Working Paper

Knowledge, Attitudes, and Behaviors Toward VPD Surveillance Among Health Care Providers and Community Members in Georgia

Focus Group Discussion Report

May 2003

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- *Implementation of appropriate health system reform.*
- *Generation of new financing for health care, as well as more effective use of existing funds.*
- *Design and implementation of health information systems for disease surveillance.*
- *Delivery of quality services by health workers.*
- *Availability and appropriate use of health commodities.*

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Abstract

Surveillance of vaccine preventable diseases (VPDs) is an important measure to estimate burden of diseases, decide on appropriate policy to reduce diseases, identify pockets of susceptibility, and control potential outbreaks. An earlier assessment identified major problems in the Georgian health system that limited the ability of current VPD surveillance efforts to provide quality information to guide public health action(s). The present study aims to provide further insight into problems with the current VPD surveillance efforts by obtaining research evidence on knowledge, attitudes, and behaviors toward VPD surveillance among health care providers and community members.

Researchers found that a variety of factors currently discourage a high percentage of infectious disease patients from self-reporting to health facilities through official channels and that, overall, the awareness of VPD is poor, though attitudes and behaviors toward VPD and immunization is positive.

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Acronyms

CIF	Curatio International Foundation
CPH	Center of Public Health
FGD	Focus Group Discussions
HIS	Health Information System
MIS	Management Information System
PHR*plus*	Partners for Health Reform*plus* Project
USAID	United States Agency for International Development
VPD	Vaccine Preventable Disease

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Executive Summary

Curatio International Foundation, in cooperation with the Partners for Health Reform*plus* Project (PHR*plus*), has been implementing the Georgia Health Information and Disease Surveillance Reform Project financed by the United States Agency for International Development. The program focuses on strengthening two major components of the health information system: the immunization management information system, and surveillance of vaccine preventable diseases (VPDs).

As a first step in strengthening VPD surveillance, a comprehensive assessment of the VPD surveillance system was conducted in June–July 2002. One of the assessment's goals was to provide recommendations that could be used to develop an action plan outlining specific activities for future cooperation. The assessment identified three major problems that limited the ability of current VPD surveillance efforts to provide quality information to guide public health action(s). The assessment revealed the following:

- A substantial (but unknown) percentage of cases of VPDs do not seek care at official facilities (private care or no care at all).
- A substantial (but unknown) percentage of those cases that do seek and receive care at official facilities are not reported according to current regulations/procedures.
- Even when cases are reported, frequently no action is taken.

The aim of the present study was to supplement the results of the assessment and provide further insight into these problems by obtaining research evidence on knowledge, attitudes, and behaviors toward VPD surveillance among health care providers and community members.

Data were collected through focus group discussions (FGDs) conducted separately with community members and health care providers in urban and rural areas. Ten FGDs were conducted in Tbilisi, Kakheti, and Imereti regions during November 2002. Key findings from the study will be grouped as they help to further understand the reasons and issues behind these three major problems.

Key Findings

- **A substantial (but unknown) percentage of cases of VPDs do not seek care at official facilities (private care or no care at all).**
  - Usually the population does not seek medical care in the case of mild disease. However, the patient's age appears to be an important determinant here: children's illnesses are more likely to provoke health care-seeking behavior. Most of the population, especially in rural communities, considers VPDs to be common diseases that do not require medical assistance.
  - The population's choice of health care provider is determined by the financial situation and quality of services. The rural population often does not have a choice and gets

medical care at the local primary care setting, which is determined by both geographical and financial factors.

- The main factor that hinders the population in seeking medical care earlier is financial constraint. It should be stressed that, in contrast to community members, health care providers did not consider financial constraints as a leading cause for low utilization of medical services. They admit indirectly, however, that availability of free services is a major determinant for utilizing health care.

- **A substantial (but unknown) percentage of those cases that do seek and receive care at official facilities are not reported according to current regulations/procedures.**

  - Health care providers consider constraints related to cooperation with centers of public health (CPHs),[1] communication, and financial disincentives/hardships to be major factors hindering the effective functioning of registration and notification of VPDs.
  - Cases seen by providers during private practice remain out of the surveillance system because of providers' fear of taxation for revenues generated.
  - Hospitalized patients are more likely to be registered and reported, whereas outpatients seen during formal practice are not reported routinely. Rural health professionals do not notify CPHs of the vast majority of infectious disease cases.
  - Health care providers do not have consistent knowledge of the surveillance system. There is a complete lack of understanding of current regulations as well as of the list of notifiable diseases. Accordingly, the level of respective activities is minimal.
  - Most providers do not understand how the information delivered through VPD surveillance will be used and for whose benefit. There are minimal, if any, formal or informal consequences resulting from registration and notification of cases of infectious diseases. There is no effective mechanism to influence a provider who does not comply with existing regulations on registration and notification of VPDs.

- **Even when cases are reported, frequently no action is taken.**

  - Some controversy and tension exist between primary and secondary care providers in terms of vaccination and its complications. In some cases, mass media creates obstacles to an immunization program instead of providing support.
  - Health care providers consider constraints related to cooperation with CPH, communication, and financial disincentives/hardships to be major factors that hinder effective functioning of registration and notification of VPDs.

In addition, the study provided a number of important insights into community perceptions of VPDs and sources of information. These insights will be important in the design of any community education interventions.

- Overall, the community has little knowledge of VPDs, although the urban population is more knowledgeable compared with the rural population. Diphtheria, Poliomyelitis, and Tetanus are lesser known than other VPDs. There is no adequate knowledge of the ways in which VPDs are transmitted or of the consequences of major complications of VPDs.

[1] A center of public health is a unit of public health surveillance responsible for preventive care and control of infectious disease.

- The general population has a positive attitude toward immunization; however, there is a lack of adequate knowledge regarding the safety of immunization and the quality of vaccines.

Conclusions and Recommendations

Study findings have highlighted both constraints and enablers for the VPD surveillance system to effectively capture cases in the community.

Factors that currently discourage a high percentage of infectious disease patients from self-reporting to health facilities through official channels:

Constraints:

- Patients have limited financial access to quality care.
- There is a lack of understanding of the risks and potential advantages for the community.
- Some people are embarrassed to let providers know they are sick.

Enablers:

- Many people think it is important to inform authorities to stop the spread of disease.

Potential solutions to these problems include the following:

1. Advocate for eliminating financial barriers to care.
2. Develop a strategy and work plan to enhance health education of population and fully test it in Imereti to see if elimination of this barrier will improve case detection.

Factors that affect motivation of providers to report cases bypassing official channels:

- Lack of knowledge and confusion about their own responsibilities, current regulations, and official procedures
- Poor cooperation with CPH: limited evidence that CPH uses the reported data for information-based response, or that the response health workers receive is what they want
- Financial disincentives: fear of taxation of revenues made from private practice, potential for informal payments if a) patients are not registered and thus do not pay official fees for service, or b) if the diagnosis is adjusted to those covered by state programs

Potential solutions or interventions to these concerns include the following:

1. Finalize the development of surveillance guidelines and regulations, provide respective training to CPH and health providers, and make everyone aware of new guidelines, roles, and responsibilities

2. Develop a functioning surveillance model in Imereti (ensuring appropriate information-based response from the regional and rayon CPHs)

3. Eliminate disincentives or develop motivators for health workers to report cases of infectious diseases.

It should be noted that providers themselves suggested these interventions to improve surveillance: facilitate means of communication, introduce financial incentives, and disseminate notification regulations among providers.

1. Introduction

Curatio International Foundation (CIF), in cooperation with the Partners for Health Reform*plus* Project (PHR*plus*), has been implementing the Georgia Health Information and Disease Surveillance Reform Project financed by the United States Agency for International Development. The program, spanning from 2002 to 2004, focuses on strengthening two major components of the health information system (HIS): the immunization management information system (MIS), and surveillance of vaccine preventable diseases (VPDs).

According to the Georgian National Health Policy adopted in 1999, reduction of communicable and socially dangerous diseases is one of the country's main priorities for the next decade. Increase of the effectiveness of epidemiological surveillance is viewed as an important strategy to achieve the aforementioned objective. The project aims to provide assistance to the Government of Georgia in strengthening the surveillance of VPDs, and in supporting this system through strengthening the management capacity of public health departments in the country.

It is expected that these changes and improvements to the immunization MIS and VPD surveillance system will have a generalizable, positive effect on the management of all services and surveillance efforts. This collaboration aims at enabling the Ministry of Labor, Health and Social Affairs and public health workers to build an information system for more efficient use of the limited resources available to the national disease prevention and control program that will allow it to perform the following:

- Quickly and efficiently detect, confirm, and respond to cases and outbreaks of VPDs
- Significantly increase the number of fully correctly immunized children
- Rationalize the use of program resources to reduce operational costs.

In 2002, work began on implementation of a model for an improved immunization MIS in the Kakheti region, where the model was tested and refined. The working group and CIF, in cooperation with PHR*plus* advisors, have developed all of the necessary materials, methods, and working and support instruments, and assisted with the training of health workers in application of the new tools and procedures for information-based management. Beginning in 2003, the program will be implemented at the national level.

In preparation for the addition of the second program component, improved VPD surveillance (scheduled for 2003), the partners carried out a comprehensive assessment of the VPD surveillance system in June–July 2002 to provide specific recommendations for VPD surveillance system strengthening, on which an action plan outlining specific activities for future cooperation could be built. The aim of the present study was to supplement the results of an aforementioned assessment by obtaining research evidence on knowledge, attitudes, and behaviors toward VPD surveillance among health care providers and community members.

2. Study Objectives and Methodology

The study objectives aimed to accomplish the following:

- Understand health care-seeking behavior among community members in the case of infectious diseases
- Explore knowledge about and attitudes toward VPDs among community members
- Understand providers' behaviors and attitudes toward VPD surveillance
- Investigate factors that currently discourage a) a high percentage of infectious disease patients from self-reporting to health facilities and b) providers from reporting to the VPD surveillance system
- Seek providers' views about how to improve VPD surveillance and community members' views about how to improve infectious disease detection and self-reporting to health care facilities
- Identify possible solutions and propose recommendations.

Data were collected through focus group discussions (FGDs) conducted separately with community members and health care providers in urban and rural areas. FGDs were made up of eight to 10 people. The participants were selected based on similar perspectives, so as to create a level of comfort that would allow them to talk freely within the group. Two people conducted each FGD: a moderator who led the discussion and a facilitator who handled all logistics and took notes. The facilitator recorded the personal characteristics of the members making up the FGD and the time, duration, and location of the FGD. As far as possible, the discussions took place in a setting where the discussion would not be interrupted and people would feel that they could voice their opinions freely. FGDs were recorded. After the discussion, the facilitator and discussion moderator recorded key findings in a semistructured questionnaire. Tapes of the discussions were kept for further analysis.

In total, 10 FGD sessions were conducted: six for community members and four for health providers. On average, 10 participants attended each FGD. The length of the FGD sessions averaged between one and one-and-a-half hours.

2.1 Community Member Focus Groups

Mothers and grandmothers of children 1- to 15-years old were selected as participants in the community members FGDs. During the selection process, the professional background of focus group members was taken into consideration; participants should not have had a health background.

(G1) urban community members, Tbilisi: The group was made up of 10 participants (nine mothers and one grandmother), all of them housewives.

(G2) urban community members, Kutaisi: Ten participants, all of them mothers of children under six years, all housewives.

(G3) urban community members, Telavi: Eleven participants, some of them working and the rest housewives.

(G4) rural community members, Telavi rayon village Kisiskhevi: Nine participants, all mothers and grandmothers; some have permanent jobs and the rest are housewives.

(G5) rural community members, Samtredia rayon village Bashi: Eleven participants (nine mothers and two grandmothers) employed in agricultural activities.

(G6) rural community members, Gardabani rayon village Kesalo: Azeri-speaking population. Ten participants (nine mothers and one grandmother). It was attempted to recruit Russian- or Georgian-speaking women; however, not all participants were able to speak either of these languages and translation was provided by some of the group members.

2.2 Health Provider Focus Groups

(G1) professors of pediatrics, Tbilisi: Group consisted of seven participants, well-known and highly respected professionals with large private practices. All of them are employees of the official health system: leading or supervising pediatric departments at hospitals.

(G2) urban health providers, Tbilisi: Ten pediatricians from three polyclinics in Tbilisi. One participant specializes in allergology, provides care to both in- and outpatients and has a large private practice.

(G3) urban health providers, Kutaisi: Seven pediatricians from different polyclinics, some of them very popular in Imereti region with considerable private practices.

(G4) rural health providers, Imereti: Eleven pediatricians of ambulatories and polyclinics from two rayons of Imereti region.

3. Results of Focus Group Discussions with Community Members

3.1 Awareness of VPDs

In order to explore community knowledge of VPDs (signs of disease, ways disease is transmitted, complications), participants in the study were asked the following questions:

1. What are the major infectious diseases that people in this area, both adults and children, suffer from?

2. Have you ever heard of "Batonebi" or "Sakhadi" (Georgian terms for diseases which include Measles, Rubella, Mumps, and Pertussis) or Diphtheria, Polio, Hepatitis, and Tetanus?

3. What are the symptoms people use to identify "Batonebi" as well as Diphtheria, Polio, Hepatitis, and Tetanus?

4. How are "Batonebi" or Diphtheria, Polio, Hepatitis, and Tetanus transmitted?

5. What is the major complication/threat of "Batonebi" as well as Diphtheria, Polio, Hepatitis, and Tetanus?

6. Can these diseases be lethal?

In both rural and urban areas, the most common diseases were "Flu" (most probably acute respiratory infections), "Gastro-intestinal infections," and "Diarrhea" followed by "Botkin disease" (Hepatitis), Mumps, Rubella, and Chickenpox.

In response to the question "Have you ever heard of "Batonebi," all participants said that these diseases are familiar to them. Diphtheria and Poliomyelitis are perceived as follows: "*worse than Batonebi," "vaccinations are performed against these diseases," "DPT contains them," "The immunization rounds are carried out against them."* The level of knowledge about Hepatitis and Tetanus differs between urban and rural communities. Urban community members were able to name several causal factors of Hepatitis, while in rural settings the knowledge is limited to "Botkin disease." For the majority of urban groups, Tetanus is considered a VPD and is associated with trauma: *"post accident," "can develop in person who is not vaccinated," "infection in the wound."* This response is opposite to that of rural participants, who have not heard about this disease.

The urban population seemed to be better informed about the signs of VPDs and methods of transmission*: "Rubella is a similar disease to measles, but with one difference – it is milder." "A person can be infected by measles if he/she is vaccinated with an expired vaccine."* Diphtheria was characterized by the following statements: *"It can strangle." "It's the same as croup." "It can be transmitted by objects of general use."* Poliomyelitis was described as follows: *"Infected person can*

become handicapped." "It causes paralysis of brain." "A famous person's abnormal hand is the result of this disease." "This disease is the result of incorrect vaccination or unperformed vaccination." Although people did not know the transmitting mechanism for Hepatitis, they explained it as follows: "*There are several different types of this disease: A, B, C." "In case of Hepatitis-A – disease is caused by dirty hands." "Person can be infected both by blood and by dirty hands." "In most cases at schools, several students simultaneously get the infection." "The first thing one has to do is to determine the type of Hepatitis."*

Compared with urban areas, rural communities had less knowledge of the symptoms and ways of transmitting the above-mentioned diseases. The following statements were made: *"If Batonebi do not wish, they will not appear." "Batonebi in general is not a transmittable disease." "Pertussis lasts nine days, but if one will make Batonebi angry (e.g. by injection), it can be prolonged." "Persons are infected with Hepatitis shortly after several episodes of diarrheal diseases." "Self-treatment in the case of Hepatitis is dangerous." "In case of jaundice the person must seek medical care." "Diphtheria is transmitted through drinking water." "Poliomyelitis is a result of incorrect nutrition." "Jaundice is caused by the cold." "A child can be infected by Botkin disease after a visit to the dentist."*

VPDs have been declared to have the following major complications:

- Measles: "*congenital heart disease*," "*rash can become purulent*," "*can leave cosmetic scar*," "*meningitis*."
- Rubella: "*dangerous in pregnant women*," "*can cause congenital heart disease*," "*can cause abortion*."
- Mumps: "*can cause sterility in boys*."
- Hepatitis: "*cirrhosis in untreated cases*."

Among diseases with probable lethal outcome, those most frequently named were Diphtheria and Tetanus. After further probing, participants answered that, although they have not heard about such cases, they believed that all listed diseases could be lethal.

Conclusion

Overall, the community's knowledge of VPDs is poor. The urban population has a better knowledge of VPDs than does the rural population. Compared with other VPDs, Diphtheria, Poliomyelitis, and Tetanus are lesser-known diseases.

Community members, especially in rural areas, did not have adequate knowledge of how VPDs are transmitted. Similarly, there was a lack of realistic awareness of consequences of major complications of VPDs.

3.2 Attitudes and Behaviors toward VPDs and Immunization

In order to explore community attitudes and behaviors toward VPDs and immunization, respondents were asked the following questions:

1. Do you think that it is necessary to be vaccinated against these diseases?

2. If your child had rash, jaundice, cough, mumps, or paralyses, what would you do?

3. Why might it be important to let health authorities know you or your child has one of those diseases?

4. Are there any reasons you might prefer NOT to have health authorities know?

5. What can facilitate your helping health authorities to know about such cases in the community?

Attitudes toward vaccinations are positive in both urban and rural communities: *"Vaccinations should be mandatory and performed timely." "After vaccination, the person can be infected but will recover without complications." "During my childhood, my sisters and brothers and I were all infected with Batonebi diseases; my children did not get sick because they are fully vaccinated." "I am not afraid of these diseases, because we always get timely immunizations."*

In some cases, respondents had the following remarks: *"Immunization does not protect completely." "Currently used vaccines are not reliable." "I watched the movie after which I felt afraid, because it was shown that vaccines can change the genes of a child."*

Respondents in the Azeri community said that some community members are resistant to immunizing their children. In most cases, elder family members (grandmothers), who have influence over young mothers, determined that behavior.

All participants reported that when first symptoms such as fever, cough, or sore throat appear, they start self-treatment. Some respondents cited that even in the case of rash, they rely on self-treatment: *"I will give suprastin* (antihistamine medication) – *maybe it is an allergy*." On the second or third day of the disease or in the case of complications, they will go to a doctor. In rural settings mothers are less likely to seek medical care for VPDs: *"If we know it is Batonebi, we will not go to a doctor."* The study discovered that participants visit traditional healers depending on their popularity (treatment of Hepatitis in Kutaisi) and the severity of the disease (in rural areas): *"If child is not very sick, the healer can treat him/her."* It is noteworthy that jaundice is totally associated with immediate seeking of medical care for diagnostic and sometimes for treatment purposes.

It should be noted that community members seek medical care more consistently for children's illnesses compared with adult illness*: "In any case, parents will take a baby to the doctor." "Adults can be recovered without doctor's assistance." "In case of illness, an adult individual doesn't seek care at the medical facility."* The younger the child, the more likely the parent will seek health care treatment: *"If a 10-year-old child has a fever, we may not inform a doctor, but if an infant is sick, we will go to the doctor immediately."*

Cultural traditions, such as respect for mothers-in-law, shapes health care-seeking behavior in the Azeri community, although access to medical services does not differ from other rural areas of Georgia. Due to the community's lack of awareness of risk factors, even paralysis may not be considered a severe condition. Respondents mentioned a neighbor who believes that her grandchild with neurological impairment is healthy. When doctors try to persuade her to take the child for treatment, she responds: "*How can a doctor visually diagnose paralysis?"*

All respondents think that informing health authorities about diseases is important *"for treating the child properly," "for recording all diseases in the medical records," "for eliminating the source*

of infection," "for deriving correct diagnosis," "sometimes when the child has recovered from the disease, vaccination should not be given against that disease," "forgetting proper disinfection in their houses." In the urban groups more global aspects were mentioned, for example: *"to prevent disease dissemination and transmission," "to give the government an opportunity for better planning of medical services," "to define general strategies."*

Although informing medical facilities about infectious diseases is recognized as a very important exercise, a number of factors hinder this practice – financial factors among them. In fact, all groups mentioned financial factors as a deterrent to reporting VPDs. If a condition is not severe and the child recovers quickly, respondents might not inform medical facilities in order to avoid additional expenses: *"If a disease is mild, we might not refer to the health facility."* In addition, participants expressed various other opinions as to why they would not report VPDs: *"Some people have no information about possible complications." "There are parents who are ashamed of the fact that their child is infected by Hepatitis." "Some families do not want to have disinfection in their houses."*

Conclusion

In general, the population has a positive attitude toward immunization; however, community members lack adequate knowledge of the safety of immunization and the quality of vaccines.

Usually the population does not seek medical care in cases of mild disease; however, the patient's age appears to be an important determinant here: a child's illness is more likely to provoke health care-seeking behavior. Many communities, mostly rural, consider VPDs to be common diseases that do not require medical assistance.

3.3 Utilization of Medical Care

In order to explore the pattern of utilization of medical care in the case of VPD, respondents were asked the following questions:

1. Where do people go when they seek help for these conditions?
2. What makes you want to seek care at an official facility for this condition(s)?
3. What constraints do you face in trying to seek care at an official facility?
4. What would make people seek medical assistance earlier?

When exploring participants' preferences of medical care, two different views emerged. The first group sought health care at governmental facilities only and was composed of some of the urban and all the rural participants. The rural population has no choice but to visit the village ambulatory: *"A visit to another facility/doctor will be very expensive for me." "There is no transportation." "The ambulatory doctor knows us; if you have nothing to pay you can explain and pay later. In a city, you cannot do so." "The pediatrician of the ambulatory knows our children from infancy."* The urban population most often seeks district doctors for the following reasons: *"A child should be supervised by one physician who is responsible for his/her health." "Physicians in the polyclinics are more experienced." "Everything is registered in the polyclinics."* Therefore, when the urban population seeks medical care at official government facilities, it is their choice, whereas such care is the only option for the rural population.

The second group was made up of urban community members who prefer private practitioners, although in some cases they will seek care at official facilities. Their choice is determined by the level of professionalism and popularity of private practitioners and partly by financial factors if the doctor is a friend, relative, or neighbor: *"It is cheaper." "He/she is a friend of our family and consultation will be free." "You can't visit the polyclinics with a sick child, and home visit of the polyclinic doctor is more expensive."* All participants refer to *polyclinic*/ambulatory doctors for immunization.

The main obstacle for getting official health care is the cost of the visit, which can increase unexpectedly with specialist consultations, analyses, or medications: *"Physicians try to get as much as possible from the patients." "It may happen that the doctor falsely states the condition as severe in order to get more payment from the patient." "The doctor administered very expensive medication for a common cough…"* Participants mentioned a lack of confidence, especially for laboratory services: *"You should be sure that the test result is reliable."* Participants noted other disadvantages, such as long waiting time, crowded waiting rooms where sick and healthy children are mixed, and low quality services. Limited services provided by ambulatories and limitations in getting medical assistance at rayon centers were mentioned by rural participants. *"It is not possible to get all necessary assistance here; ambulatories will provide first aid and then you have to spend 2-3 Lari (local currency) only for transportation to the city."*

People usually seek medical assistance earlier in the case of severe illness. The major determining factor for seeking medical care earlier is the financial aspect. Some of the respondents think that this problem can be resolved by *"introducing free services for certain vulnerable groups such as multiple children families and elderly;" "opening special polyclinics for poor people;" "introducing health insurance system;" "providers should be well paid and not dependent on patient's pocket;" "doctors should not be concerned about the number of receipts to be submitted at the end of day."* Rural respondents mentioned a geographical barrier as well. It was also suggested that raising community members' knowledge of VPDs would have a positive effect.

Conclusion

Financial aspects and quality of service are two factors that determine the population's choice of health care provider. The rural population is left with few options in health care, and their choice is determined by both geographical and financial factors.

The main constraint to community members seeking medical care promptly is financing.

3.4 Methods of Information Dissemination

In order to better understand the type of information about VPDs the community needs, respondents were asked the following questions:

1. What types of information about infectious diseases would you like to have? How would this information be helpful to you?

2. Is there anything else that you think it is important for us to know as we plan this?

3. What kind of information would you like to get on infectious diseases?

Urban and rural communities have different preferences in terms of their source of information on infectious diseases. Namely, the urban population prefers receiving information through television, which can be used for disseminating information on VPD prevention, ways of transmission, first aid, and other facts. Well-known specialists should deliver this information in a simple and understandable manner. In addition, urban group members considered it helpful to introduce special subjects at schools for 6th to 7th grade children. This could include discussions on communicable diseases, hygiene, first aid, and other important topics. A qualified doctor is considered to be the best source of information for parents.

In contrast to urban communities, the rural population prefers receiving information through the printed media, i.e., brochures and posters that should address the following questions: "*What is a causal factor of the disease? How can the disease be avoided? What are the main symptoms of the disease?"*

The Azeri community prefers face-to-face contact and discussions as the most appropriate source of information. Community members would be more likely to attend such discussions if they were facilitated by trained community members rather than health professionals (young mothers and grandmothers may not completely trust medical workers in these communities).

Conclusion

Urban and rural communities have different preferences in terms of the best source of information on infectious diseases. Namely, the urban population considers TV and special school programs as the best sources of information, whereas the rural population prefers printed media.

4. Results of Focus Group Discussions with Health Providers

4.1 Behavior toward VPD Surveillance

In order to explore health providers' behavior and attitudes toward VPDs, the following questions were posed:

1. I'd like to start by learning from you about the major infectious diseases that people suffer from in this area.

2. In what percent of cases that you encounter do you notify[2] the center of public health (CPH)?

Providers reported Rubella, Mumps, Viral Hepatitis, Pertussis, and Measles as the most common VPDs. Pediatricians mentioned that incidence of infectious diseases has a seasonal and cyclic nature, e.g., at present they mostly encounter Chickenpox.

The percent of cases registered and of which the public health system is notified varied in different groups. Well-known professors (group I) noted that the system encounters only hospitalized cases, while diagnoses made in private practice are not registered and notification is not made. Private practitioners ask parents to inform polyclinic pediatricians about the disease; the pediatricians in turn should make notification of the case. Responses of urban providers in Tbilisi and Kutaisi (groups II and III) were identical – pediatricians would notify the public health system of the case seen during the official visit; however, if the patient is seen informally or does not belong to their catchment area, pediatricians would not register the case or notify the public health system. Likewise, if the information about the disease is received with significant delay, these cases would remain out of the system. The following statements were made:

"If we see, we notify all." "Patients seen during private practice are not eligible for notification." "If the child is not of my catchment area, I won't send notification to the Sanitary Epidemiology Station[3]." "Frequently we got information after the child had recovered from a disease; in such case we had no right to diagnose the disease." "If the diagnosis is not differentiated, it is not appropriate to make a notification."

A specialist (allergist) participating in one of the FGDs declared, *"I would never notify about the disease…It is not my responsibility."* According to rural health providers in Imereti (group IV), the

[2] In the Georgian surveillance system, "notification" implies urgent action: submission during the same business day, or no later than within 24 hours, of information about probable (clinical) or laboratory-confirmed cases to the next highest level of the public health service, via any rapid means of communication (telephone, fax, email, etc.). "Reporting" refers to the regularly scheduled submission (monthly, annually) of numbers of notifiable diseases, done in written summary form.

[3] Centers of public health are structured similarly to the former Soviet systems of sanitary epidemiology stations.

surveillance system is notified of very few cases, if any: *"We have not done anything during last 10 years."*

Conclusion

Cases seen during private practice remain out of the surveillance system. Hospitalized patients are more likely to be registered and the public health system notified of their case, whereas notification of outpatients seen during formal practice is not routinely done. Rural health professionals do not notify the system of the vast majority of infectious disease cases.

4.2 Knowledge of and Attitude toward the Surveillance System

The study investigated providers' knowledge of and attitude toward the surveillance system by asking the following questions:

- *Complete this sentence:* Having an accurate knowledge of cases of these diseases allows…
- Without knowing this information, the CPH cannot…

1. Does any normative document/decree exist that regulates this process?
2. Who would use this information and for what purpose?
3. What are the benefits for you and the patients of correctly registering and sending immediate notification for cases of infectious diseases you encounter?
4. a) What happens when you do not register a case of an infectious disease (i.e., a case that you treat informally)? What consequences would you (or other colleagues, society) experience?
   b) What happens when you do not immediately notify the CPH of a case (that you treated informally)? What consequences would you (or other colleagues, society) experience?
5. a) What happens when (or would happen if) you do register all cases of infectious diseases that you see (formally and informally)? What consequence would you (or other colleagues) experience?
   b) What happens when (or would happen if) you send immediate notification for infectious disease cases you see (both formally and informally)? What consequence would you (or other colleagues) experience?

The discussions revealed that health care providers have no consistent knowledge of the surveillance system. At the primary level, the registration/notification system is functioning because of people's memory of the old Soviet period. Pediatricians (mostly from polyclinics) still mention sanitary epidemiological stations. Providers do not have accurate knowledge of the list of notifiable diseases: for instance, they are aware that the CPH should be notified promptly of each case of Diphtheria, Polio, Tetanus, Cholera, and Plague, while Measles is not regarded as a disease requiring notification or reporting: *"nothing will happen;" "complications are rare;" "they will check the immunization status;" "one case of Measles is urgent for Africa."*

The Urgent Notification form is still associated with a form #58 (which has been replaced with the new form); the standard forms do not exist in the facilities, and as a result practitioners fill out nonstandard handwritten forms.

None of the participants knew about the current decree regulating the registration and notification of infectious diseases in the country. Only one participant who was sure that she knew the decree cited a different document: "*This is Decree #60 concerning organization of Polyclinics ... private practice is not mentioned in this document at all."*

The majority of practitioners do not have adequate understanding of who will use this information and for what purposes. Almost all participants mentioned a statistical purpose followed by the necessity to carry out disinfection: "*to prepare statistical report;" "in case of Hepatitis A, they carry out disinfection; for other diseases they probably do only statistical analysis;" "for carrying out timely epidemiological interventions;"* and "*to isolate the patient."*

None of the respondents mentioned any personal benefits resulting from proper registration and notification of VPDs. On the contrary, they remarked, *"it creates unnecessary disturbance and nothing more."*

Professors stressed the negative consequences of an inappropriate registration and notification system for society, including the poor epidemiological situation in the country, limitations in proper design of the immunization calendar, restricted funding for state programs, and inadequate educational activities for providers and community. Inaccurate statistics also hinder evaluation of the immunization program (vaccine efficacy, appropriateness of vaccine transportation and storage).

Providers from polyclinics in Tbilisi mentioned also that improper notification may result in an inaccurate epidemiological picture of the country: *"Health authorities are not aware of true epidemiology situation, response actions are not carried out, that leads to hazardous consequences."* However, respondents from other groups do not understand the broader implications; they see only the issue of inaccurate statistics: *"The child will remain out of statistics;" "Lots of cases of Mumps occurred in kindergartens last year, however, there is no information at the MoH [Ministry of Labor, Health and Social Affairs]."* In terms of personal consequences, participants reported that nothing would happen if the case is not complicated: "*We are the only ones who know about the case, and if we do not notify [the CPH] of it, how will they get the information?"* However, if a child is hospitalized, practitioners may be asked why there was no notification: *"If the child recovers without complication, there will be no response." "In case of complications, they will come and ask why there was no notification, but often we are not aware of that particular case, because the child is directly taken to the hospital."*

Practitioners expressed diverse views on the positive effects of the registration/notification system for patients and providers. They had doubts about any positive actions from the public health side: *"There is no sense to make notification because they do not have disinfection materials." "They cannot use the information other than for statistics."* The main concern was that the "san-epidemiology station" would interfere in their practice and there would be penalties for poor performance of immunization: *"Epidemiologists would come and start checking medical records . . . I would like not to have any business with them; I will notify them of the case and that is all."* However, participants also mentioned the episodes of waterborne disease outbreaks when, after they were notified, public health and communal services took action. Among other positive factors, support in disease prevention was outlined, although it was not regarded as a sufficient motivation factor: *"If the system functions properly, they may stop disease from spreading."*

Conclusion

The study revealed that providers have a poor knowledge of the surveillance system. They are ignorant of current regulations as well as of the list of notifiable diseases; accordingly, the level of respective activities is minimal.

Most of the providers do not have enough understanding of who will use the information delivered through VPD surveillance and for what purpose. There are minimal, if any, formal or informal consequences for not registering and notifying of cases of infectious disease. There is no effective mechanism to influence a provider who does not comply with existing regulations concerning registration and notification of VPDs.

4.3 Constraining Factors of Registration/Notification

Participants were asked to identify factors that hinder the effective functioning of the registration/notification system:

- We recognize that there may be many reasons that might hinder you from registering all cases of infectious diseases and from sending urgent notifications. Can you discuss these?

The statements made can be summarized/categorized as follows:

1. Constraints related to cooperation with CPH:

   - Providers are uncertain about response actions from the public health system – "*anyway, there will be no response from san-epidemiological station*."
   - Providers think that it is wasting time to register/notify of infectious diseases.
   - Weakened links between providers and epidemiologists are a problem: "*Relations are not so intensive as in the past, and we have weakened our efforts*."
   - Tension exists between practitioners and epidemiologists. According to some pediatricians, staff from sanitary epidemiological stations sometimes overestimate their responsibilities and intrude in the provider's practice: "*When I send the notification, no one should bother me*."

2. Constraints related to financial disincentives and hardships:

   - Participants cite lack of motivation, because "*working only on bare enthusiasm is quite hard*;" "*we are so humiliated with our social conditions that we do not care about statistics*."
   - Providers fear taxation. According to current regulations, a provider has to pay taxes on revenues from private practice. Notification/reporting of infectious disease cases to the surveillance system could be used by tax inspection to make providers pay taxes. "*We are checked by number of inspections and the most important is tax inspection, so we try to show best picture to them*."
   - Providers try to manipulate diagnosis in the medical records by adjusting the diagnosis to reflect those that are covered by state programs. Alternatively, providers may not register patients in order to exempt them from paying official fees for service. In such cases, providers can benefit by getting informal payments.

- Providers may be uncertain about correctness of diagnosis. Sometimes establishment of final diagnosis may require time or laboratory confirmation. The latter is associated with additional costs that many patients cannot afford, or with getting results beyond the urgent notification deadline. In such cases, practitioners often refrain from notification.

3. Constraints related to poor communication:

   - Nonexistent or complicated communication
   - Information about diseases received with significant delay, therefore, it makes no sense to notify

4. Constraints related to perceived negative consequences:

   - Resistance from parents who are "*unwilling to have disinfections in houses*"
   - Penalties for inadequate immunization program performance. Although practitioners currently are not punished for violations of the immunization program, they strongly remember Soviet times, when they were punished for violations.

5. Constraints related to poor knowledge among population:

   - Low utilization of medical care in case of mild illness; providers think that caretakers believe that in case of mild illness there is no need to seek medical care.

Conclusion

Providers cited a number of factors that hinder the effective functioning of registration and notification of VPDs. Namely, major emphasis was placed on constraints related to cooperation with the CPH, financial disincentives/hardships, and communication.

4.4 Perception of Low Utilization of Health Care System

In order to explore providers' views about low utilization of health care services, they were asked the following question:

1. Do you think the community always seeks medical care in case of infectious diseases?

Practitioners reported that the population mainly seeks medical care in complicated cases, whereas mild illnesses that do not necessarily rule out an epidemiological threat are not reported to the surveillance system at all.

Pediatricians reported that the community perceives VPDs as natural and common diseases of children and such diseases do not pose a risk to children's health nor do they require intervention from health professionals. This is true more so in rural settings.

Financial factors and geographical accessibility were also mentioned as reasons for low utilization of services: "*Some households are quite far from the ambulatory unit and they have no money to use the transport.*"

Providers expressed their views concerning immunization services as well: "*Parents know that immunization is free, and in the case of any minor complications after vaccination, they promptly refer for medical care; however, they behave totally differently in case of illness."* According to primary care providers in Kutaisi, *"It happens frequently that doctors from Tbilisi hospitals blame vaccination for any complicated conditions." "TV and printed media should support immunization, rather than provide anti campaigns."*

Conclusion

It should be stressed that in contrast to community members, providers did not consider financial constraints as a leading cause for low utilization of medical services. However, indirectly, they admit that availability of free services is a major determinant of health care utilization.

Some controversy and tension exist between primary and secondary care providers in terms of vaccination and its complications. In some cases, mass media creates obstacles to immunization programs rather than providing support.

4.5 Possible Solutions

In order to explore participants' views concerning possible solutions to improve the surveillance system, the following questions were asked:

1. Given all that you have just discussed, how can we improve the system?
2. What kind of changes and interventions might induce or facilitate your notification of cases of infectious diseases that you see a) formally? b) informally?
3. Is there anything else that you think it is important for us to know as we plan this?

Suggested ideas can be summarized/categorized as follows:

1. Organization of VPD surveillance system:
   - △ Disseminating registration and notification regulations among health professionals
   - △ Simplifying the system so that notification should not mandate maintaining the medical records
   - △ Modifying notification system to allow provider to remain anonymous. This would help to solve the problem of taxation.
2. Communication:
   - △ Facilitating means of communication, e.g., existence of a phone service that will be functioning throughout the day
3. Financial aspects:
   - △ Introducing financial or different kind of incentives: "*Incentives should exist. I should be punished or encouraged somehow...*"
   - △ Improving health providers' income: "*A provider should not be dependent on the patients' pocket.*"

4. CPH work in community:

- Increasing utilization of health care services by informing community about threats of infectious diseases through media, brochures, etc.

Conclusion

Facilitating means of communication, introducing financial incentives, and disseminating notification regulations among providers were mentioned as factors that may improve the surveillance system.

Pediatricians require straightforward interventions that will focus on the following:

- Improving knowledge of registration and notification system
- Defining responsibilities and a set of actions to be undertaken upon revealing a case
- Upgrading the level of understanding on the importance of the surveillance for country's public health system
- Clarifying the relationships between the CPH and the providers.

5. Conclusions and Recommendations

Study findings have highlighted several constraints and enablers for the VPD surveillance system to effectively capture cases in the community. These are described in this section.

Factors that currently discourage a high percentage of infectious disease patients from self-reporting to health facilities through official channels:

Constraints:

- Patients have limited financial access to quality care.
- There is a lack of understanding of the risks and potential advantages for the community.
- Some people are embarrassed to let providers know they have a disease.

Enablers:

- Many people think it is important to inform authorities to stop the spread of disease.

Factors that affect motivation of providers to report cases that bypass official channels:

- Providers lack the knowledge of and are confused about their own responsibilities, current regulations, and official procedures.
- There is poor cooperation between providers and CPH. Limited evidence exists that CPH actually uses the reported data for information-based response, or that the response health workers receive is what they want.
- Financial disincentives are a constraint. These include providers' fear of taxation of revenues made from private practice and their potential for informal payments if a) patients are not registered and thus do not pay official fees for services, or b) if the diagnoses are adjusted to those covered by state programs.

Potential Solutions (Interventions, or What Needs to Be Explored Further)

The results of the study indicate the following as possible interventions:

1. Advocate for eliminating financial barriers to care
2. Develop a strategy and work plan to enhance health education of the population and fully test it in Imereti to see if elimination of this barrier will improve case detection
3. Finalize the development of surveillance guidelines and regulations, provide respective training to CPH and health providers, and make everyone aware of new guidelines, roles, and responsibilities

4. Develop a functioning surveillance model in Imereti (ensuring appropriate information-based response from the regional and rayon CPHs)

5. Eliminate disincentives or develop motivators for health workers to report cases of infectious diseases.

It should be noted that providers themselves suggested the following to improve surveillance: facilitate means of communication, introduce financial incentives, and disseminate notification regulations among providers. Health care providers consider these to be factors that may improve the surveillance system.