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TECHNICAL REPORT:

Gender Differences in Primary Care Resource Utilization in Central Asia

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January 15, 2000

Semipalatinsk, Kazakhstan

Ferghana, Uzbekistan



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I. **Abstract**

This study looks at how and why primary health care resources are inherently biased toward improving the health of women and children in post Soviet Central Asia. Taking a sample of over 36,000 health care visits in Semipalatinsk City and Oblast and Ferghana Oblast, it finds that, based on a combination of utilization and cost, women of reproductive age consume 1.5 times more primary care resources than men. The study shows what policy decisions the relevant health purchasers in the three sites made as a result of this information, in order to bring men into the primary care system. It is anticipated that these policy decisions will lead to a reduction in expenses on hospitalization and, ultimately, a strengthening of the entire system.

II. Executive Summary

ZdravReform, in cooperation with the regional health departments of Semipalatinsk and Ferghana Oblasts, (two health reform pilot sites) undertook a study into the gender differences in primary care resource utilization in Central Asia. The study was established in order to better understand both the mix of services currently being allocated in the primary care sector, how resources are being allocated, and how utilization of primary health care service varies by population characteristics, such as gender and age. The results of the study were then used to refine the per capita payment system using adjustment coefficients to compensate primary health care facilities for cost variations related to differences in health care needs across demographic groups.

The sample looked at over 36,000 primary health care visits: 15,699 in urban Semipalatinsk, 3,782 in rural Semipalatinsk, and 16,797 in rural Ferghana, Uzbekistan. Each patient visited by a primary care provider filled in a detailed questionnaire. In addition both patient level and health facility data were collected from each primary care facility included in the survey.

Analysis of absolute utilization showed that approximately half of all visits were made by women, and over 80 percent by women and children, with slight rural / urban variations. Adult males accounted for less than 25 percent of all visits in urban Semipalatinsk, and 18.9 percent and 11.8 percent of visits in rural Semipalatinsk and Ferghana respectively. Reproductive health visits only partially explained women's higher utilization of services. For example, within the group of women of fertile age, such visits account for only 26 percent of visits.

Absolute utilization data were then applied to population structure data in order to calculate per capita utilization rates within each group. The results found that based on a combination of utilization and costs of services, women of reproductive age consume around 1.5 times the average per capita primary health care resources, while men in the same age group consume approximately one-half the average per capita primary health care resources. The gap widens considerably in rural areas, which is partly explained by higher fertility rates in rural areas and partly by higher utilization of primary health care by men in urban areas. The gaps between male and female primary health care consumption narrow after the age of 50, although women still tend to consume about 50 percent more per capita than men. Therefore, any programs aimed at strengthening the primary health care system in Central Asia inherently target resources toward improving the health of women and children.

The results show, as evident, variations in primary care resource consumption. Some of the variations can be explained through different health care needs. Other variations may have their roots in the Soviet health care system and various bureaucratic controls requiring providers to make proactive home visits or for emphasizing providers' accountability for pregnancy outcomes and infant and child mortality, whilst putting less emphasis on adult morbidity and mortality.

Given the variations, a decision was made in each of the sites to compensate providers slightly more than the data suggest for adult men and slightly less for women of fertile age and children. It is hoped that this compensation system policy will provide providers with an incentive to bring more adult males into the primary care system and subsequently reduce expenditures on hospitalization.

The data collected for the study provide a unique opportunity to link individual characteristics with service utilization and costs. It is noted that the study is not based on a random sample and may, therefore, be difficult to draw statistically valid conclusions from, although the general results speak for themselves.

III. Introduction

In the countries of former Soviet Central Asia, there is a health reform movement underway to improve the cost-effectiveness, quality and sustainability of the health care system by strengthening primary care. Although primary care reforms in Central Asia are targeted to the entire population, additional resources for primary care are most likely to reach women and children. In both absolute and per capita terms, the principal users of primary health care in Central Asia are women of reproductive age and children under five. The present study shows that based on a combination of utilization and cost of services, women of reproductive age consume approximately 1.5 times the average per capita primary health care resources, while men in the same age group consume approximately one-half of the average per capita primary health care resources. The higher consumption of women is only partially explained by the use of reproductive health services. Women are also more likely to use primary care for general preventive services and services related to diagnosing and treating illnesses. Therefore, any programs aimed at strengthening the primary health care system in Central Asia inherently target resources toward improving the health of women and children.

IV. Primary Care Reforms

Under the Soviet health care system, access to primary care was, theoretically, a high priority. The clinical capabilities and overall role of primary care in the health care system deteriorated over time, however, because in reality primary care providers were not accorded high priority in the system and were in fact subordinate in every way to specialty care providers and hospitals.

Since 1995, the Semipalatinsk region of East Kazakhstan Oblast in the Republic of Kazakhstan has been implementing a comprehensive health reform agenda to strengthen urban and rural primary health care. Ferghana Oblast in the Republic of Uzbekistan began a health reform program for three rural regions in 1998. In these reform sites, the health services delivery system is being restructured to form independent primary care practices, which gives primary care providers financial and administrative independence from higher-level facilities. The newly independent primary care practices are being clinically strengthened with equipment and training. In addition, a per capita payment system for primary care has been introduced to shift resources to primary care, create financial incentives to improve efficiency and increase preventive care, and to give providers greater control over their own resources.

In Semipalatinsk and Ferghana, a survey of primary care service delivery was conducted as part of the development of the primary care per capita payment system. The objective of the survey was to better understand the mix of services that is currently being provided in the primary care sector, how resources are being allocated, and how utilization of primary health care services varies by characteristics of the population, such as gender and age. The results of the study were used as a first step to refine the per capita payment system by introducing adjustment coefficients to compensate primary health care facilities for cost variations related to differences in health care needs across demographic groups.

Ideally, capitated rate adjustments reflect true variations in the health care needs of different population groups and the actual costs of meeting those needs. Variations in health care needs are largely reflected in patterns of disease and mortality by age and sex. The resources required to meet those needs include the full costs of adequate diagnosis and treatment, including outreach and preventive services. To analyze variations in true health care needs, therefore, data are required from the entire population, including both users and non-users of the health care system. Such data can only be obtained from population-based surveys. Due to limited resources, however, the adjustment coefficients were developed using a detailed survey of per

capita utilization of health care services as a first approximation to the actual health care needs of the population.

V. Data and Methodology

The regional health departments of Semipalatinsk and Ferghana Oblasts carried out this study, with technical assistance from ZdravReform. The sample consists of more than 36,000 primary health care visits: 15,699 in urban Semipalatinsk, 3,782 in rural Semipalatinsk, and 16,797 in rural Ferghana, Uzbekistan. Data were collected on all health facility and home visits over a one-month period from five rural primary care facilities in Semipalatinsk serving a combined population of 8,961, and over a two-week period from twelve urban facilities in Semipalatinsk serving a combined population of 89,756, and 24 rural primary care facilities in Ferghana serving a population of 336,102.

Both patient level and health facility data were collected from each primary care facility included in the survey. For each visit, all primary care providers who had contact with the patient completed a detailed questionnaire. The questionnaire, which was developed in close collaboration with primary care physicians, included information on the age and gender of the patient, diagnosis, drugs prescribed and dispensed, transportation and travel time, and the time spent by medical personnel on all consultations, procedures and analyses completed during the visit. Health facility level data were collected on budgets, the size and demographic structure of the population served, and the utilization of space and available equipment.

The relative resource consumption by population group and age/sex adjustment coefficients were developed by calculating the average unit cost of a set of basic primary care services, then analyzing the utilization of these services by population sub-group to determine the relative expenditure on primary care services for each population group. The analysis involved three stages: (1) computation of the unit cost of each of 40 primary care services using step-down cost accounting; (2) analysis of per capita service utilization patterns by population subgroup; and (3) combining the cost and utilization data to determine the relative cost of providing primary care services to each population subgroup.

VI. Results

A. Absolute Utilization

The analysis of absolute utilization shows that women and children are the principal users of primary care in both the urban and rural areas studied. As shown in Table 1, adult women make approximately half of all primary care visits, and more than 80 percent of all visits are made by women and children, with a slight difference between urban and rural areas. Adult males account for fewer than 25 percent of all visits in urban Semipalatinsk, and 18.9 percent and 11.8 percent of visits in rural Semipalatinsk and Ferghana, respectively.

Table 1. Primary Care Utilization Patterns by Gender and Age

Gender/Age Category	% of All Visits			Total
	Urban Semipalatinsk	Rural Semipalatinsk	Rural Ferghana	
Children				
Children under 5	11.9	10.4	24.5	17.6
Children 5-14	16.4	17.5	18.1	17.4
Total	28.3	27.9	42.6	35.0

Adult Females				
15-49	32.0	38.2	42.7	37.6
50 and older	16.2	15.1	2.9	9.8
Total	48.2	53.3	45.6	47.4
Adult Males				
15-49	15.5	11.4	9.4	12.3
50 and older	8.0	7.4	2.4	5.3
Total	23.5	18.8	11.8	17.6

The results of the study also show that reproductive health visits only partially explain the higher utilization of services by women. As shown in Table 2, reproductive health visits account for only between 9 and 12.5 percent of all primary care visits in the study. As Table 3 shows, even within the group of women of fertile age, reproductive health care visits account for only 26 percent of visits.

Table 2. Primary Care Utilization Patterns by Type of Services

Type of Service	% of All Visits			Total
	Urban Semipalatinsk	Rural Semipalatinsk	Rural Ferghana	
Consultation (in health facility)	44.6	25.1	31.8	36.6
Gynecology/Family Planning	9.1	9.0	12.5	10.7
Laboratory tests	7.7	18.2	16.1	12.7
Functional diagnostic tests	2.0	0.0	0.1	0.9
Primary surgery, injections, other procedures	7.3	18.7	14.5	11.8
Physiotherapy	4.1	1.7	7.5	5.9
Preventive visits	15.3	1.0	4.2	8.7
Home visits	9.9	21.8	13.3	12.7
Total	100.0	100.0	100.0	100.0

Table 3. Utilization of Types of Primary Care Services by Gender and Age

Type of Service	Total	% of Visits within Gender/Age Group Visits					
		Children under 5	Children 5-14	Women 15-49	Women 50 and older	Men 15-49	Men 50 and older
Consultation (in health facility)	36.6	39.0	48.8	27.3	34.7	45.4	38.1
Gynecology/Family Planning	10.7	0.5	0.4	26.1	6.7	0.2	0.1
Laboratory tests	12.7	6.5	12.5	17.7	9.1	11.0	9.2
Functional diagnostic tests	0.9	0.0	0.4	0.7	0.8	3.6	0.9
Primary surgery, injections, other procedures	11.8	9.6	9.5	10.3	18.9	13.1	21.3
Physiotherapy	5.9	3.4	6.9	4.9	6.6	9.7	7.4
Preventive visits	8.7	16.0	10.8	5.1	5.7	9.3	6.8
Home visits	12.7	25.0	10.7	7.9	17.5	7.7	16.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Type of Service	Total	% of Visits within Type of Service					
		Children under 5	Children 5-14	Women 15-49	Women 50 and older	Men 15-49	Men 50 and older
Consultation (in health facility)	100.0	18.7	23.1	28.1	9.3	15.3	5.5
Gynecology/Family Planning	100.0	0.8	0.6	92.4	6.2	0.0	0.0
Laboratory tests	100.0	9.2	17.0	52.4	7.0	10.6	3.8
Functional diagnostic tests	100.0	0.6	7.4	28.5	8.6	49.7	5.2
Primary surgery, injections, other procedures	100.0	14.4	13.9	32.9	15.6	13.6	9.6
Physiotherapy	100.0	10.2	20.5	31.1	11.0	20.5	6.7
Preventive visits	100.0	32.5	21.7	22.0	6.4	13.2	4.2
Home visits	100.0	34.7	14.5	23.2	13.4	7.4	6.8
Total		17.6	17.4	37.6	9.8	12.3	5.3

B. Costs and Per Capita Resource Consumption

To analyze actual differences in primary care resource consumption across age and gender groups, absolute utilization data were applied to population structure data to calculate per capita utilization rates within each group. Per capita utilization rates for each of 40 services were then combined with unit costs to determine the per capita resource consumption within each age and gender group. A summary of unit costs by groups of services is presented in Table 4. Relative per capita resource consumption by gender and age group is presented in Table 5.

Table 4. Relative Unit Cost of Services

Type of Service	Relative Unit Costs		
	Urban Semipalatinsk	Rural Semipalatinsk	Rural Ferghana
Consultation (in health facility)	1.07	1.00	1.02
Gynecology/Family planning	0.81	1.14	1.01
Laboratory tests	1.16	0.41	0.81
Functional diagnostic tests	0.96	0.00	13.00
Primary surgery, injections, other procedures	0.77	0.44	1.25
Physiotherapy	1.05	0.61	1.04
Preventive visits	0.83	0.94	1.51
Home visits	1.26	2.02	0.80
Total	1.00	1.00	1.00

Table 5. Relative Per Capita Resource Utilization by Gender and Age

Site	Relative Average Per Capita Resource Consumption					
	Children under 5	Children 5-14	Women 15-49	Women 50 and older	Men 15-49	Men 50 and older
Urban Semipalatinsk	5.2	1.1	1.1	1.2	0.7	0.8
Rural Semipalatinsk	5.0	0.8	1.4	1.3	0.5	0.9
Rural Ferghana	2.7	0.8	1.9	0.6	0.4	0.4

The results in Table 5 show that based on a combination of utilization and cost of services, women of fertile age consume approximately 1.5 times the average per capita primary health care resources, while men in the same age group consume approximately one-half of the average per capita primary health care resources. As shown by the analysis of utilization of services above, the difference is only partially explained by visits related to prenatal care and other reproductive health services. Women are also more likely than men to visit primary care facilities for general preventive services and to seek care in the event of an illness.

The overall gap between the primary care consumption of men and women is wider in rural than in urban areas. In urban Semipalatinsk women of fertile age consume 60 percent more resources per capita than men of the same age group, while in rural Semipalatinsk and Ferghana, women in that age group consume 180 percent and 375 percent more than men, respectively. The difference between urban and rural areas is partially explained by higher fertility rates in rural areas and partially by generally higher utilization of primary health care among men in urban areas. The gap between the consumption of males and females narrows after the age of 50, but women continue to consume about 50 percent more per capita primary care resources than men.

In addition, the results show that although relative resource consumption is closely related to utilization patterns, absolute utilization alone is not an adequate proxy of relative primary care resource consumption across gender and age categories. For example, although children under five account for fewer than 20 percent of primary care visits, on a per capita basis this group consumes from 2.7 to 5.2 times the average primary care resources.

VII. Policy Implications

The results of the study show enormous variations in primary care resource consumption across age and gender groups. These variations may be partially explained by differences in health care needs. There are other factors, however, which can be influenced by health policy, that also contribute to differences in utilization patterns. For example, there are characteristics of primary care service delivery inherited from the Soviet health care system that account for provider-induced utilization in some population groups. There are rigid bureaucratic protocols, such as the requirement that primary care providers make proactive home visits to infants several times during the first year of life. In addition, the Ministry of Health holds primary care providers strictly accountable for pregnancy outcomes and infant and child mortality, but primary care providers are less accountable for adult morbidity and mortality. There are also differences in the opportunity cost of time and attitudes of men and women toward the health care system, which may also explain differences in care-seeking behavior and can be addressed by changes in service delivery and providing targeted information to the population.

Given the variations in resource consumption by gender and age categories, health purchasers in the three health reform sites were faced with the decision of whether or not to compensate providers for these differences. A decision was made in each of the sites that the gender/age adjustment coefficients should be used as a tool to influence the provider-driven portion of primary care utilization patterns.

Coefficients in all three sites are being altered to compensate providers slightly more than the data suggest for adult men and slightly less for women of fertile age and children. The additional primary care resources targeted to adult men are intended to create incentives to providers to bring adult men into the primary care system through specific outreach programs. This policy decision was seen as a way to increase overall resources available for primary care in the long run by increasing primary care utilization by adult men for preventive care and case management for chronic conditions, such as cardiovascular disease, and thus reducing expenditures on hospitalization.

VIII. Conclusions

This study is a first step in analyzing primary care utilization patterns and per capita primary care resource consumption in former Soviet Central Asia. Unlike administrative utilization data, the data collected for this study provide a unique opportunity to link individual characteristics with service utilization and service costs. Because the study is not based on a random sample of health facilities or visits, it may be difficult to draw statistically valid conclusions or to generalize the results. The results do raise important questions, however, that should be explored using more detailed analysis of the individual level data, supplemented by additional qualitative research.

Even given imperfect statistical methods, the results of the study show convincingly that children and adult women consume the overwhelming majority of primary health care resources. Therefore, any programs that strengthen the primary health care system in Central Asia inherently target resources toward improving the health of children and women. In addition, policies aimed at increasing the primary care utilization of men will, in the long run, redirect resources away from hospitals to primary care, which will further strengthen the part of the health care system relied on by women and children. More research is therefore needed to explain the observed gender differences in primary care utilization, so that appropriate policies can be adopted that encourage optimal primary care utilization and resource allocation.