian Federation and 79% for Poland. Digital 2019: Global Digital Yearbook

The results of the research work undertaken by Anna Postovoitova with guidance and support from The Communication Initiative through its engagement in the US Agency for International Development (USAID)-funded and -supported MCSP (Maternal and Child Survival Program) can be seen here.
The purpose of this paper is to outline the methodology for that work in case it is a helpful input into the design of other online and social media research focused on development.

We will commence with a quick recap of the health and social media contexts in Ukraine, then outline the core research questions before highlighting, for your review, critique, and use the methodology that was designed and adopted.

Recap: The Immunization Context

In June and early July of 2015, Ukraine saw two cases of vaccine-derived poliovirus (VDPV) in Zakarpattia oblast[5] in the westernmost region of Ukraine—a region that is closer to seven other European capitals than to its own, Kyiv (Figure 1). This outbreak was in the context of Ukraine having the largest pool of measles and rubella (MR) viruses in circulation in Europe (Martin, February 2009). MR supplementary immunization activity was to start in May 2008, but the bacterial meningitis death of a 17-year-old boy in Donetsk that same month was (misguidedly) blamed on his recent vaccination for MR. The anti-vaccine sentiment that emerged was stoked by sensational stories in the news and social media, leading to a health ministry moratorium on vaccine distribution and the firing of the country's chief sanitary inspector. During this time, there was widespread confusion within the medical community, exacerbated by a lack of information and general mistrust stemming from a concern about the quality of the vaccines and partial belief in and circulation of various ominous stories pertaining to negative side effects of vaccinations. Shortages ensued; at one point in 2015, there had been no vaccines available for over a year, leaving millions vulnerable to vaccine-preventable diseases (Ogden, October 2015). Health professionals grew increasingly nervous as they faced potential criminal prosecution in the case of adverse events following immunization. Furthermore, already-scarce government resources were stretched beyond their limits by payments far higher than was necessary for vaccines due to a corrupt system. Parents lost confidence in the entire system. Not surprisingly, vaccination rates plummeted, from near-full compliance in the early 2000s to below 50% in 2013. Polio vaccines reached only 14% of children under one year of age in the first half of 2014 (Twigg, June 2017).

Figure 1. Map of Zakarpattia Oblast and European capitals

In response, the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), Rotary International, and other partners, working with allies in the Ministry of Health (MoH), launched a three-round polio vaccination campaign in late 2015 and early 2016 that eventually reached over 80% of Ukraine's children (Twigg, June 2017).

However, on August 26, 2016, a VDPV type 2 event was confirmed in the Odessa region of Southern Ukraine. The source was a healthy three-year-old girl who had been reported as fully vaccinated with two doses of inactivated polio vaccine and three doses of oral polio vaccine. News of this event renewed concerns and underlined how the success achieved during the outbreak response was (and remains) fragile. In December 2016, the MoH reported that 45.5% of children in Ukraine were fully immunized against measles; 29% against hepatitis B; 23% against diphtheria, pertussis, and tetanus; and 60% of children under one year of age against polio. Though there have been improvements over the last few years, it is still a very challenging situation. At the time of this research (2017), Ukraine still had some of the lowest routine immunization rates in the world.

As further background, Ukraine's formal nationwide vaccination rounds were conducted from October 19–November 9, 2015, November 30–December 19, 2015, and January 25–February 26, 2016. The three rounds encountered a number of roadblocks. For example, the government never declared a national public health emergency as required by the Global Polio Eradication Initiative (GPEI)'s standard operating procedures, and initiation of the first round was delayed due, for example, to lack of clear official information and vested political and business interests lobbying against international vaccine procurement. In addition, anti-vaccine rumors continued to circulate in the media, especially social media.

[5] UNICEF report: Polio Outbreak in Ukraine, 2015-2016 Unique Challenges, Comprehensive Response December 2016 p 9. https://poliok.it/library/Polio%20Outbreak%20Ukraine%20Report%202015-2016

"When UNICEF initiated international procurement [of vaccines] in response to the summer 2015 outbreak, corrupt middlemen reacted in defense of their interests, goading fears about vaccine toxicity and side effects through an increasingly rabid media blitz that went as far as accusing the international development community of intentional harm to Ukrainian children. They tried to counter the threat to their lucrative schemes with waves of misinformation aimed at confusing parents, dividing Ukraine's own institutions of health governance, and keeping the international community at bay." (Twigg, June 2017).

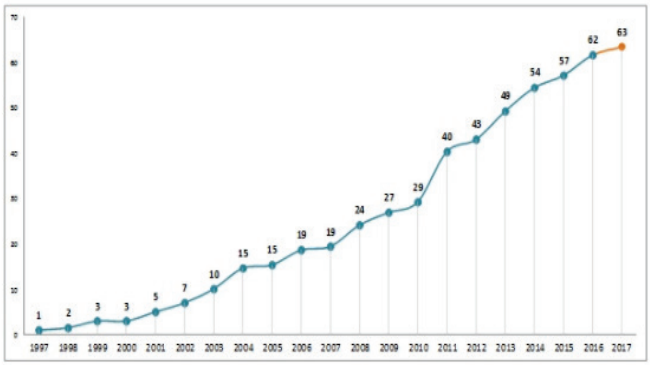
The GPEI stresses that, "due to sub-national immunity gaps in Ukraine, the country is particularly vulnerable to either re-infection or re-emergence of poliovirus."[6] The priority is to minimize that risk and associated consequences by maintaining high levels of immunity and strong disease surveillance.

[6] http://polioeradication.org/where-we-work/ukraine/

Recap: The Social Media Context

The growth of social media use in Ukraine has been rapid. Online access is reaching near-universal levels across the country, as Figure 2[7] graphically demonstrates. The spread has resulted in a large expansion of public spaces in which discussions of key development issues, including child health, have become increasingly prevalent.

Figure 2. Share of the internet users among Ukraine's adults



A strong and perhaps defining characteristic of social media in Ukraine is the proliferation and scale of self-organized online groups. These include, for example, city groups, which engage citizens in a particular city, and parents' groups, which engage parents (mainly mothers) most often on maternal health, child health and safety, and educational and recreation-related issues. The participants seek and provide information, advice, and guidance. They also use these groups to organize around particular issues. The connections are often hyper-local, with strong links between participants. The scale is impressive, with many groups having tens of thousands of members in their locality. As the communication in these spaces is among peers, the level of communication inside of these communities can be strong and trusting. This is further reinforced by the fact that access to these groups is controlled by group administrators.

However, there are disconnects. These groups have limited involvement of, for example, healthcare professionals. So, discussion on vaccination, for example, usually happens on the basis of personal experience, rumors, and shared worries and concerns of the members (Postovoitova, September 2017; January 12 2018).

[7] Dynamics of internet usage in Ukraine: May 2017 from the Kyiv Institute for Sociology
https://www.kiis.com.ua/?lang=eng&cat=reports&id=705&page=1

The Research Questions

Three major research questions guided the research design:

1. In which natural online spaces are people in Ukraine gathering to seek and share information and ideas on child health?
2. What patterns can we discern from the engagement in those spaces that can inform improvements in strategies and programming action on child health in Ukraine?
3. What strategic and programming recommendations arise from that analysis for improved strategies and programming action on child health issues in Ukraine?

This study used a unique experimental approach of social media mapping to discover platforms where communities of parents, health and education professionals, and other civil society actors gather naturally.

Specifically, the study examined how different communities in Ukraine use social media to communicate and search for information by applying a qualitative approach based on manual searches and monitoring of popular and thematic social media spaces on Facebook[8] and Vkontakte (one of Ukraine's most popular social media networks until it was banned by the Ukraine government in May 2017, though it still seems to be available[9]).

[8] http://www.uadn.net/2019/02/25/with-13-million-users-facebook-is-now-ukraines-leading-social-network-in-ukraine/
[9] https://en.hromadske.ua/posts/a-year-after-ukraines-ban-on-russian-social-media-whats-changed

The Research Design

To examine how different communities use social media to communicate in Ukraine, within the context of child health and the research questions, the following research design was developed and implemented by Ukrainian researcher Anna Postovoitova with support from The Communication Initiative through USAID and MCSP.

The overall design was based around a qualitative study to examine how different communities in Ukraine use social media to communicate and search for information on polio, immunization, and child health issues. Effort was made to manually search for, monitor, and identify content trends in popular and thematic social media spaces on Facebook and Vkontakte networks. Analysis was made of active discussions and information shared within online pages, with a specific emphasis on the purpose for that engagement and the themes of the vaccination-related content either shared or in the form of questions for others to respond.

From that base, the study examined trending topics on routine immunization during the period October–November 2016. Conclusions were drawn about the possible implications of circulated online pro- and anti-vaccination content for parents' vaccination decision-making. This monitoring timeframe coincided with the above-described renewal of a mass child immunization campaign after a temporary shortage of vaccines, which greatly influenced the dynamic of social media conversations.

Thematic social media spaces are usually created as a public page or in the form of an open or, alternatively, a closed group. During this study, access was requested to closed groups and, if accepted, information was gathered for the study, but without intervention in the group dynamic.

The study's experimental approach of social media mapping involved discovering platforms where communities of parents, health and education professionals, and other civil society actors gather naturally. It involved collecting lists of, first, popular public pages and personal pages with a large number of followers and, second, thematic social media spaces that are organized in the form of a public page or, alternatively, an open or closed group.

Content about polio, vaccination, and routine immunization on each social media space was searched manually and later reviewed and assessed as either supportive of, or resistant to, vaccination efforts.

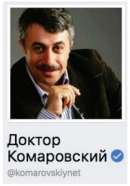
In addition to describing the character of communities' engagement (preferred social media network, level of activity, topics of discussions) on social media and the sentiment towards immunization, vaccines, and polio within those spaces, the dynamics of social media conversations were analyzed. This analysis included the volume of conversations on a certain topic, frequently asked questions, and time of day (or night) of the most engaging posts.

Monitoring of popular social media spaces illustrates the general interests of Ukrainian people. These pages are major sources for information; the content posted within them can reach a large audience. Results showed that of 300 public pages and personal accounts on Facebook and Vkontakte, 34 included information supportive of routine immunization, 14 had negative sentiment, and 252 were without posts relevant to this topic (Figure 3). Resources with vaccination-related information are limited on the Vkontakte network. Only a few popular social media spaces featured content about vaccines.

Figure 3. Popular pages: information about routine immunization[10]

Type	Number of spaces monitored	Sentiment towards routine immunization/vaccination/polio issues		
		Positive	Negative	No relevant posts
Public pages on Facebook	100	21	7	72
Personal pages on Facebook	100	11	4	85
Public pages on Vkontakte	100	2	3	95

Major spaces with supportive information: pediatrician Eugene Komarovskiy



_____ (796,340 page followers)

_____ (Personal page, 96,462 followers)

_____ (387,906 page followers)

In greater detail, four important elements of this overall research design included: where are people gathering online to focus on vaccination and child health issues; how can we gain access to those conversations; how shall we engage as part of the group; and how should we organize and analyze the data?

A. Identifying where people are gathering online

No mapping was available for natural (started and managed by the public, not by government or international development agencies) social spaces that were in place and being extensively used in Ukraine. This was a crucial problem. We did not know where the people we were seeking to engage are gathering in large numbers.

So the first central element of the research design was to map these spaces. The key questions for the mapping were:

- Which are the main platforms and spaces?
- What are they called?
- Who are the administrators?
- How many people are involved?
- Who are these people—what are some of their key characteristics?
- To which locales or issues do the groups relate?
- What are some of the main discussion themes?

In total, 660 social media spaces were identified and selected for further assessment of their relevant routine immunization and vaccination content. These included:

- 100 popular public pages
- 100 popular personal pages on the Facebook network
- 100 popular public pages on the Vkontakte network

[10] Postovoitova presentation, page 9 - http://www.comminit.com/files/annapresentation.pdf

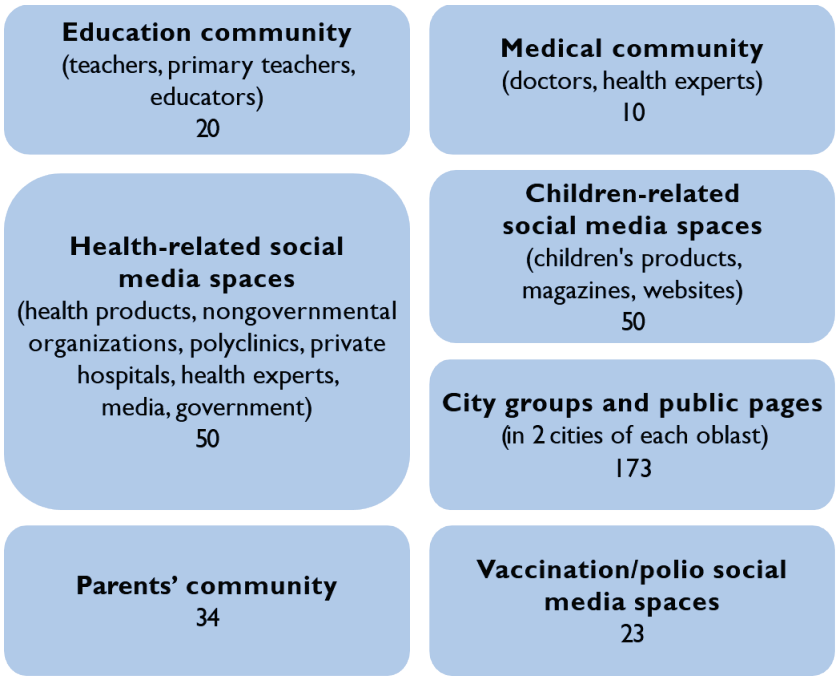
- 20 social media spaces of the education community
- 10 social media spaces of the medical community
- 50 health-related social media spaces
- 50 children-related social media spaces
- 173 city groups and public pages
- 34 parents' groups
- 23 social media spaces with significant focus on polio and vaccination

In total, these spaces included 2,427,431 accounts of parents and city residents, 159,076 accounts of health organizations, and 4,735 accounts representing specific polio and vaccination spaces.

As a test of the natural spaces premise behind the research, we compared the scale of these natural spaces with the scale of online spaces developed and managed by development organizations with specific programming goals—for example, by UNICEF Ukraine and WHO Ukraine. The membership ratio was 544 to 1 in favor of the natural spaces.

The 173 city groups number may look a little strange. We attempted to identify the two largest online city groups for each of the two largest cities in each of Ukraine's 24 oblasts (province/state) on Facebook and Vkontakte. As can be seen by the odd number, some only had one.

Figure 4. Focuses of thematic social media spaces



The identification of these groups is of course in and of itself a major research result. Just being able to identify major social media groups, who they engage at what scale, and their key facilitators and administrators, provides important insight into potential online spaces for further engagement. But we wanted to go further. There was a research interest in the content—what issues are being raised, when they are being raised, how they are being answered, and who is doing the answering. In order to get to those questions, it is necessary to gain access to the groups themselves.

B. Gaining access

The challenge of gaining access to these groups to gather the raw knowledge from which to assess patterns and trends and identify strategic implications for development organizations raises both practical and ethical questions.

At the practical level, these are groups defined by interest (e.g., parents' groups) and location (e.g., the Rivne oblast). But these are often public groups that anyone can join. So, even though the researchers are not necessarily parents and do not live in the oblast of interest (e.g., based in Kyiv, but the city group is for the city of Rivne), it is possible for the researchers to join the group. Once they have joined, they can review the knowledge, information, and ideas shared in the same manner as all members of that group.

That ease of access heightens ethical questions. As researchers, we have a different interest from others in the group. The interventions of people who are genuine members of that group require respect and confidentiality. Openness about the purpose of the researcher's role as a participant is also required, even if it is only in a passive or "listener only" role.

There was significant learning from this research on this theme. We had to explore the best ways forward. The research design implications from that learning can be described as follows:

- **Group Administrators**: Identifying the group administrator(s), making contact with that person/people, explaining the purpose of the research, and seeking permission to engage is a crucial step.
- **The Researcher Profile**: Most groups require a profile from the people joining. The researchers need to be accurate and clear in their profiles concerning why they are part of this group.

C. Engaging as part of the group

The possibilities for a Hawthorne effect are large. On sensitive issues, in often difficult local and national contexts, people engaged in online groups could alter their behavior—questions, comments, level of engagement, focus of their interest, etc. This distorts what is being observed—distorts what would have been the natural course of the engagement between people in that group. This is what happens on online platforms that are established, facilitated, and branded to a specific development organization, for example, UNICEF.

From the experience in this research, the following two key research principles emerged:

- **Remain silent**—do all possible not to interrupt the online process that is taking place. As tempting as it may be to engage, resist.
- **Engage only when necessary—**if you really have to engage, 1) make it a question, 2) provide a link to your profile, and 3) explain the context and/or background to the question posed.

D. Undertaking content analysis

How did we undertake the content analysis part of this research? Again, this was an exploratory process, as there were few, if any, models to follow. After much exploration and refinement, the Postovoitova research ended up organizing and categorizing the content according to the following categories:

- **Themes:** What is the main content focus of the engagement and what patterns can be detected? For example, is the person engaging to find where vaccines are available, to promote a view that the vaccines are safe, to ask where the vaccines are manufactured, to critique the performance of medical staff?
- **The level of proactivity:** To what extent was the shared knowledge a proactive intervention and what patterns can be detected? For example, before a mass delivery of vaccines, were people actively sharing this knowledge and asking core questions about access and safety?

- **Timing:** When does the engagement take place and what patterns can we see based on that timing? For example, evening and late evening time are recorded to have the highest level of critical examination of the safety and added value of vaccines and vaccinations.
- **Tone:** What tone describes the nature of the engagement within the group and what **patterns can be established**, for example, the numbers who are frustrated, concerned, content, happy, questioning, supportive?
- **Sentiment:** Related to vaccines, what is the sentiment expressed, for example, concerned about safety, worried about ability of health system staff to administer, fully supportive, looking for best place to have the vaccine administered?
- **Locality:** Where are people connecting from, for example, home, work, friends, health center, school? How can content or expert opinions relate to the environment of an intended audience?

Conclusion

If research and evaluation initiatives related to local, national, regional, and global social development priorities are to provide the most valuable insights for improving performance and impact, then they need to include a focus on social media, given its increasingly pervasive role as a key medium of communication. That focus will only be effective and useful if it provides insight and information related to natural communication spaces—the spaces and connections that people themselves are creating on a vast scale. These natural spaces are much more important than the comparatively tiny social media footprint of "development organizations". The natural spaces also tend to have much greater credibility and standing with the people who really matter, and who are, consequently, more influential. The Ukrainian situation outlined above provides specific insights into the particular dynamic in Ukraine. Each country will, of course, have its own dynamic. But natural, public social media spaces, in whatever form they take, will always dominate the social media space.

What is outlined above is a very initial attempt to extrapolate from the Ukrainian social media, polio, and immunization research some key elements that seek to advance effective and informative research and evaluation methodologies related to work on social media and development—ways to identify, engage, and assess.

This paper is by its very nature exploratory. There are no firm and hard answers. With the rocket-fuelled acceleration of social media, we are in the midst of a rapidly changing scene. We hope this paper helps to provide some insights, ideas, and strategies for how to better understand and learn from that expanding and changing social media scene for more effective and principled development action.

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