

**AMERICAN UNIVERSITY OF ARMENIA
COLLEGE OF HEALTH SCIENCES
MASTER OF PUBLIC HEALTH PROGRAM**



**Evaluation Plan for Assessing Health Beliefs, Utilization and
Satisfaction of Yerevan Adult Population with Outpatient Services
provided by District Physicians at Yerevan Polyclinics**

MASTER'S THESIS PROJECT

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ABSTRACT

The nowadays period of market transition in Armenia is mostly characterized by such main concern of any field as the division of scarce resources. Similar problems underlie the Health care system. As experience has shown, totally free medical care is not a reality. The scope of services that could be guaranteed by the state (Basic Benefit Package-BBP) is narrower than is desired. From the available sources it is recognized that the utilization of the restricted amount of free services ensured by the state is extremely low. Unsatisfactory knowledge of the population about free medical services and inadequate perceived quality could be considered as the main causes of low utilization. This study aims to assess the relationship between the level of people's satisfaction with available services, their perception of the meaning of outpatient services to the Armenian population and their utilization of medical care. The goal of the study is to use the results in the elaboration of the future Basic Benefit Package of medical services insured by the state. Hopefully, it will be more acceptable than the current one.

INTRODUCTION

The main goal of the project is to evaluate the group of services insured by the Armenian government. The list of free medical services is determined each year by a group of local experts and is approved by the Government of the Republic of Armenia. Since 1996, when the idea of a Basic Benefit Package (BBP) was first introduced in Armenia, this is the initial attempt to evaluate it from the population point of view. There is a lot of ongoing discussion about the content of the BBP, priorities that were established, the competing programs that were included in (or excluded from) the BBP, and physicians' attitudes toward how the services should be organized. But the basic concept that underlies the BBP is to solve the problem of affordability and the quality of the medical services in the current stage of the new market economy established in Armenia. Are people happy with the services that are offered? Are the proposed medical services really free for the population? Are the services utilized adequately by the population? These are all questions that are so important to ask the people's opinion about in order to finally assess the real significance of the BBP as an alternative to the totally free Soviet medical care during the market transition in Armenia.

The fundamental principle by which the 1999 BBP services were selected is the following: all services are free for certain groups of the population and certain services are free for the total population of Armenia. Particularly, outpatient services can serve as an example of “free for everybody” services (1). The list of “socially vulnerable group” for which all services are free is determined by the Ministry of

Social Security. The categories of different social groups of the Armenian population are decided with the participation of the Ministry of Health (Appendix 1A).

The 1999 BBP consists of various Health Care Targeted Programs (see List of Health Care Target Programs, Appendix 1). (2)

From the large scope of programs that are represented in the BBP I chose outpatient services for my evaluation. I had several reasons for my option. First of all, because the policy of Ministry of Health of RA is to increase the role of polyclinics in case management in order to insure adequate health promotion and prevention for the Armenian population, it is important to know to what extent people receive the proposed care, and how the ideas of the preventive approach to health are accepted by them. Second, the 1999 BBP is the first attempt to make almost all the services in the polyclinics free for everybody and it would be useful to know whether it achieves its goal. Then, taking into account that outpatient care is more cost-effective than inpatient care, it is very important to assess the current status of outpatient services.

The central figure in Armenian polyclinics is the district physician (therapeft or pediatrician, the latter providing medical care to children under 15 years of age). Until the concept of Primary Health Care is completely understood and spread to all of Armenia, district therapefts and pediatricians serve as substitutes for PHC physicians.

My definition of "evaluation of outpatient services in Armenia" implies the appraisal of the work of the district therapefts and pediatricians in local polyclinics.

In the 1999 BBP, the whole range of duties and responsibilities of district therapefts and pediatricians are described in detail (1,3). The issue here is not only whether the physicians in reality perform what is proposed, but also 1) what people think they should perform (perception), 2) how they should perform successfully (satisfaction), and 3) how people use their help (utilization).

From the 1998 financial reports for state insured Health services, it is learned that the general population utilizes only 50% of the total volume of planned outpatient services (4). Two major causes are declared to explain the situation: low knowledge of the general population about free medical services and unsatisfactory quality of the care provided. For 1999, a huge campaign on increasing awareness of the Armenian population about their rights for free services was initiated. This hopefully should have considerably increased the awareness of the Armenian population of the free services for 1999. That is why I considered this problem for of my study.

I will examine the influence of the perceived quality of district physicians' work and perceived role of district physicians in case management by the Armenian population on their level of utilization of outpatient services.

The data that will be generated could be used for better planning, organization and management of outpatient services in the design of future BBPs. As the goal of Health Care system managers in Armenia is to provide more support to outpatient services, the information acquired will be useful to them.

BACKGROUND

After the collapse of the Soviet health care system, Armenia inherited its main features, including positive and negative ones. In the period of market transition, the disadvantages of the Soviet type of organizational model become more apparent. Extremely centralized management and financing, inability for self-development, and especially overstructured planning forced essential deep changes in the health care services of the Armenian Republic.

To solve the problem of quality and quantity of health services provision, and to insure continuous development and self-improvement, the Ministry of Health (MOH) professionals, in close cooperation with other interested organizations and agencies, initiated the Health Care Reform & Development Program. The Program included fundamental changes in the following directions:

- Policy
- Management
- Financing
- Medical training of providers (5)

Concerning health care policy, as a main organizational framework, the preventive model was chosen in accordance with the WHO Conference on European Health Care Reform in Ljubljana, Slovenia, in June 1996, accepted by 49 European countries (6). The fulfillment of the following important principles was considered crucial for Armenian health care:

- Health promotion
- Prevention of disease
- Early detection of disease
- Treatment
- Rehabilitation

In the new economic conditions that Armenia faces, the concept of "free medicine for everybody" was recognized not to be real anymore. Therefore, in the frame of management and health care financing reform, the main point was to determine the range of services to be provided free to the population or to be "insured by the state". According to the legislation of RA "for the most part of the Armenian population the scope of free health care is restricted to certain types of medical services" (7).

It was decided that as a reflection of MOH policy in health care development and provision, the Government of RA annually would adopt "Health Targeted Programs", which in their turn would serve as a basis for the next Basic Benefit Package (BBP). After the main directions are delineated, the team of experts would work out the necessary quantitative frame for each of the targeted programs, which have been presented just conceptually before. So, the final product, the BBP, would include all the necessary information concerning the population under its coverage and the range of benefits (5). In the BBP elaboration the main principles are considerations about the availability of resources, the cost of health care services, health needs, and utilization rates of the underlying population, as well as health care priorities assessment (8).

The concept of BBP was first introduced to Armenian health care in 1997. Since that time, 3 BBPs (for 1997, 1998 and 1999) were formulated (9,10).

As practice showed, 1997 and 1998 BBPs had several planning and implementation problems (5). The leading problems that previous BBPs suffered from were

- Too large a range of included medical services
- The absence of financial incentives for health care providers
- The existence of illegal out of pocket expenditures
- Too much emphasis on secondary and tertiary care
- Low level of health care utilization, especially of out-patient services
- Low level of knowledge of the Armenian population about their entitlement to benefits (4,5,11,12)

1997 and 1998 BBPs were far from being realistic about the cost of health services. They generally copied the Soviet model in trying to capture almost all types of medical services. The attempt to guarantee possibly more services for the Armenian population, which already suffered from the economic consequences of the transition period and the blockade, was rather humanistic in its nature; this approach almost ruined the enthusiasm about BBP among health care providers and consumers. Because of shrunk and fixed Health care system budget and huge amount of services to be guaranteed by the state while reimbursing all the proposed medical services, the allotment per each one was artificially lowered. Along with the absence of financial incentives for health care providers, this affected the quality of care (12).

Besides, though in 1997 it was declared that greater emphasis should be put on primary health care (PHC), still in 1998 the resource allocation was unequal in favor of secondary and tertiary health care (9, see also The financing of Armenian Health Care, Appendix 4).

The sources in the State Health Agency (SHA), the body in charge of health care providers' reimbursement mentioned that for 1998 the utilization of health care services was extremely low as compared with what was planned (4). Particularly, only 50% of the budget for outpatient services was used. This was partially due to the perception of the general population about "very high prices" that led

to making an effort not to utilize medical services except in cases of high need or serious illness. Besides, people knew very little about their rights to receive free services (12).

To deal with these major problems a new group of local experts in health care economics, public health, statistics and data management was created in August 1998. For 6 months the members of that group were involved in the elaboration of the 1999 BBP. In trying to deal with the above mentioned considerable problems, it was decided to

- Restrict the range of benefits to the most efficient ones
- Motivate health care providers to perform activities of better quality
- Increase the level of knowledge of the general population about their benefits

Starting from 1999, outpatient services received more financial support. Compared to the previous years, more resources were allocated to primary health care that provides preventive services and solves a huge scope of health problems (13). It is well known that this type of care ensures considerable gains of healthy life years at least cost. It allows services for the whole population with lower resources and therefore is recognized as the most efficient method of fund allocation (14).

In order to motivate health care providers to do a better job and to adequately address the ideas of health promotion and prevention, the type of reimbursement mechanism was changed. Various possible providers' reimbursement methods were discussed. It was decided finally that per-capita financing for polyclinic physicians is the one that enables equality and continuity of care. Besides, this type of reimbursement insures higher quality (12,14). The early documented "symptoms" of poor organization of out-patient services, such as poor level of prevention, inadequate role of polyclinic physician in case management, and duplication of services with unwarranted hospitalizations, could be potentially solved by adoption of this payment mechanism. The amount received by district physicians will depend on the number of people served, but not on the quantity of services prescribed. It is obvious that for that particular amount received per each person, health care providers would prefer to have fewer visits. In order to achieve that s/he would make every effort to keep the population as healthy as possible. The main goal of health promotion and prevention therefore would be accomplished. Sophisticated enough per-capita financing suggests adequate level of preventive measures, enables appropriate case management and possibly avoids the additional burden of hospital care. These are global issues to be studied further, but one of the present intentions is to measure the extent of satisfaction and level of perceived quality of polyclinic physicians that this theoretically successful method may have achieved in the Armenian population.

A large knowledge promotion campaign was initiated in order to increase people's involvement with BBP services. RA Government Decree N^o 199 of April 3, 1999 on Medical Services Insured by State was published in local newspaper, issued as a brochure; the abstracts were available in the polyclinics of

RA. Particularly the groups who benefit from BBP were specially delineated. All the necessary actions were undertaken to enlarge the scope of BBP services users. The latter procedure, along with proposed quality improvement, should have increased both utilization, through higher knowledge of entitlement to benefits, and satisfaction with BBP services, through higher quality perception by the Armenian population (see Figure 1).

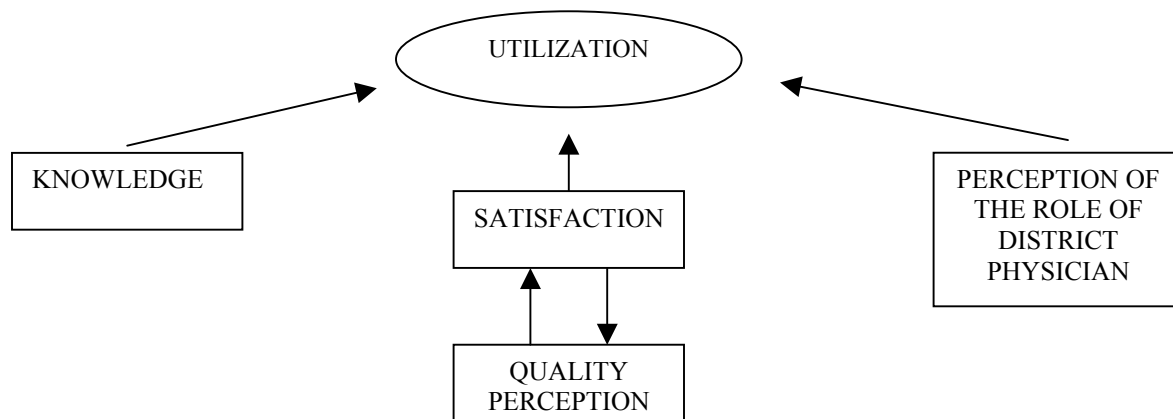
The health care program for out-patient services included in the BBP consists of the following (1)

- Primary health care for every one as performed by district physicians
- Other services at polyclinics (consultations of narrow specialists, laboratory tests, drug provision, dental care) for children under 8 years of age and socially vulnerable groups

It was stated that the tendency is to extend all outpatients services free for everyone in subsequent years. This should be done to reduce the unwarranted burden on secondary and tertiary health care units and to increase the role of outpatient services as more efficient ones compared with hospital care requiring more technology and resources.

Having said all this, it is interesting to know how important the Armenian population considers the role of outpatient services providing Health promotion and Prevention measures, what the level of perceived quality of the services is, and how satisfactory they are (see Figure 1).

Figure 1: Relationship of Utilization, Knowledge, Satisfaction & Perception



RESEARCH QUESTIONS AND TESTABLE HYPOTHESES

From the Budget reports for the first half of 1999 (01/01/99-30/06/99) it is learned that only 50% of the budget allocated for outpatient care has been utilized (4). The question arises: is this due to poor planning and/or low utilization of the outpatient services? That is why the first research question (RQ) is stated as:

What is the level of utilization of outpatient services provided by district therapefts during the last six months by the Yerevan adult population?

The answer to this question will enable us to understand the actual situation with respect to the "burden" on outpatient services.

As it is determined by the BBP (3), district physicians in the polyclinics should provide the whole scope of activities connected with Health Promotion and Prevention. Besides, as mentioned earlier, the financial incentives are created for health care providers to "keep the population healthy". The study aims to assess the perceived level of quality of outpatient care, and the satisfaction with the district physician performance. So the second research question is formulated as

What is the level of satisfaction among adult-users of outpatient services as provided by district therapeft in the last six months at Yerevan polyclinics?

For many years the importance of prevention was totally underestimated. The huge structures of inpatient care were full of patients, whereas "the role of polyclinic physicians was a dispatcher to refer patients to hospitals" (5,12). As to the last 2-3 years, the situation is beginning to change.

It is crucial for the population to realize the importance of primary prevention. For 1999, it is implied under the extended responsibilities of district physicians in local polyclinics. It is also important to know to what extent the general population accepts the ideas of Health promotion and prevention as offered by their district physicians. The last research question is defined as

What are the perceptions about the role of district therapefts by the general adult population?
(see Table 1)

Based on the above mentioned, and the model provided (Figure 1), the study attempts to

1. Assess the utilization of outpatient services through
 - number of visits
 - type of visit (curative vs. preventive)

The following independent variables will be used to describe Utilization as dependent variable:

- individual characteristics, such as: age, gender, education, having family members with medical background, being chronically ill, belonging to socially disadvantaged group
 - number of hospitalizations
 - number of hospital days
 - diagnosis
2. Reveal the level of satisfaction with outpatient services among users via perception of quality of district physician's work
 - satisfaction with the services provided by district physician
 - desire not to change personal district physician

- satisfaction with the attitude of personnel
- willingness to pay for service provided by district physician

The following independent variables will be used to describe Satisfaction as dependent variable:

- individual characteristics, such as: age, gender, education, having family members with medical background, being chronically ill, belonging to socially disadvantaged group
- number of visits
- number of hospitalizations
- reason for application to district physician
- actual out of pocket expenditures
- communication of the necessary information about patient's problem by district physician
- waiting time

3. Describe the perception about the role of district physician

- intention to see polyclinic therapist for preventive check-up
- perception about health promotion as district physician responsibility

The following independent variables will be used to describe Perception as dependent variable:

- individual characteristics, such as: age, gender, education, having family members with medical background, being chronically ill, belonging to socially disadvantaged group
- belief about the effectiveness of prevention
- belief about the responsibilities of district physician

Furthermore, the following hypotheses are planned to be tested:

- *Yerevan adult residents who consider primary prevention as the district therapist's responsibility are more prone to see them.*
- *Yerevan adult residents who use outpatient services provided by district therapists are more often willing to pay for them.*
- *Yerevan adults who believe in the effectiveness of primary prevention are more prone to place primary prevention among the district therapists responsibilities.*

Table 1: The Research Questions and Their Elements

Elements of Research Question	I	II	III	IV
What?	What is the extent of satisfaction with services provided by district physician	What is the level of utilization of outpatient services	What is the common belief about the effectiveness of prevention	What is the perception about district physician's responsibilities
Who?	Adult users of district physician services	General adult population	General adult population	General adult population
Where?	In Yerevan, Armenia	In Yerevan, Armenia	In Yerevan, Armenia	In Yerevan, Armenia
When?	04/01/99-09/01/99	04/01/99-09/01/99	04/01/99-09/01/99	04/01/99-09/01/99
Why?	To improve BBP outpatient services provided by district physician	To assess the level of utilization of outpatient services provided by district physician	To relate the existing beliefs about effectiveness of prevention to perception of district physician's responsibilities and the utilization	To appraise the perception about district physician responsibilities and relate it to utilization

METHOD, DESIGN AND SETTING

i. design and its limitations

The identified research questions are going to be addressed by means of an observational quantitative study. The proposed design is a cross-sectional survey. The cross-sectional survey method is good for looking at the relationships between variables at a single point in time. It provides rich information by concentrating on the wide scope of issues of interest. By means of appropriate selection procedures, the results of the study could be highly generalizable. This is rather important, since based on the results acquired, the recommendations will be made to the group of local experts in charge of future BBP elaboration. The population under study should possess the same characteristics as the general adult population in order to make the necessary implications out of the data.

The final report will contain the information on what the level of outpatient services utilization by the adult population in Yerevan is, to what extent adults are satisfied with the outpatient services provided by the district therapefts at Yerevan policlinics, and how the common beliefs and perceptions on the effectiveness of prevention and district therapefts' responsibilities affect adult utilization. Moreover, the

study will provide information on whether satisfaction and/or perceptions and beliefs about outpatient services can explain the observed level of utilization.

The survey will enable us to

- Quantitatively assess the measures of the variables of interest
- Test the hypothesized associations

The main limitations of this design are the absence of trend analysis and the absence of comparison group. There is no historical comparison, because as it is mentioned earlier, this study is unique in its purpose to evaluate the BBP, or more precisely, outpatient services as part of the BBP, from the population point of view, and provide substantial knowledge to policy makers about the values of the offered services to their users. Possibly these data could serve as a background for an analogous study for the year 2000 BBP evaluation. Since in 2000 the researchers would already have the background data they could judge the “real” impact that the outpatient services have on the satisfaction of the user population by doing pre- and post-data analysis. But for now, there is no comparison in pre- post mode, and that could be considered as one of the limitations of the study.

The other serious fact that should be considered before trying to interpret the results of the survey is that there is no “control” group. This also can be explained by objective reasoning. As proposed in the 1999 BBP, the services of district physicians are free for everyone. So there is no actual discrimination as regards the utilization of this part of outpatient services. Therefore, for “satisfaction” as well as “utilization” variables, there is no comparison group. On the contrary, for the “perception” variable, there is room for separate analysis for “users” vs “non-users” of outpatient services. Some judgment could be made also on the effectiveness of the district physicians' job based on the number of hospitalizations for the separate period of time for “users” vs “non-users”. In the latest case, the health conditions could be a confounder since for some chronic diseases the number of hospitalizations could be pre-determined, and will not depend on the effectiveness of the work of the district physician in health promotion and prevention. So, the second limitation is to some extent a partial one, since for one of the dependent variables it could be overcome.

The design of the study according to Campbell/Stanley notation

X O where X - program (here outpatient services provided by district therapefts in
the frame of 1999 BBP)

O - measurements (here cross-sectional survey)

ii. validity and reliability discussion

Internal validity indicates to what degree the detected outcome is due to the program.

External validity suggests to what degree the observed results are generalizable, e.g. attributable to the entire population from which the study sample is drawn.

Table 2: Threats to Internal and External Validity

#	Threat	Present	Absent	Non-applicable	Reason
1	2	3	4	5	6
Threats to Internal Validity					
1	History	✓ *			No comparison group to protect against this threat
2	Maturation	✓ *			No comparison group to protect against this threat
3	Testing			✓	No pre-test to learn from
4	Instrumentation			✓	No opportunity in changing the instrument
5	Statistical regression		✓		Intervention population is not selected on the basis of extreme characteristics
6	Selection bias	✓ *			The individuals with telephone are selected, selection bias in favor of those with higher social status (?)
7	Attrition		✓		There is no follow-up
8	Interaction with selection			✓	Randomization protects against this threat
Threats to External Validity					
9	Testing-program interaction			✓	No pre-test to change the reactivity to the program
10	Selection-treatment interaction		✓		The responses are relevant not only to the population from which the sample is selected
11	Reactive/situational effects	✓ *			Based on the "aura" of program evaluation the people could change the responses
12	"Multiple program effect"	✓ *			Previous years' unpleasant experience with district physicians' job may affect the responses

*- see *Discussion* section

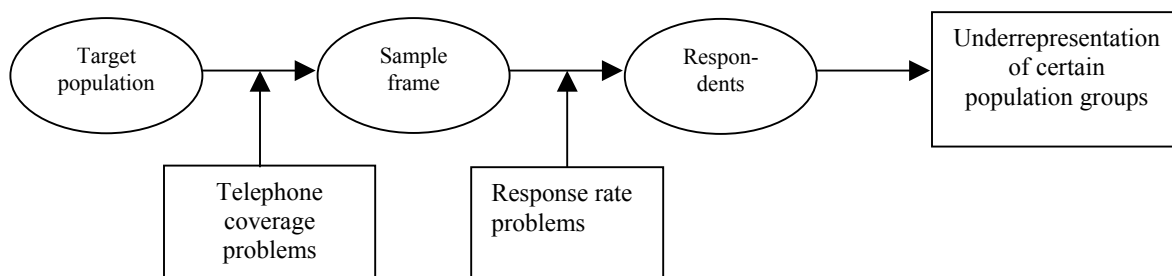
DISCUSSION of VALIDITY

The "History" and the "Maturation" threats are the problems related to long duration of the program of interest. In this case, the observed outcomes can hardly be distinguished of being the consequences of the program itself or "maturation" of the population under study or other "historical" event. Analogously, since outpatient services can be viewed as an "annual program", adopted by the Armenian Government, it is difficult to avoid any other influences on the target population that can be related to the dependent variables. Since this is not a prospective study, there is no possibility to detect

other influences that can modify the effect of services provision to the population and affect the utilization and/or the satisfaction. Usually the existence of the comparison group protects against this threat, because both groups "suffer" the same influences. As it is specified previously, the absence of the comparison group is the main limitation of this survey. In order to minimize the effect of the "History" and "Maturation" threats, I decided to narrow the period of time under consideration for the selected dependent variables (see Questionnaire, Appendix 3).

Selection bias is a problem with almost all the studies, because the sample frame of the population under study can possess some characteristics that the rest of it lacks (Figure 2). The target population for this survey is the adult population of Yerevan. The method of accessing the target population specifies the selection of sample frame, the list of the target population from which the actual sample will be drawn. The sample frame in case of Telephone Interview is confined to the people who own telephones at home or at the workplace. So, as one can judge on first sight, the sample frame includes those who possibly have higher socio-economic status. If the assumption is true, it can seriously affect the results of the survey. This is to some extent is true. Hardly do rich people lack telephone at home, on the other side in Yerevan the telephone ownership depends on the district where the person lives, and therefore cannot be purely attributed to his/her social status. Even some proportion of rich people can lack phone at their homes. Therefore although selection bias can be a problem, it is to some degree lowered by actual circumstances.

Figure 2: The common sampling problems



The next bias that can influence the results is "Reactive/situational effects". This one is more of a problem than the previous ones, because of the national features of Armenian population. Based on the "aura" of program evaluation the people could change their responses in both positive and negative directions in order to please the authorities or, which is more believable, to punish physicians for former "sins". In any case it is hard for people to be objective as far as medical care and especially free medical care is concerned. Since the answers can be altered in both directions the influence of this bias can be unpredictable.

The last threat that can affect the results of the survey is also very hard to control. It is "Multiple program effect". As it is mentioned in "Background" section the former BBPs (1997 and 1998) had many serious problems associated with their poor planning and implementation. So the outpatient services, as a part of BBP, also bear those problems. Therefore, having two previous years of rather unpleasant experience with district physicians' job also affect the responses. People can be more critical to the district physicians. Therefore, the dependent variables will show not only the effect of 1999 outpatient services, but to some extent the 1996 and 1997 experience.

MEASUREMENTS and DISCUSSION of RELIABILITY

Since the total Yerevan adult population is the subject for the survey, it is easier to access the population through phones. Moreover, taking into account the undoubtable merits of telephone surveys discussed later in this section, the data collection method decided upon is telephone interview.

In order to assess the advantages and the disadvantages of the selected type of measurement it is useful to consider the different aspects of the survey process, such as drawing the sample, including coverage, response rate, non-coverage and non-response bias, formulating questions, formatting questions, carrying out the survey, preparing the data for analysis and costs (Table 3).

Table 3: The Advantages and the Disadvantages of the Telephone Interview¹

#	Steps in Conducting Survey	Telephone Interviews	
		Advantages	Disadvantages
1.	Drawing the Sample		
	1. Coverage population		✓
	2. Response rates		✓
	3. Non-coverage and non-response bias		✓
	4. Accuracy in selecting the respondent	✓	
	5. Design effects	✓	
2.	Formulating Questions		
	1. General format		✓
	2. Types of questions		
	- non-threatening	✓	
	- threatening	✓	
3.	Formatting the questionnaire		
	- length		✓
	- sequence of the questions	✓	
4.	Carrying out the survey	✓	
5.	Preparing data for analysis	✓	
6.	Costs	✓	

¹ This table is adopted from Aday "Designing and Conducting Health Surveys", page 77

As one can derive from the table, there are a number of steps in conducting health surveys where telephone surveys are advantageous. For instance, this type of data collection method insures high accuracy in selecting the respondent and it has less design effects compare to self-administrated surveys, which means the increase in standard (type I) error because of deviation from Simple Random Sampling (SRS). The random digit dialing that is used has the least design effects (19). Besides, though no visual aids in conducting telephone interviews can be used, they are very convenient in asking sensitive questions, such as the question about the out of pocket expenditures, as compared to an oral interview (see Questionnaire, Appendix 3). Moreover, as it was revealed during an experiment conducted at the University of Michigan, while comparing telephone survey with traditional face-to-face interview for the same study, there were "few or no differences in the estimates of health events (disability days, physician visits and so on) between the two modes" (19). As far as response problems (Figure 2) are concerned, it is easier to follow up the respondents through the telephone interview at different times of the day or on different days. And lastly, it is commonly accepted that telephone surveys are less expensive in terms of both time and money consumption than personal and self-administrated ones.

The reliability of the measurements is mainly connected with the 1) constancy of the obtained results over time and 2) equivalence of the data between different data-gatherers (19).

Table 4: Threats to Reliability

Threat	Description	Advantages of telephone interview
Subject-related	Recent bad events, bad mood	Advantage: opportunity to call on different days and different times on the same day
Interviewer-related	Fatigue, leading the interviewee to certain answers	Advantage: standardized interviewers, free schedule in conducting the interviews
Instrument-related	Poor questionnaire	Advantage: pre-test and pilot study

In order to achieve a high level of reliability of the questions, or the first type reliability, the questionnaire (see Appendix 3) has been pretested. During the pre-test, the contents of the questions, their sequence and the range of the possible answers to each question have been determined. One of the main goals of the pre-test has been to acquire unification between the interpretations of each question in the questionnaire, concerning especially "Perception" questions. Some responses have been eliminated; for example, in the options to question concerning the effectiveness of prevention (question #5) the neutral answer "Neither-nor" has been removed, in order to force people to express particular positive or negative opinion. The questions on chronic diseases, the diagnosis, socially vulnerable group and marital status

have been added. Besides, the qualitative element is also incorporated into the questionnaire. The wording of several questions has been changed.

iii. setting

As defined by research questions, the population under study is the adult population of Yerevan as subject for outpatient services provided by district therapefts in the frame of BBP services. The only exclusion criterion is the age under 15 years. The selected method of randomization is Random Digit Dialing. Sampling rationale is the following. During the pilot study, no stratification by code areas was done. As the results showed, most of the respondents lived in areas that could be easily contacted from Nor Nork hamaynk, as all the calls were made from there (Appendix 5, The Results of the Pilot Study). In order to assure the equal involvement of the inhabitants of the areas with certain telephone codes, it was decided to do stratification by code numbers and consider 15 complete interviews per each code as sufficient². So the total sample size will be 480 (32x15). Moreover, this time the population will be contacted from 3 different places to facility the connection process.

The response rate for telephone surveys is from 70 to 85 % on an average (17). During the pre-test, the response rate, as calculated by dividing the number of complete interviews by the total number of calls (excluding those when the line was busy or any other connection problems), has been estimated to be equal to 0.65 or 65 %. Therefore the whole amount of work that should be done by three interviewers is roughly 738 calls, or 246 per person for the period of data gathering (3 weeks).

Sampling

The chosen sampling method is Random Digit Dialing (RDD). The procedure consists of the following 3 stages.

Stage 1

Each data gatherer has his/her list of the codes that need to be contacted. The codes are considered subsequently.

Stage 2

For each code, the next 4 digits in the number are selected separately by means of the Random digit table³. When the 6-digit number (XX-XX-XX, where first XX is area code) is completed, the number is dialed. Each number is dialed once.

The dialed telephone number for each completed interview is registered. This is done in case it is necessary for data cleaning purposes to contact a respondent once more.

² There are 32 code numbers in Yerevan: 22, 23, 24, 25, 26, 27, 28, 34, 35, 39, 42, 44, 45, 46, 47, 48, 52, 53, 54, 55, 56, 57, 58, 61, 62, 63, 64, 65, 72, 73, 74, 77.

³ The method of random selection is included in training of interviewers course

The proposed sampling method is advantageous due to the following reasons. RDD enables proper randomization in order to assure validity; it is convenient, less time and money consuming. On the other hand, it introduces underrepresentation of the people who lack a telephone at home or at their workplace. Having balanced the disadvantages and the advantages of the sampling method, it was decided to carry out a pilot study in order to make the feasibility of the proposed evaluation plan more apparent (see Description of the Pilot Study section).

DATA MANAGEMENT AND ANALYSIS

Data management and analysis will be performed using Stata 6.0 statistical package. It allows a wide range of manipulations with the data, including significance and association tests.

The first part of the final report will contain information about the basic characteristics of the respondents, mainly the independent variables, such as age, marital status, gender, education, Yerevan hamaynk, medical background in the family, belonging to the socially disadvantaged group, having chronic illness and diagnosis. The distribution of the above mentioned variables by "users" (those who in last 6 months had at least one visit to district physician for any reason) and "non-users" (those who in last 6 months did not have at least one visit to district physician for any reason) will be also demonstrated.

As suggested by the first research question, the study is interested in the level of utilization for which the following information will be available: # of visits to the district physician during the period between 04/01/99 and 09/01/99 and # of preventive visits (for "users"), # of hospitalizations during the same period, # of hospital-days and # of referrals to hospitals by district physicians for users and non-users. Besides, the possible causes for applying to district physician will be outlined.

The second research question asks the information on satisfaction with the district therapefts' services for "users", particularly satisfaction with district physician's work, the attitude of the district physician and nurse, the communication of the necessary information to the patient, the intention to change district physician.

The last research question touches on the perceptions of the role and responsibilities of the district physician. In addition to perceived responsibilities of district therapeft, the final report will contain information about the intention of people to use outpatient services for prevention, possible reasons for disregarding them, and beliefs about the effectiveness of prevention.

It will be also reported to what extent the "users" and "non-users" are different with respect to their perceptions about the responsibilities of the district physician and the beliefs about the effectiveness of prevention.

By means of χ^2 test of association the following null hypotheses will be tested:

- there is no association between the utilization ("users" vs. "non-users") and the perception about the responsibility of district physician in prevention performance ("yes"/"no").
- there is no association between belief in effectiveness of prevention ("effective"/"not effective") and the perception about the responsibility of district physician in prevention performance ("yes"/"no").
- there is no association between the utilization ("users" vs. "non-users") and willingness to pay ("yes"/"no")

The "willingness to pay" variable is here a surrogate for the "satisfaction" variable.

For the confirmation of association, the 5% of statistical level is selected. Under the p-value of the χ^2 -statistic less than 0.05, it will be concluded that the null hypothesis is rejected, or there is an association between the variables of interest. Otherwise, the association will not be considered proved.

For each proven association, the list of possible confounders will be considered. As there are a lot of independent variables that could be related to both independent and dependent variables, they need to be examined for a confounding effect. This will be done through stratification by the possible confounding variable and examining the association for each stratum independently. If the association disappears (p-value 0.05 and more), then it is obvious that the association between the variables of interest is entirely due to the confounding variable. If the association persists, then other tests will be performed, for example, for nominal confounding variables, z-test of proportions or logistic regression.

DESCRIPTION OF PILOT STUDY

The pilot study aimed to assess whether the proposed evaluation plan is feasible and will get the appropriate information on the variables of interest. The telephone interview is a rather unusual form of research method in Armenia, that is why the feasibility of this type of study should be checked. The pilot study included the following steps:

1. Data gathering

The telephone calls were performed between September 6, 1999 and September 20, 1999 following the above mentioned procedure of RDD. 150 calls were made totally. Each number was dialed 1 time. If "unsuccessful", the dialed number was changed. 48 calls were "successful" or ended with a complete interview, and 1 was half-completed; this was also used in the final analysis, since it was available for half of the variables. From the remaining 101, in 75 cases the line was busy, and 26 refused to answer. So the "real" response rate can be calculated as follows:

The total number of calls made (excluding the cases when the line was busy) is $49+26=75$

The number of completed interviews is 49.

The response rate is equal to the number of completed interviews divided by the total number of calls made: $49/75=0.65$ or 65%.

2. Analysis and discussion of the results

The analysis of the 49 completed questionnaires was performed by means of Stata 6.0 statistical package.

The analysis phase included such basic steps as a report on the demographic characteristics of the respondents, a report on the main dependent variables, and hypotheses testing.

All the results are presented in Appendix 5.

Most of the respondents applied to the polyclinics located in Nor Nork (15 people, or 32.6% of respondents), Malatia Sebastia (7 people, or 15.2% of respondents), Arabkir and Kentron hamaynks (6 persons in each, or 13.0 % each). It appears that the location distribution of the polyclinics is unequal in favor of those districts that are easily contacted from the Nor Nork hamaynk (where the interviewer was located). In order to avoid this for the study itself, it was decided to stratify by district and code numbers, by taking 15 complete interviews per each code.

The “gender” distribution shows that there are more women (28 women, or 62.2%) than men (17 men, or 37.8%) in this study. The availability of only evening hours for the study possibly accounts for the difference. A “free” schedule for the interviewers may protect against this.

The mean age of the respondents was 41 (standard deviation 11.8), the lowest and the highest age categories are 21 and 69 years respectively (see Age distribution graph, Appendix 5). The mean education years of the respondents was 15 (standard deviation 3.0), the minimum years of education was 10.

9 persons, or 20% of the respondents, had among immediate family members, a person with “medical background”. 4 people, or 9.3%, reported belonging to the “socially disadvantaged group”, and 10 people, or 21.7%, self-reported being “chronically ill”.

The “user” status is defined as a visit at least once to district physician in the last 6 months. The number of users in the pilot study was 11 people out of 46, or 23.9%. Among them 7 people (63.6%), did not pay the district physician during the last visit and 4 persons did pay. 8 (72.7%) of the “users” agreed to pay if a so called “community participation fee” was introduced. The last figure is interesting to compare with the total population (“users” and “non-users” combined). The proportion of those who are “willing to pay” in the general population is 32 people, or 82 %. This point is rather interesting for further speculation. The majority is ready to pay a 100 drams per person monthly “community participation fee” and be sure that any time they enter a polyclinic all the services will be totally free for them.

The “satisfaction” variable as measured among “users” provided the following information: 5 people (out of 11 “users”), or 45.4%, were satisfied with their district physician's work, 4 of them (36.4%) were neutral and 2 persons (18.2%) were strongly dissatisfied. Two categories: “dissatisfied” and “strongly satisfied” were not selected. Possibly those who reported themselves as “strongly dissatisfied” have had serious problems with their district physicians, which the people who were “satisfied” and

"neutral" apparently did not. On the other hand, I would say that the "satisfied" people are in reality maybe neutral ones. As Armenians always like extremes, if really "satisfied" they would report "strongly satisfied", but here this category is missing. Having said all this, the significance of the results about the intention to change the district therapeft increases for checking internal consistency. From 11 "users" 5 people do not want to change their district physicians, 3 persons have that intention, and 3 people "do not know". From the 2 "strongly dissatisfied" people 1 has the intention to change district physician and the other person "does not know". The "neutrals" either do not want to change the physician or do not know. Of persons who are satisfied with the district physician's work, 2 out of 5 **do** want to change the physician and the rest do not. From the data available it is difficult to tell why these 2 persons have the intention to go to an other district physician. Because of this, for the study itself, I added the qualitative elements in order for people to express their opinions and/or justify their answers. Also, I tried to put in questions to find possible reasons for dissatisfaction. They are as follows: waiting time until admission by the district physician, communication of the necessary information to the patient, and attitude of the personnel. While testing the above mentioned associations, the results showed that the satisfaction was neither associated with the waiting time ($p\text{-value}=0.887$) nor with the communication of the information the patient wanted to know ($p\text{-value}=0.3$). On the contrary, results revealed an association between the "attitude of the nurse" and the "attitude of physician" and the "satisfaction" variable. P-values equal 0.005 and 0.011 respectively. These findings suggest that the dissatisfaction of the people is mainly caused by the bad attitude of the personnel, though as it was already mentioned, maybe the combination of quantitative and qualitative studies may enable us to find more information about this issue.

The description of the "utilization" variable shows the following. The mean number of visits to the district physician was 0.4 (standard deviation 0.9), the range was 0 to 4. For the preventive visits, the mean number of visits was 0.2 (standard deviation 0.6), the range was 0 to 2. As a cause for applying to the district physician is: 7 people "felt bad", 2 applied for check ups and 2 for documentation ("tekhekanq"). 2 persons were hospitalized once each. One of them was referred to the hospital by the district physician and the other referred himself.

As to the "perception" variable, 16 persons out of 48 (35.56%) recognized early detection of disease as the most important district physician's responsibility. The next popular viewpoint was "health promotion/prevention" (15 people, or 33.33%). And 12 people (26.7 %) said that the district physician should "cure the disease". All the respondents believed that it was more effective to "prevent the disease than to treat the condition after it appears". There was a 50% and 50% split between "strongly agree" and "agree".

So, the Yerevan adult population believes in the effectiveness of prevention and places preventive measures among the district physician's responsibilities, but very few apply to the district physician for a

check-up. Dissatisfaction may be one of the reasons for this. I decided to use the "willingness to pay" variable as a proxy for the "satisfaction" variable, as the "satisfaction" questions were directed only to "users". Logically thinking, nobody would pay for services that are completely worthless. The test of association between "utilization" and "willingness to pay" revealed that there was no relationship between these two variables ($\chi^2=2.12$, p-value=0.145). This may be explained by several reasons. First of all, there may in reality be no association, and there may be other justifications for low utilization; or may be the "willingness to pay" variable is not a good substitute for the "satisfaction" variable. Some other reasons may be revealed through open-ended questions, which will possibly add to the "richness" of the study.

For the hypothesis: "Yerevan adult residents who consider primary prevention as district therapefts's responsibility are prone to use them more often", no association was found ($\chi^2=0.3$, p-value=0.582). The level of utilization does not appear to be related to the perception about the district physician's responsibilities. Both variables are independent from each other.

For the hypothesis: "Yerevan adults who consider important the effectiveness of primary prevention place it as district therapefts responsibility" an association was discovered ($\chi^2=4.96$, p-value=0.026). Those who strongly believe in the effectiveness of prevention tend to place it among the district physician's responsibilities. This can be considered as a positive outcome of the pilot study. At least people recognize that prevention is important and, which is more important, attribute its responsibility to the district physician. So, in spite of the negative influences that reduce the number of visits to the district physicians, the population is ready to adequately use their services according to their recognized responsibilities.

PROJECT SCHEDULE

Table 5: Time-table

#	Action	1 st week	2 nd week	3 rd week	4 th week	5 th week	6 th week	7 th week	8 th week
1	Training interviewers	✓							
2.	Data collection		✓	✓	✓				
3.	Editing					✓			
4.	Analysis						✓	✓	✓
5.	Final report preparation								✓

PERSONNEL AND LOGISTIC CONSIDERATIONS

The training that aims to standardize interviewers' behavior in asking questions will take place during the first week of the program evaluation. The training will include: lectures, performance (role-

playing), direct observation. The training part is performed by a Public Health professional (see: "Other staff" item in the Personnel) who is hired for a week.

Data collection will take the next three (2nd, 3rd and 4th) weeks of the evaluation program. As indicated before, 480 "successful" calls (see Sample Size section) should be made: 15 per each of 32 codes. Each interviewer will work for 3 weeks until the ultimate number of 160 calls is achieved. The Yerevan area will be divided into 3 parts, including three hamaynks each. The first interviewer will be located in the Zeytyun hamaynk to contact Nor Nork, Avan, Nork Marash and Zeytyun hamaynks; the second interviewer will be in the Arabkir hamaynk, trying to reach Davidashen, Ajapnyak, Erebuny and Arabkir hamaynks; the last interviewer will stay in the Kentron hamaynk to approach Nork Marash, Nubarashen, Shengavit and Kentron hamaynks. This division is relevant, because of the difficulties in contacting some areas from certain locations. The interviewers will work until the total number of "successful" calls per person (160) is accomplished. It is estimated, through the pre-test, that having considered connection problems and refusals, approximately 50 complete interviews can be done in one week period. Each interviewer will do 53 interviews per week to complete 160 during 3 weeks.

After the data are collected, they will be cleaned and edited by the data manager who will work for 4 weeks; the last 3 will be dedicated to data analysis. The data manager is responsible for making the necessary documentation of the final results and their presentation in the final report.

The responsibility of the investigator is to manage the whole process and control the phases of the research.

ETHICAL CONSIDERATIONS

As any research, this study also introduces ethical concerns. In the assessment of the conformity with the ethical principles that are important to research that involves human subjects, the following attributes are of prime consideration. First of all, the scientific worth of the study and the appropriateness of the selected methods. This study attempts to evaluate the current value that the adult population puts on the services provided by their district physicians in the Yerevan polyclinics. In order to contact the target population, two alternative sample frames were deliberated: the polyclinics' lists of the served population and Random digit dialing. The polyclinics' lists are mostly incomplete; they often even include dead people. Random digit dialing has considerable advantages and provides equitable distribution of the benefits and harm among the studied population. The next characteristic of ethical research is informed consent. When designing the consent form for the telephone interview, I thought that it should be comprised of the following: the aims of the study for people to understand its importance, the future application of the results, the confidentiality guarantees and the right to refuse the interview at any time a question is found to be inappropriate.

The following consent form is present to the interviewees:

Hello,

I am part of the project that aims to evaluate out-patient services in Yerevan city and the level of satisfaction of its population by the work of district therapefts. The result of this evaluation will be used to improve effectiveness of out-patient services provision in Yerevan.

We got your number by random selection of the digits. We expect your kind attention and active participation in this project. The confidentiality of the information provided by you is guaranteed. The interview will take 10 minutes. You can refuse to answer any question and stop the interview any time you feel uncomfortable with it. Thank you in advance for your assistance.

Besides, though the data include discussion of satisfaction with the district physicians' services, the only information available in the questionnaire is the hamaynk where the polyclinic is located. So, in case the data become available to the authorities the identity of the polyclinic cannot be derived.

Table 6: Budget

Item	Unit of calculation	Cost per unit	Number of weeks	Total cost
1	2	3	4	5
Personnel salary:				
- investigator	week	\$ 50	8	\$ 400
- office manager	week	\$ 50	8	\$ 400
- data manager	week	\$ 70	4	\$ 280
- interviewers (3 people)	week	\$ 30	3	\$ 270
- trainers (2 people)	week	\$ 30	4	\$ 240
Subtotal				\$ 1590
Equipment				
- rent of software (3)	week	\$ 30	8	\$ 720
- other equipment				\$ 400
Communication cost	month	\$ 1.5	2 month	\$ 9
Subtotal				\$ 1129
Office rent	month	\$ 150	2 month	\$ 300
Indirect costs:				
- electricity	kw	\$ 0.5	2 months	\$ 80
- garbage	month	\$ 10	2 months	\$ 20
- transportation cost				\$ 20
Subtotal				\$ 120
Office supplies				\$ 120
Miscellaneous	-	-		\$ 500
Total				\$ 3759

CONCLUSION

This evaluation plan is designed in order to assess the utilization of outpatient services provided by district therapefts at Yerevan polyclinics. The study will also estimate the level of satisfaction of the Armenian population with those services. According to the 1999 BBP, the district physician's responsibilities include Health promotion and prevention. Therefore, the belief of the effectiveness of prevention and perception of the role of district therapefts, by the Armenian population, are both considered of interest of this study.

The generated data will be used in the process of planning and managing the Health Care system in Armenia.

AKNOWLEDGEMENT

I would like to express my deepest gratitude to my adviser, Dr.Soghikian, for his kind help and support in my work on this project. Also, I would like to thank the faculty of Public Health Department, my colleagues and my family for their assistance.

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The List of State Health Target Programs
(adopted by Government of RA)

1. Hygienic and Epidemiological Safety Provision State Health Target Program
2. Primary Health Care State Health Target Program
3. Children Medical Care State Health Target Program
4. Obstetric Gynecological Care State Health Target Program
5. Medical Care to Socially Vulnerable Groups State Health Target Program
6. Infectious Diseases State Health Target Program
7. Non Infectious Socially Important Diseases State Health Target Program
8. Urgent Medical Care State Health Target Program
9. Health Financing Improvement and Primary Health Care Development Program Supported by World Bank State Health Target Program.

Appendix 1A

The List of Socially Vulnerable Group
(by categories)

1. 1st degree handicapped
2. 2nd degree handicapped
3. 3rd degree handicapped
4. Handicapped children under 16 years of age
5. World War II participants
6. Children of single mothers
7. Children without parents (without one or both parents, under 18 of age)
8. Families with many children (4 or more children, under 18 of age)
9. Families with victims of RA defence war
10. Participant of Chernobyl disaster elimination activities
11. Victims of political regimes
12. Individuals undergoing primary medical examination on work ability
13. Children from families with handicapped (under 18 years of age)

Note: Following types of health care make an exception:

- cosmetic surgery intervention
- organ transplantation
- artificial organs and tissues transplantation
- utilisation of precious metals and metal-ceramics in dentistry

Table #1: *Dependent & Independent Variables and Types of Measurement*

N	Variable	Dependent vs. Independent variables	Type of measurement	Description
1	2	3	4	5
1.	Age	Independent	Numerical	# of years since last birthday
2.	Marital status	Independent	Nominal	Marital status on the day of survey
3.	Gender	Independent	Nominal	Gender
4.	Education	Independent	Numerical	# of years studied in educational institutions
5.	Region (Yerevan Hamaynks)	Independent	Nominal	Yerevan hamaynk where the polyclinic is located
6.	Medical background among family members	Independent	Nominal	Medical school graduates among immediate family members
7.	Belonging to socially disadvantaged group	Independent	Nominal	Subjects for receiving free drugs
8.	Having chronic illness	Independent	Nominal	Registered in polyclinic as chronically ill (dynamic observation)
9.	Diagnosis	Independent	Numerical	Diagnosis of district physician
10.	Willingness to pay for DT services	Dependent	Ordinal	Agreed to pay monthly fee (insurance type) for outpatient services
11.	Actual out-pocket expenditures	Independent	Nominal	Paid to district physician
12.	Intention to change DT	Dependent	Nominal	If possible would change the district physician
13.	Satisfaction with the work of DT	Dependent	Ordinal	Perceived quality of work of the district physician
14.	Communication of the necessary information about the patient's problem	Independent	Nominal	Provision to the patient all the information s/he wants to know about the problem
15.	Attitude of the personnel	Dependent	Ordinal	Perceived attitude of the personnel
16.	Reason for application to DT	Independent	Nominal	Reason for self-referral to district physician
17.	Waiting time	Independent	Numerical	Time passed until admitted by district physician
18.	# of visits in last 6 months	Independent	Numerical	# of self-referrals to district physician
19.	# of preventive visits in last 6 months	Independent	Numerical	# of check-ups (without any pathological symptoms)
20.	# of hospitalizations in last 6 months	Independent	Numerical	# of hospital referrals

1	2	3	4	5
21.	# of hospital-days	Independent	Numerical	# of days stayed in hospital
22.	Belief about the effectiveness of prevention	Independent	Ordinal	The value put on the effectiveness of preventive measures
23.	Referral to DT for preventive check-up	Dependent	Nominal	Applying to district physician for check-up (without any pathological symptoms)
24.	Perception about health promotion as district physician responsibility	Independent	Nominal	To what extent the preventive measures and health promotion are considered the district physician's responsibility
25.	DT responsibilities	Independent	Nominal	The range of district physician's responsibilities as perceived by general adult population

QUESTIONNAIRE

Consent form:

Hello,

I am part of the project that aims to evaluate out-patient services in Yerevan city and the level of satisfaction of its population by the work of district therapefts. The result of this evaluation will be used to improve effectiveness of out-patient services provision in Yerevan.

We got your number by random selection of the digits. We expect your kind attention and active participation in this project. The confidentiality of the information provided by you is guaranteed. The interview will take 10 minutes. You can refuse to answer any question and stop the interview any time you feel uncomfortable with it. Thank you in advance for your assistance.

1. Are you over 15 years of age?

☐ Yes

☐ No

(if the answer is "No", stop the interview)

2. What do you consider the main responsibility of your district physician?

Choose the closest answer.

(Do not read the responses)

Treat the disease	-----	1
Refer the patient to the hospital	-----	2
Provide necessary documentation	-----	3
Health promotion and prevention of diseases	-----	4
Early detection of diseases	-----	5
Other (mention) _____	-----	99

3. Please, explain your opinion

4. Would you apply to your district physician for preventive purpose?

☐ Yes

☐ No

(if the answer is "yes", skip to question # 6)

5. What is the main reason for not applying to your district physician for preventive purpose?

Chose one answer

(Do not read the responses)

Have no time	-----	1
It is not responsibility of polyclinic physician	-----	2
Do not trust him/her	-----	3
Other _____	-----	4

6. "It is more effective to prevent the disease than to treat it after the symptoms already appear". To what extent do you agree with the statement?
(Read the responses)

Strongly agree	-----	1
Agree	-----	2
Disagree	-----	3
Strongly disagree	-----	4

7. Please, could you go back to April 1, 1999? Since that time how many times have you visited your district physician for any reason?

_____ times
(if "none", put "0")

Do not remember----- 99
(if the answer is "0", skip to # 25)

8. How many of the visits were preventive?

_____ visits
(if "none", put "0")

9. How many hospitalizations have you had in the same period?

_____ times
(if "none", put "0")

Do not remember----- 99
(if the answer is "0", skip the question # 12)

10. How many days have you spent in the hospital since April 1, 1999?

_____ days

Do not remember----- 99

11. From the number of hospitalizations that you had how many of them were immediately subsequent to the visit to your district physician?

_____ times
(if "none", put "0")

Do not remember----- 99

12. Please, recall your last visit to your district physician. How many minutes did it take until he (she) saw you?

_____ minutes
(if immediately, put "1 minute")

Do not remember----- 99

13. What was the cause of the last visit?

(do not read the responses)

Choose the closest answer

- Feeling bad/curative ----- 1
- Preventive check-up ----- 2
- To take drugs ----- 3
- To take documents ("tekhekanq") ----- 4
- Other ----- 5

14. How would you estimate the attitude of your district physician to you? (Read the responses)

☐

- Very bad ----- 1
- Bad ----- 2
- Neither bad nor good ----- 3
- Good ----- 4
- Very good ----- 5

15. Please, explain your opinion

16. How would you estimate the attitude of your district physician's nurse to you? (Read the responses)

☐

- Very bad ----- 1
- Bad ----- 2
- Neither bad nor good ----- 3
- Good ----- 4
- Very good ----- 5

17. Please, explain your opinion

18. Do you feel that your district physician provided all the necessary information for you to have about your problem during your last visit?

☐ yes

☐ no

☐ difficult to tell

19. Why did you need that information?

20. How much were you satisfied with your district physician's quality of work during your last visit? (Read the responses)

- Very dissatisfied ----- 1
- Dissatisfied ----- 2
- Neither satisfied nor dissatisfied ----- 3
- Satisfied ----- 4

Very satisfied ----- 5

21. Please, explain your opinion _____

22. If possible would you like to change your district physician?

☐ Yes

☐ No

(if the answer is “no”, skip to the question #24)

23. Why do you intend to change your district physician _____

24. We all know about financial difficulties, which could be related to physicians also. Anyway, please, tell did you pay your district physician during your last visit?

☐ Yes

☐ No

25. If the following is a suggestion:

You pay 100 dram monthly fee for each member of your immediate family and for the whole year **all** the services in your local polyclinic will be free for all of you. To what extent do you agree with this suggestion?

Strongly agree	-----	1
Agree	-----	2
Disagree	-----	3
Strongly disagree	-----	4

26. Have you currently any chronic illnesses?

☐ Yes

☐ No

(if the answer is “no”, skip to question #28)

27. What is your current diagnosis? _____
 Do not know/Do not remember -----99

28. Do you receive free drugs from your polyclinic?

☐ Yes

☐ No

29. Is there anybody in your immediate family who has a medical background?

☐ Yes

☐ No

30. In which region (hamaynk) of Yerevan is the polyclinic that you attend located?

- Nor Nork ----- 1
- Nork Marash ----- 2
- Zeytyun ----- 3
- Arabkir ----- 4
- Kentron ----- 5
- Malatia-Sebastia ----- 6
- Davidashen ----- 7
- Avan ----- 8
- Ajapnyak ----- 9
- Erebuni ----- 10
- Nubarashen ----- 11
- Shengavit ----- 12

31. How many years of education you had?

_____ years

32. What is your marital status?

- Single-----1
- Married ----- 2
- Divorced ----- 3
- Widowed ----- 4

33. What is your age since your last birthday?

_____ years

34. Is this your home address?

☐ Yes

☐ No

where, please, specify _____

35. How much money does your family spend during a month? (Read the responses)

- Less than \$50 ----- 1
- \$51-100 ----- 2
- \$101-200 ----- 3
- \$201-400 ----- 4
- \$401 and more ----- 5
- Do not know/Refuse to answer ----- 6

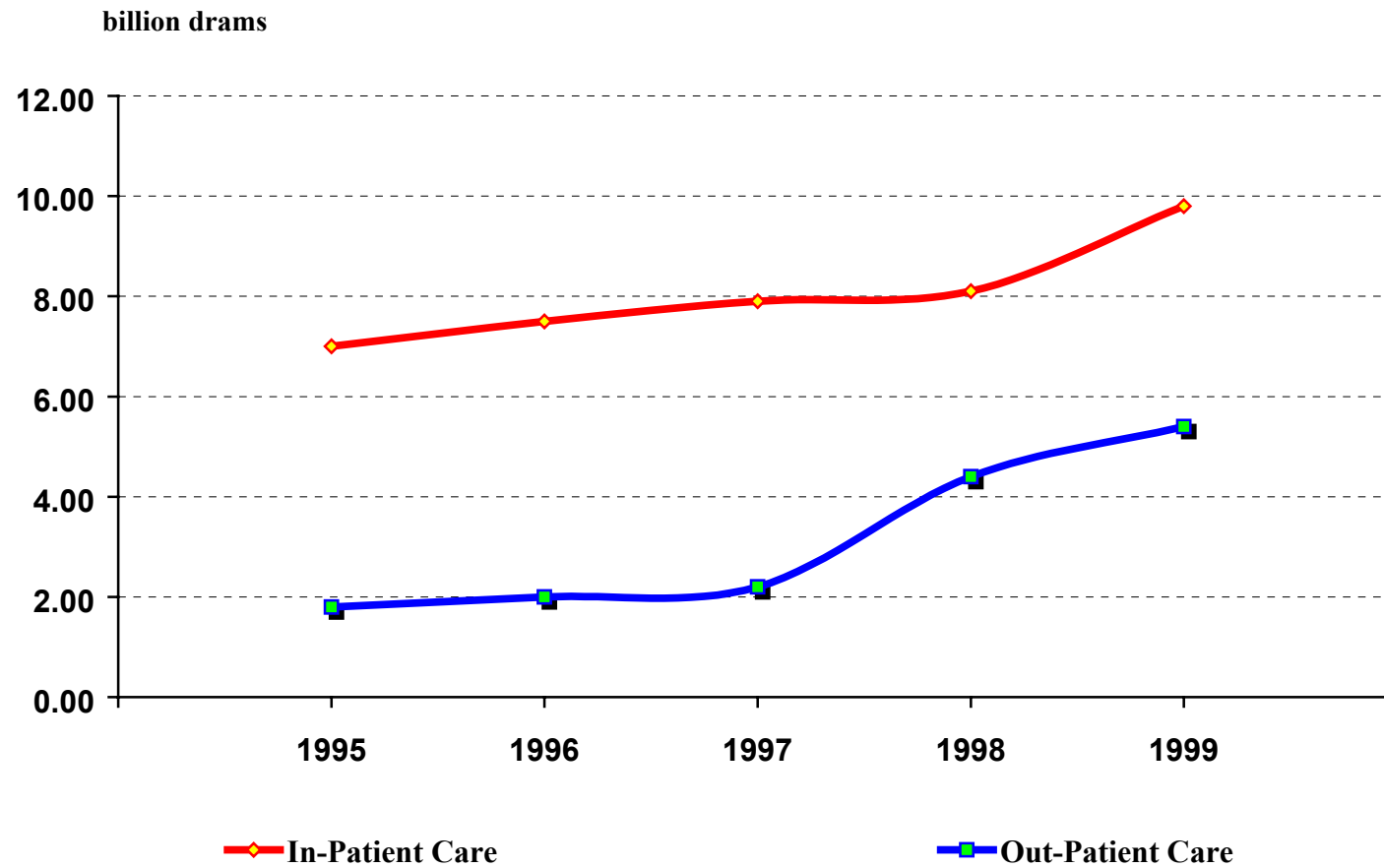
36. Gender

☐ Male

☐ female

Thank you for your time and consideration.

DYNAMICS OF IN-PATIENT AND OUT-PATIENT CARE FINANACING (Ministry of Health of Armenia)



THE RESULTS OF ANALYSIS OF BBP OUTPATIENT SERVICES
EVALUATION SURVEY
(pilot study)

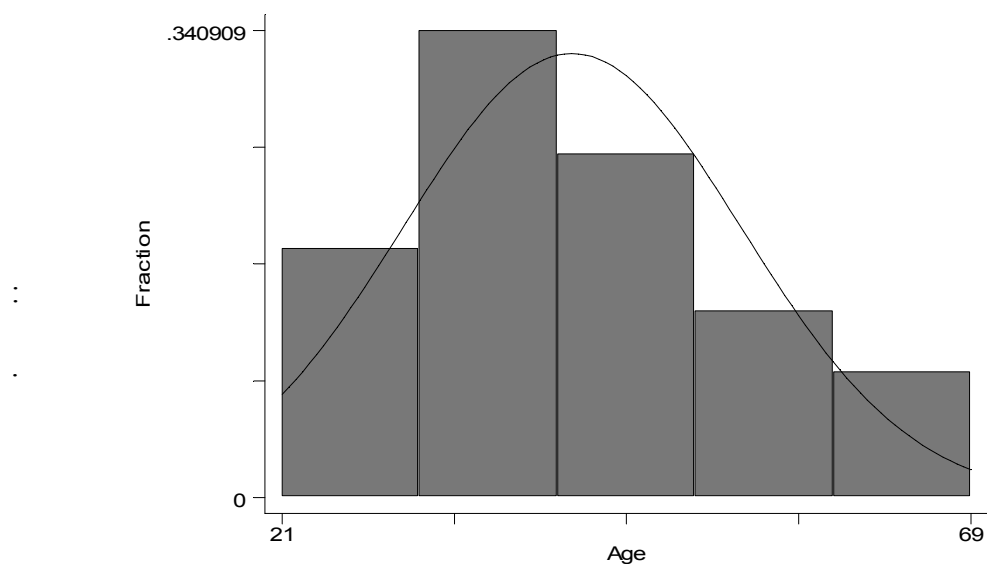
DESCRIPTIVE STATISTICS

The distribution of the respondents by Yerevan Hamaynks:

Yerevan hamaynk	Frequency	Percentage
Nor-Nork	15	32.6
Nork-marash	1	2.2
Zeytun	1	2.2
Arabkir	6	13.0
Kentron	6	13.0
Malatia-sebastia	7	15.2
Davidashen	1	2.2
Avan	1	2.2
Ajapnyak	2	4.3
Erebuni	5	10.9
Nubarashen	0	0
Shengavit	1	2.2
Total		100

The distribution of respondents' age:

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Gender distribution of the respondents:

Gender	Frequency	Percentage
Male	17	37.8
Female	28	62.2
Total	45	100.0

Medical Background in Family

	Frequency	Percentage
Nobody in family has medical background	36	80.0
Somebody in family has medical background	9	20.0
Total	45	100.0

Socially Vulnerable Group

	Frequency	Percentage
Belongs to socially vulnerable group	39	90.7
Does not belong to socially vulnerable group	4	9.3
Total	43	100.0

Chronic illnesses

	Frequency	Percentage
Having chronic illnesses	36	78.3
Not having chronic illnesses	10	21.7
Total	46	100.0

Willingness to pay for DT services by gender

Agreement to pay	Total	Percentage
Agree	7	17.9
Disagree	32	82.1
Total	39	100.0

Actual out of pocket expenditures

Out of pocket expenditures	Frequency	Percentage
Do pay	7	63.6
Do not pay	4	36.4
Total	11	100.0

Agreement to pay for outpatient services

Willingness to pay	Frequency	Percentage
Yes	7	63.6
No	4	36.4
Total	11	100.0

Intention to change DT

Intention to change DT	Frequency	Percentage
Yes	3	27.3
No	5	45.4
Do not know	3	27.3
Total	11	100.00

Intention to change DT	Satisfaction			Total
	Strongly dissatisfied	Neutral	Satisfied	
No	0	2	3	5
Yes	1	0	2	3
Do not know	1	2	0	3
Total	2	4	5	11

THE RESEARCH QUESTIONS (DEPENDENT VARIABLES)

Satisfaction with DT services

Satisfaction	Frequency	Percentage
Satisfied	9	81.8
Dissatisfied	2	18.2
Total	11	100.0

Utilization of DT services

Utilization	Frequency	Percentage
At least 1 visit to DT	11	23.9
No visits to DT	35	76.1
Total	46	100.0

The reasons for application to DT

Reason	Frequency	Percent
Feel bad	7	63.6
Preventive check up	2	18.2
Documents	2	18.2
Total	11	100.00

The perceptions about the duties of DT

Duties	Frequency	Percentage
Cure the disease	12	26.7
Refer patient to the hospital	1	2.2
Provide necessary documents	1	2.2
Health promotion/prevention	15	33.3
Early detection of diseases	16	35.6
Total	45	100.00

Belief about the effectiveness of prevention

"Prevention is effective"	Frequency	Percent
Strongly agree	23	50.0
Agree	23	50.0
Disagree	0	-
Strongly disagree	0	-
Total	46	100.0

HYPOTHESES TESTING

III. Hypothesis: those Yerevan adults who consider important the effectiveness of primary prevention place it as district therapists responsibility.

	Strongly believe in effectiveness of prevention	Believe in effectiveness of prevention	Total
Consider prevention as DT responsibility	11	4	15
Do not consider prevention as DT responsibility	11	18	29
Total	22	22	44

Stata results: $\chi^2=4.96$, p-value=0.026, therefore the null of no association is rejected, there is an association between Perception of DT responsibilities and Belief in effectiveness of prevention.

II. those Yerevan adult residents who are prone to use outpatient services provided by district therapists more often are willing to pay for them.

	User	Non-user	Total
Agree to pay	8	25	33
Disagree to pay	0	7	7
Total	8	32	40

Stata results: $\chi^2=2.12$, p-value=0.145, therefore the null of no association is failed to be rejected, therefore there is no association between the two variables of interest (χ^2 - test of association), therefore: those Yerevan adult residents who are prone to use outpatient services provided by district therapists are **not** more often willing to pay for them.

I. those Yerevan adult residents who consider primary prevention as district therapist's responsibility prone to use them more often.

	User	Non-user	Total
Consider prevention as DT responsibility	3	12	15
Do not consider prevention as DT responsibility	8	21	29
Total	11	33	44

Stata results: $\chi^2=0.3$, p-value=0.582, therefore the null of no association is failed to be rejected, there is no association between the two variables of interest (χ^2 - test of association), therefore those Yerevan adult residents who consider primary prevention as district therapist's responsibility are not prone to use them more often.