

# Monitoring Health Conditions in the Russian Federation

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*The Russia  
Longitudinal Monitoring Survey  
1992-2004*

April 2005



The Russia Longitudinal Monitoring Survey (RLMS) is a series of nationally representative surveys of the Russian Federation between 1992 and 2003. This report is based on those conducted in September 1992 (Round 1), December 1994 (Round 5), October 1996 (Round 7), November 1998 (Round 8), October 2000 (Round 9), October 2002 (Round 11), October 2003 (Round 12), and October 2004 (round 13). Data from all rounds have been weighted to ensure comparability.

To date, the RLMS has been carried out in two phases, each following a different nationally representative sample. All aspects of field work in Phase II (the current phase, consisting of Rounds 5-13) have been handled by the Institute of Sociology, Russian Academy of Sciences, headed by Drs. Polina Kozyreva and Mikhail Kosolapov, along with the late Dr. Michael Swafford of Paragon Research International. The Institute of Nutrition, Russian Academy of Medical Sciences, headed by Drs. Alexander Baturin and Arseni Martinchik, have coordinated, collected, and processed health and diet data.

Data collection for Phase I (Rounds 1-4) was implemented by the Russian State Statistical Bureau (Goskomstat), with Alexander Ivanov and Igor Dmitrichev as co-directors. Assistance was provided by the Russian Center for Preventive Medicine, led by Drs. Alexander Deev and Svetlana Shalnova. The Russian Institute of Sociology, especially Drs. Kozyreva and Kosolapov, and Dr. Swafford of Paragon Research, also provided detailed assistance in Phase I.

Current funding for the RLMS has been provided by the United States Agency for International Development, the Pension Fund of Russian Federation, SIDA, Vision International People Group Public Limited. Earlier funding has come from the National Institutes of Health (Grant # RO1HD30880), the National Science Foundation (Grant # SES92- 23326), the World Bank, the Swedish Ministry of Foreign Affairs (through the Stockholm Institute of Transition Economics), the Ford Foundation, and the University of North Carolina at Chapel Hill.

The University of North Carolina team coordinating all phases of the RLMS includes Barry Popkin, Principal Investigator, and co-investigators Namvar Zohoori, Barbara Entwisle, Thomas Mroz, and Lenore Arab.

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Access to RLMS data is provided, as datasets become available to the public, at:  
<http://www.cpc.unc.edu/projects/rlms> (the RLMS home page on the World Wide Web).

# Monitoring Health Conditions in the Russian Federation

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*The Russia Longitudinal Monitoring Survey 1992-2004*

*Namvar Zohoori*

*took the lead in the preparation of this report, with assistance from  
Dan Blanchette and Barry Popkin*

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# Part 1. Overview of Key Findings

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- Since 1992, there have been fairly steady general decreases in the proportions of the adult population who are drinkers.
- Among teenagers, however, there is an increase in prevalence of drinking since 1998.
- For all groups, the mean daily amount of alcohol consumed by drinkers, which was at its highest level in 2002, is lower in 2004.
- The mean quantity of alcohol consumed by the heaviest drinkers (top 20%) in each group is 3-4 times the respective group mean.
- Smoking prevalence among men, which, in 2002, was at the highest level since the start of the RLMS in 1992, has declined to 61.3% in 2004.
- The steady increase in the prevalence of smoking among women, however, continues, from 7.3% in 1992 to 15% in 2004—a 105% increase over an 11-year period.
- Among teenagers, the increasing trend of the previous 2 years appears to have halted, decreasing slightly to 17.1% in 2004.
- The rate of the number of cigarettes smoked per day by all age groups, and most pronounced among women and teenagers, had been increasing steadily since 1998; but for men and women it has now leveled off and has resumed for teenagers in 2004.
- There has been a slowly reversing trend over the past couple of years, with more women in 2004 seeking medical care than men.
- There is also a trend, albeit with small percentages, over the past 3 years, of increasing hospitalization rates among women.
- Just over 1% of respondents report having ever had a diagnosis of tuberculosis.
- Since 2000, there has been a small but steady increase in the proportion of the sample who reported having compulsory insurance, from 87.7% in 2000 to 93.7% in 2004.
- Of the respondents who sought medical help in the 30 days prior to each survey, an increasing proportion have had to pay for it, from 8.5% in 2000 to 12.5% in 2004.
- About 52% of those seeking medical attention report paying “unofficial” money or gifts.
- An increasing proportion of Russians were able to get some or all of their prescribed medications—84.3% in 2004 compared to 78% in 2000.
- Since 2000, a decreasing proportion of those who received prescriptions were entitled to a full discount—65% in 2004 compared to 75% in 2000.
- Commercial pharmacies in both urban and rural areas have gained prominence as an important source of medications (33% in urban areas, and 28% in rural areas).
- Since 2002, there has been a gradual decline in the frequency of ‘No money’ as the major reason for inability to obtain medications, especially in rural areas.
- In rural areas, there has been an increase, since 2002, in unavailability of drugs as a major reason for inability to fill prescriptions (28.2% in 2004 compared to 17% in 2002, and 29.2% in 2003).

- Dietary fat consumption, which had steadily and consistently decreased between 1992 and 1998 in all age groups, has been increasing since then, and is once again above 30% in all age groups.
- Protein intake, which was also showing a slow decrease until 2000, has been increasing slowly but consistently since 2000.
- In the last 2 years, there is a slight increase in the prevalence of stunting among 0-24 month-olds, to 9.4% in 2004, from 7.8% in 2002, its lowest level since the start of the RLMS.
- The prevalence of stunting among two- to six-year-olds which increased sharply in 2000, has decreased slightly since then, and stands at about 9% in 2004.
- Among young adults, the prevalence of under-weight rose between 1992 and 2003 from 4.3% to 7.6%. It is currently at 7.2% in 2004, a 67% increase over 1992.
- Among the elderly, the prevalence of obesity is at 33.5% in 2004, an increase of over 50% since 1992.
- The prevalence of overweight among the elderly, however, is at its highest level since 1992, at 38.5%.
- Among the middle-aged (30 to 59 years), the prevalence of obesity in 2004 is at 23.2%, the highest level since the start of the RLMS.
- 99.5% to 100% of older children (25 months to 6 years old) were reported to have had some form of vaccination.
- However, certain types of vaccinations such as mumps and hepatitis, are under-administered.

# Part 2. Discussion of Results

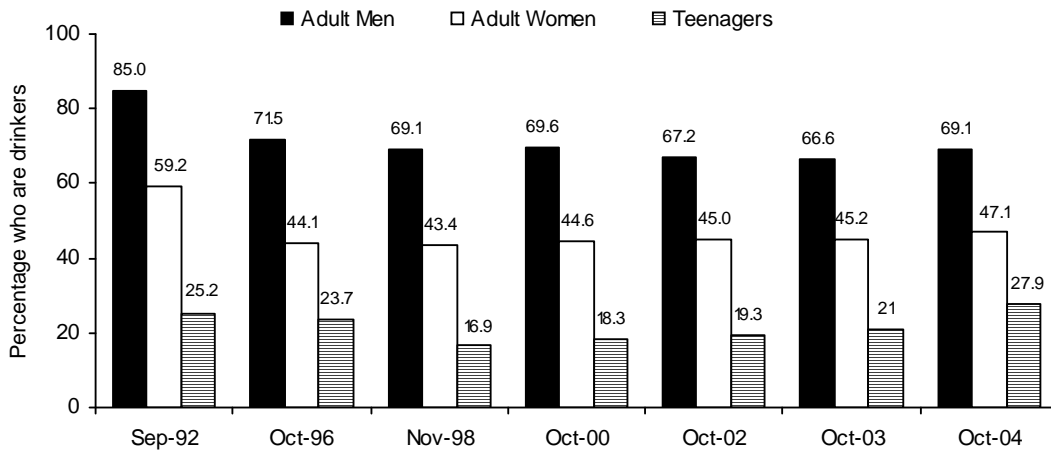
## Drinking and Smoking

NOTE: Figures on drinking and alcohol consumption in last year's and this year's reports have been recalculated using the latest information from the State Statistical Bureau (Goskomstat) on alcohol content of various types of drinks. In addition, the 2004 results on prevalence of drinking take into consideration responses to a question specifically asking about beer consumption (in addition to the general question on consumption of "alcoholic beverages". As a result, there are slight differences between these

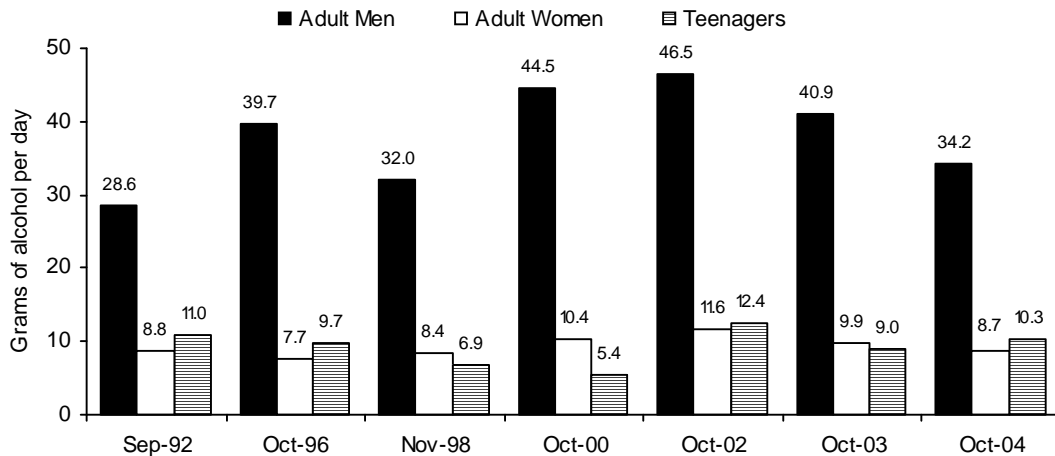
figures and those that appeared in previous versions of this report.

Figures 1a and 1b present data on the prevalence and level of individual alcohol consumption among adult men and women, and also among teenagers. (Due to the relatively small number of teenagers, aged 14 to 18, it is not useful to subdivide them by gender.) For the purposes of this report, a person was considered a drinker if there was any evidence in the data that he/she drank alcoholic beverages.<sup>1</sup>

**Figure 1a. Drinking Adults (18+) and Teenagers**



**Figure 1b. Mean Daily Amount of Alcohol Consumption (for drinkers)**

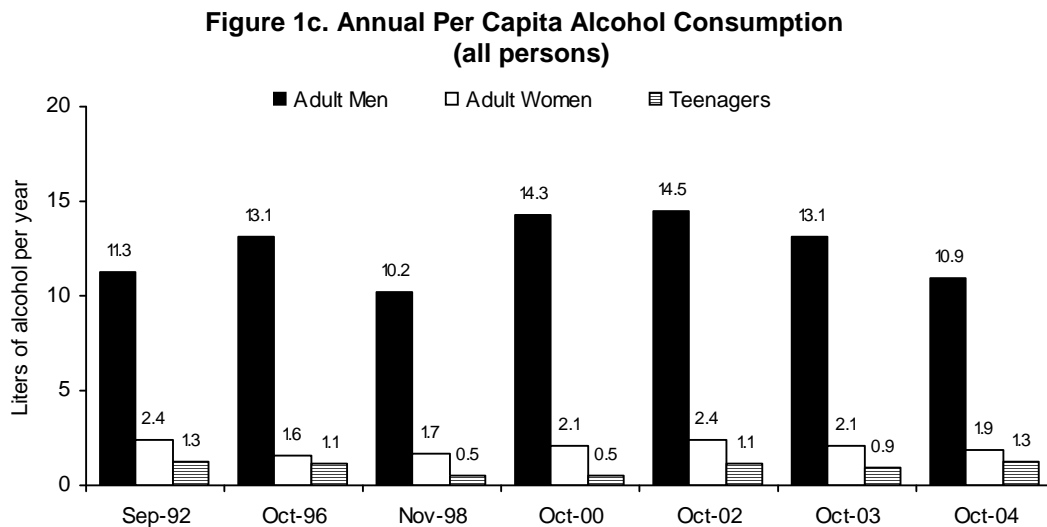


Since 1992, there have been fairly steady decreases in the proportions of the adult population who are drinkers (from 85% to 69.1% for adult men, and from 59.2% to 47.1% for adult women, as seen in Figure 1a). Among teenagers, however, while there was a decrease in the prevalence of drinking between 1992 and 1998 (from 25.2% to 16.9%), there has been a steady increase since 1998 to 27.9% in 2004. It should be noted, however, that some of the increase in 2004 for all three groups may be due to addition of the specific question on beer consumption, as noted earlier.

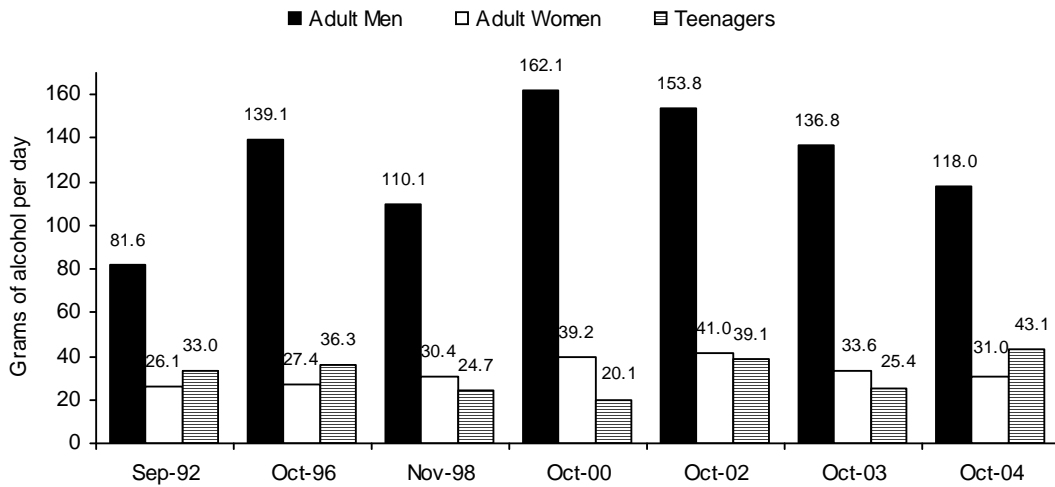
For men and women, the mean daily amount of alcohol consumed by drinkers, which was at its highest level in 2002, has decreased since then (Figure 1b). Among teenagers, also, while the 2004 is still lower than the 2002 level, it is higher than in 2003. However, again this change is difficult to interpret as it may be due to the specific question on beer consumption. These trends in consumption are corroborated by spending patterns over the past few years: whereas expenditures on alcohol declined steadily between 1992 and 1998, there was an increase between 1998 and 2002, followed by a decline in 2003, and another increase in 2004 (see the companion report, “Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2004”).

Figure 1c presents annual per capita alcohol consumption for all adult men, all adult women, and all teenagers.<sup>2</sup> The patterns are similar to those in Figure 1b: maximum per capita consumption for all groups was seen in 2002, at 14.5, 2.4, and 1.1 liters per year among adult men, adult women and teenagers, respectively. For October 2004, these numbers are 10.9, 1.9, and 1.3 liters among men, women, and teenagers, respectively.

Figure 1d shows the mean daily amount of alcohol consumption for the 20% of drinkers who drink the most among adult men, adult women, and teenagers. The patterns over time are very similar to those in Figure 1b, and there is a general declining trend since October 2000. However, it is important to note the several-fold higher levels of consumption among these heavy drinkers. While the overall mean daily alcohol consumption among men in 2004 was about 34 grams, the mean consumption for the top quintile was 118 grams. Corresponding figures for women are 8.7 grams (overall mean) versus 31 grams (top quintile), and for teenagers 10.3 grams (overall mean) versus 43.1 (top quintile). These figures point to subsets of the drinking population that are at considerable risk.



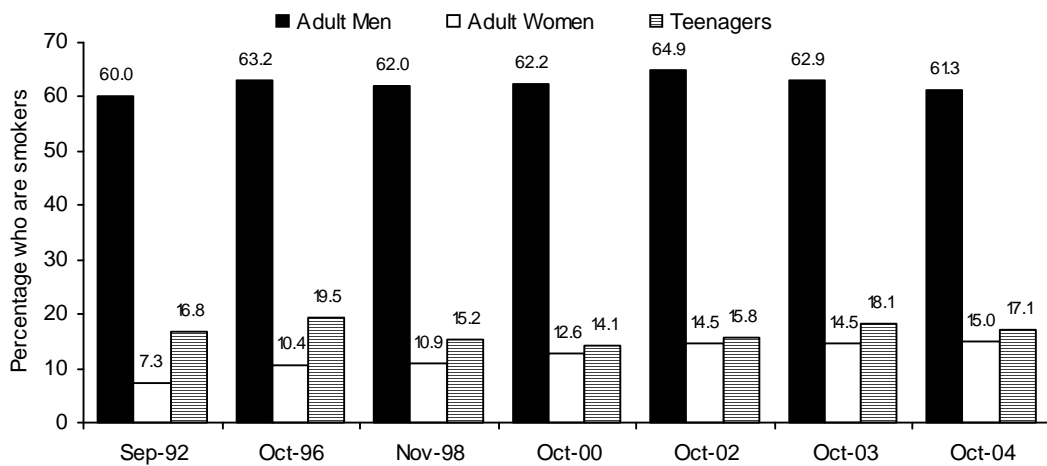
**Figure 1d. Mean Daily Amount of Alcohol Consumption for the Heaviest 20% of Drinkers**



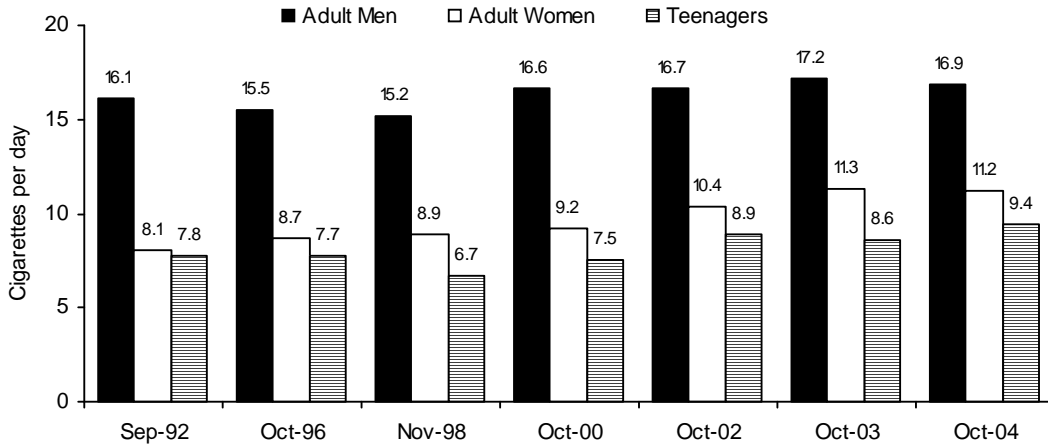
Figures 2a and 2b show the prevalence and extent of smoking. Smoking prevalence among men, which, in 2002, was at the highest level (64.9%) since the start of the RLMS in 1992, has declined since then to 61.3% in 2004. The steady increase in the prevalence of smoking among women, however, continues, from 7.3% in 1992 to 15% in 2004—a 105% increase over an 12-year period. Among teenagers, the increasing trend of the

previous 2 years appears to have halted, decreasing slightly to 17.1% in 2004. Figure 2b indicates the rate of the number of cigarettes smoked per day by all age groups, and most pronounced among women and teenagers, had been increasing steadily since 1998; but for men and women it has now leveled off and has resumed for teenagers in 2004.

**Figure 2a. Smoking Adults (18+) and Teenagers**



**Figure 2b. Mean Daily Number of Cigarettes Smoked (for cigarette smokers)**

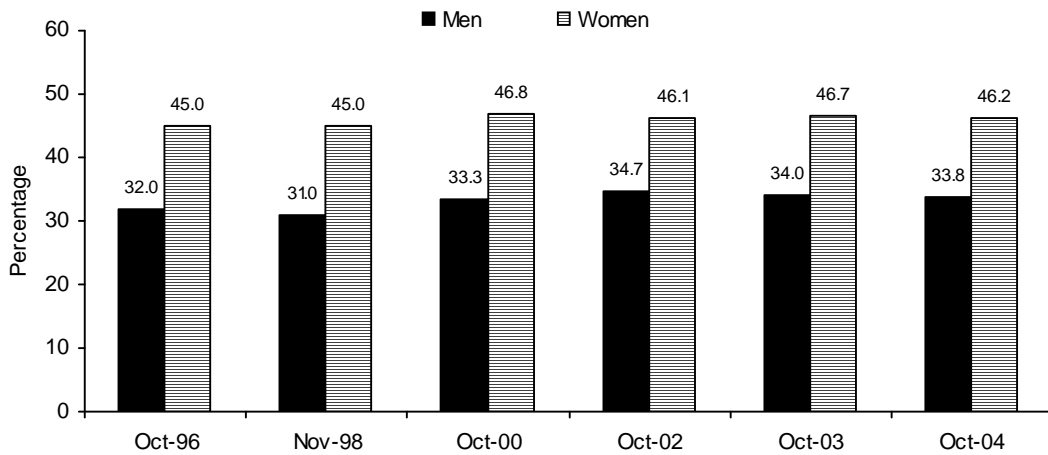


### Health Insurance, Medical Problems, Health-Services Use, and Hospitalization

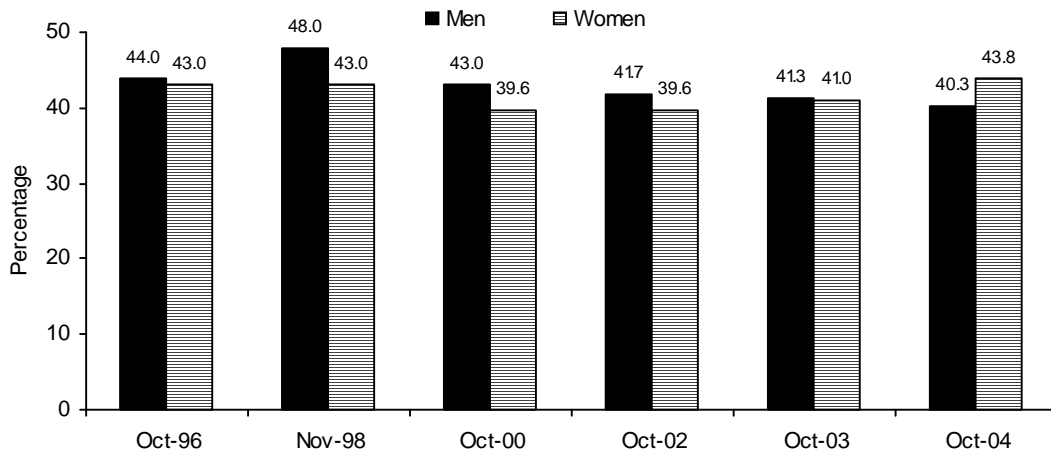
Beginning in 1993, information on medical problems and the use of health services for these problems has been collected for the 30-day period preceding each survey.<sup>3</sup>

Generally, more women than men report a recent medical problem (Figure 3a), but a slightly higher proportion of men with illnesses seek medical help (Figure 3b). The latter trend, however, has been slowly reversing over the past couple of years, with more women in 2004 seeking medical care. This trend should be followed over the next few years to see if it is maintained.

**Figure 3a. Prevalence of Self-Reported Medical Problems**



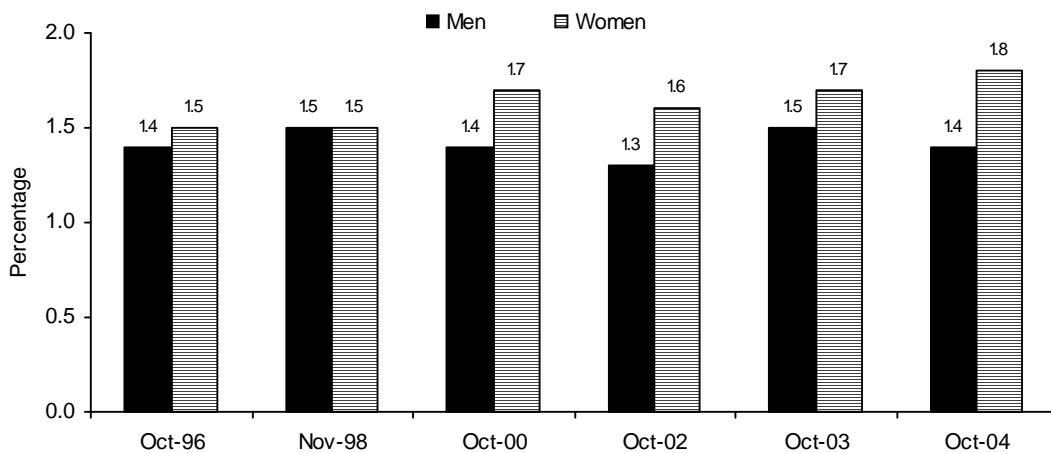
**Figure 3b. Percentage of Those with Medical Problems Who Used Medical Services**



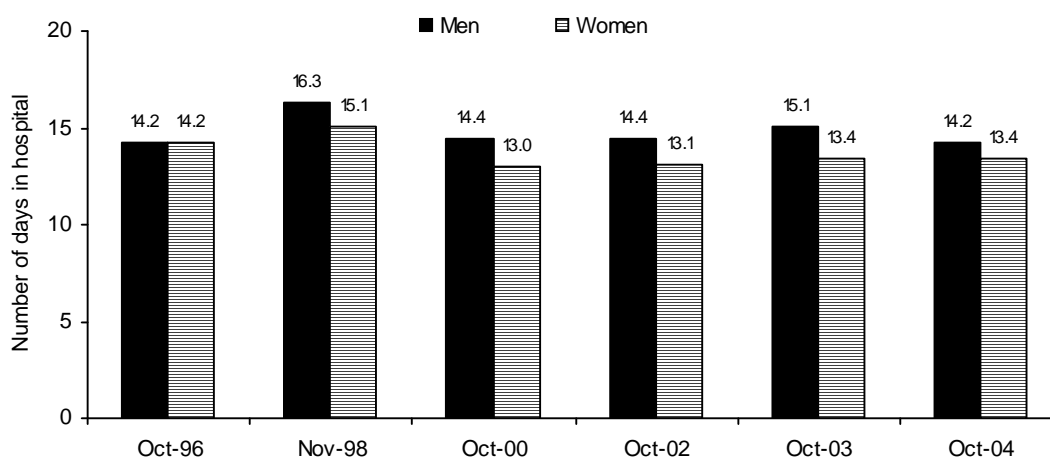
Figures 4a and 4b present data on the prevalence of hospitalization among all respondents and the mean number of days of hospitalization among those who were hospitalized. Again, there is an increasing trend, albeit with small percentages, over the past 3 years, for hospitalization among women. There are no noticeable trends in length of hospitalization.

Due to a perceived increasing prevalence of tuberculosis (TB) in Russia, in the 2000 and subsequent surveys respondents were asked if they had ever been told by a doctor that they had TB. Of the more than 12,000 respondents in 2004, only about 1% (same as previous years) reported such a diagnosis. It must be borne in mind that this is from self-reported data, and may not be an accurate estimate of actual prevalence and incidence data.

**Figure 4a. Percentage Hospitalized (within 30 days prior to the survey)**



**Figure 4b. Mean Length of Hospitalization (in days)**



## Out-of-pocket Health-related Expenditures

Beginning with the 2000 survey of the RLMS, questions were added about out-of-pocket health-related expenses and types of health insurance. These results are shown in Table 1.

Respondents were asked if they have any compulsory health insurance, and also if they have any supplemental voluntary health insurance. Since 2000, there has been a small but steady increase in the proportion of the sample who reported having compulsory insurance, from 87.7% in 2000 to 93.7% in 2004. Also, in 2004 about 2.2% (3.0% in 2003 and 1.9% in 2000) reported having supplemental insurance. Of those with supplemental insurance, 19% reported paying for it themselves, at annual amounts of up to 1,500 rubles (5,000 rubles in 2003 and 12,000 in 2002).

Of the respondents who sought medical help in the 30 days prior to each survey, a steadily increasing proportion have had to pay for it, from 8.5% in 2000 to 12.5% in 2004. Of these, about 57% paid “officially in the cashier’s office,” in amounts up to 5,600 rubles in 2004, and about 52% paid “money or gifts to the medical personnel”, with reported amounts of up to 15,000 rubles. Also, among those who sought medical help, 42.4% reported undergoing “additional tests or

procedures.” Of these, about 22% in 2004, paid for these tests or procedures, of whom an increasing proportion, 75% (up from 66.4% in 2002) paid “officially,” in amounts up to 8,000 rubles, and 31% (steadily down from 38.6% in 2000) paid “unofficially,” in amounts up to 10,000 rubles.

Among those who were hospitalized, about 12% reported paying for the hospital stay. Of these, 41% paid “officially in the cashier’s office,” in amounts up to 12,600 rubles, and 65.2% paid “money or gifts to the medical personnel,” in amounts up to 1,000 rubles. Also, among those who were hospitalized, an increasing proportion, 57.2% (up from 12.4% in 2000) reported paying for “medicines, syringes, and dressing materials.” Of these, about 40% paid “officially,” in amounts up to 10,000 rubles (up from 1,500 in 2000), and 9.5% paid “unofficially.” It should be noted, however, that the numbers who responded to the questions reported in this paragraph were fairly small.

Since 2000, a decreasing proportion of those who received prescriptions were entitled to a full discount—65% in 2004 compared to 75% in 2000. However, as elucidated in the following section, an increasing proportion were able to get some or all of their medications—84.3% in 2004 compared to 78% in 2000.

<b>Table 1: Out of Pocket Health-related Expenditures</b>				
	<b>2000</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
% with compulsory health insurance	87.7	92.5	93.5	93.7
% with supplemental health insurance	1.9	3.0	3.0	2.2
% with supplemental health insurance who paid for it themselves	19.5	22.3	15.3	19.0
Max paid	5000	12000	5000	1500
% of those seeking medical help who had to pay for it	8.5	11.2	12.9	12.5
% who paid “officially at the cashier’s office”	53.2	59.7	53.1	56.7
Max paid	5000	3500	5100	5600
% who paid “money or gifts to medical personnel”	51	43.7	53.2	51.9
Max paid	2000	3000	10000	15000
% of those seeking medical help who had “additional tests or procedures”	41.1	41.5	43.1	42.4
% of these who paid for them	16.7	20.3	25.4	22.4
% who paid “officially at the cashier’s office”	68.1	66.4	71.2	75.2
Max paid	3400	2000	3800	8000
% who paid “money or gifts to medical personnel”	38.6	37.9	32.1	31.0
Max paid	4500	2000	3000	10000
<i>% of those hospitalized who had to pay for it</i>	<i>13.9</i>	<i>14.3</i>	<i>13.3</i>	<i>11.8</i>
<i>% who paid “officially at the cashier’s office”</i>	<i>43.2</i>	<i>48.1</i>	<i>48.8</i>	<i>41.0</i>
<i>Max paid</i>	<i>50000</i>	<i>4000</i>	<i>22600</i>	<i>12600</i>
<i>% who paid “money or gifts to medical personnel”</i>	<i>46.4</i>	<i>73.4</i>	<i>70.6</i>	<i>65.2</i>
<i>Max paid</i>	<i>5000</i>	<i>2000</i>	<i>10000</i>	<i>1000</i>
<i>% of those hospitalized who had to pay for “medicines, syringes and dressing materials”</i>	<i>12.4</i>	<i>49.4</i>	<i>51.0</i>	<i>57.2</i>
<i>% who paid “officially at the cashier’s office”</i>	<i>50</i>	<i>35.9</i>	<i>41.3</i>	<i>39.7</i>
<i>Max paid</i>	<i>1500</i>	<i>4000</i>	<i>22600</i>	<i>10000</i>
<i>% who paid “money or gifts to medical personnel”</i>	<i>7.4</i>	<i>8.1</i>	<i>5.9</i>	<i>9.5</i>
% of respondents who received a prescription during 30 days prior to survey	18	18.3	17.7	18.4
% of those receiving prescriptions who were entitled to a full discount	75	71.6	64.6	65.2
% of those receiving prescriptions who were able to get all or some of the medications	78	79.3	84.1	84.3
NOTE: Rows indicated in <i>italics</i> are based on very small numbers of respondents.				

## Drug Availability

Since 1994, a series of questions in the RLMS surveys investigated respondents' ability to obtain medications prescribed by health workers. Respondents reported where these medications were obtained and, if they could not be obtained, the reasons why.

In 2004, overall, 84.3% of respondents who received prescriptions were able to get all or some of the medications (Table 1); this compares with

78% in 2000, and 79.3% in 2002. In both rural and urban areas, state pharmacies remain the predominant source of medications (Figure 5a), but commercial pharmacies have gained a substantial proportion of the market. Between 1996 and 2003, commercial pharmacies, as a source of medications, have increased from 15% to about 33% in urban areas, and from 12% to about 28% in rural areas. The proportion of respondents who received medications directly from physicians is consistently higher in rural areas (10%) compared to urban areas (4.1%).

**Figure 5a. Where Medications Were Obtained, by Place of Residence**

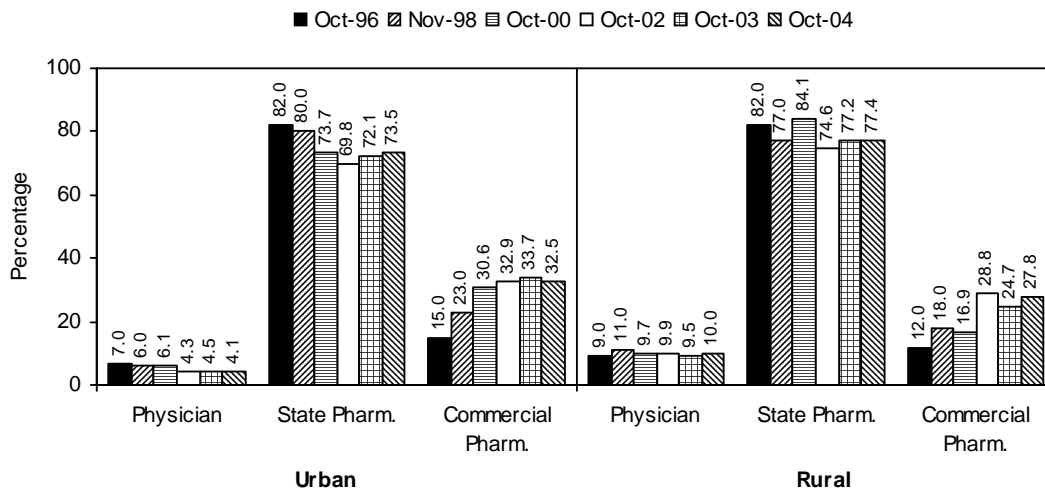
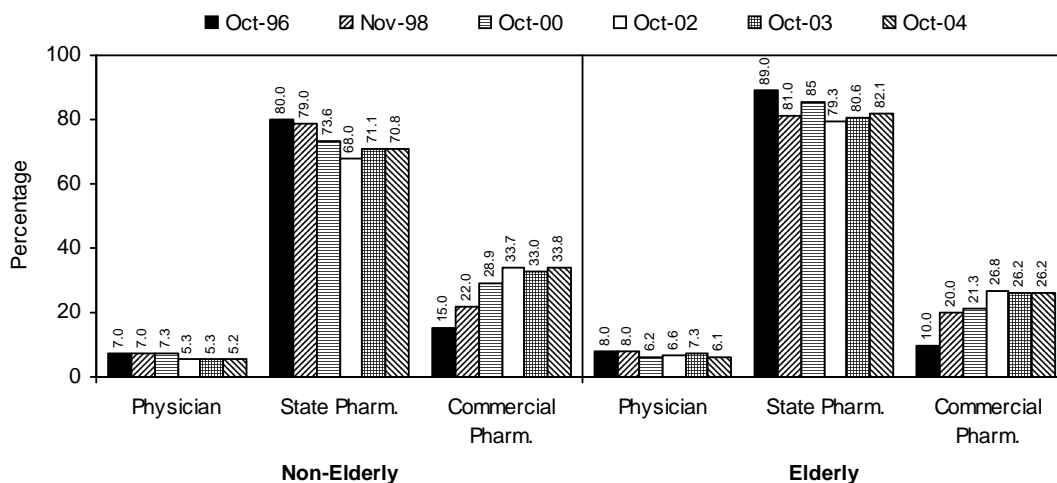


Figure 5b presents drug availability information reported for elderly (60 years and older) and non-elderly respondents. The purchasing pattern of the elderly does not differ much from that of the general population; the majority received their medications from state pharmacies, but increasing proportions are using commercial pharmacies.

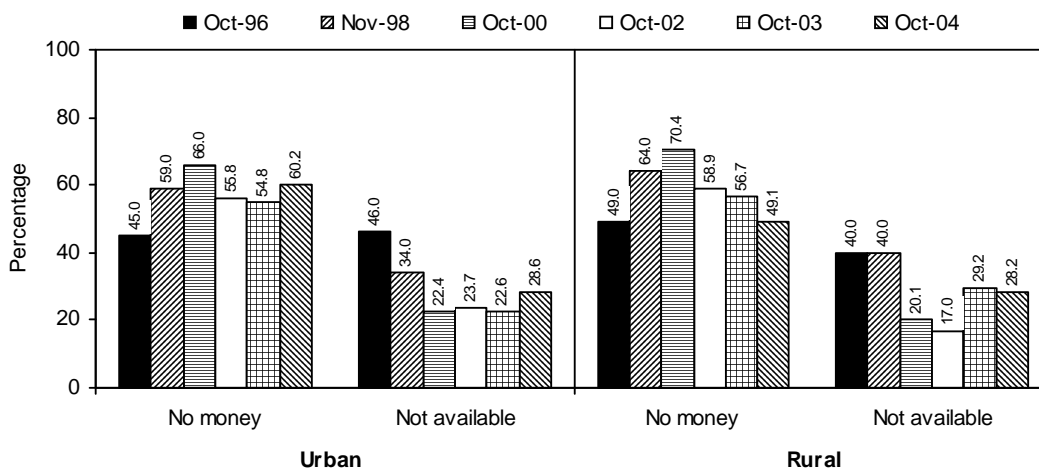
Among respondents unable to fill prescriptions, the two reasons most often cited are unavailability of the drug and lack of money. Up until October 2000, lack of money had emerged as the major

reason in both urban and rural areas (Figure 5c), in parallel with a decrease in drug unavailability as the primary reason. Since 2002, however, there has been a gradual decline in the frequency of 'No money' as the major reason, especially in rural areas. In rural areas, there has been an increase, since 2002, in unavailability of drugs as a major reason cited for inability to fill prescriptions (28.2% compared to 17% in 2002, and 29.2% in 2003).

**Figure 5b. Where Medications Were Obtained, by Age**



**Figure 5c. Reasons for Inability to Obtain Medications, by Place of Residence**

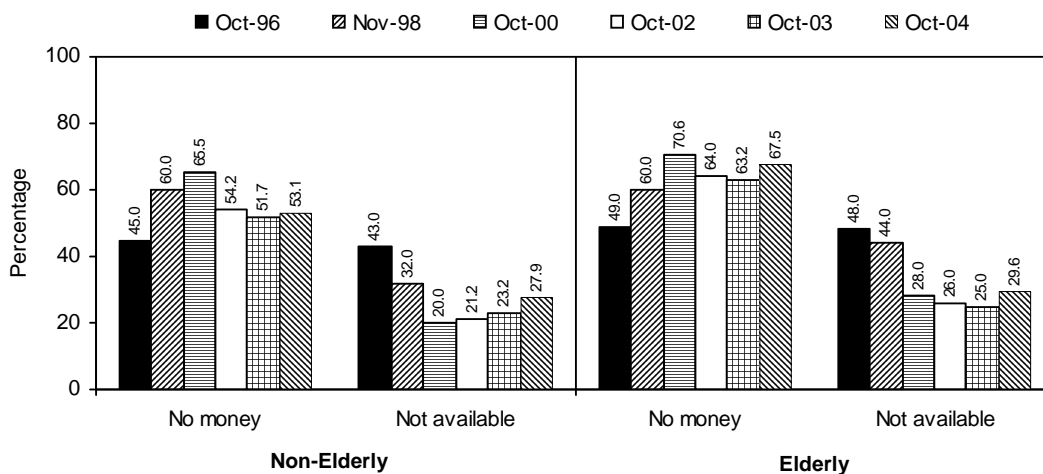


The inability of the elderly to obtain medications follows a similar pattern, with lack of money the reason most often cited (Figure 5d). Generally, the elderly report both unavailability of drugs and lack of money more frequently than do the non-elderly. It may be that some types of medications prescribed for the elderly are less available than are those prescribed for younger people. Also, in the RLMS there is a somewhat greater proportion of elderly in rural areas. Hence, the reason that more elderly find drugs unavailable or more

expensive may be due to the fact that more elderly live in rural areas where drugs are less readily available.

It must be noted that the general decrease in the prevalence of 'Not available' as the major reason is not necessarily due to an increased availability of drugs. All that can be reported is that more respondents are citing lack of money as the *primary* reason for not obtaining medications, compared to unavailability of the drug.

**Figure 5d. Reasons for Inability to Obtain Medications, by Age**



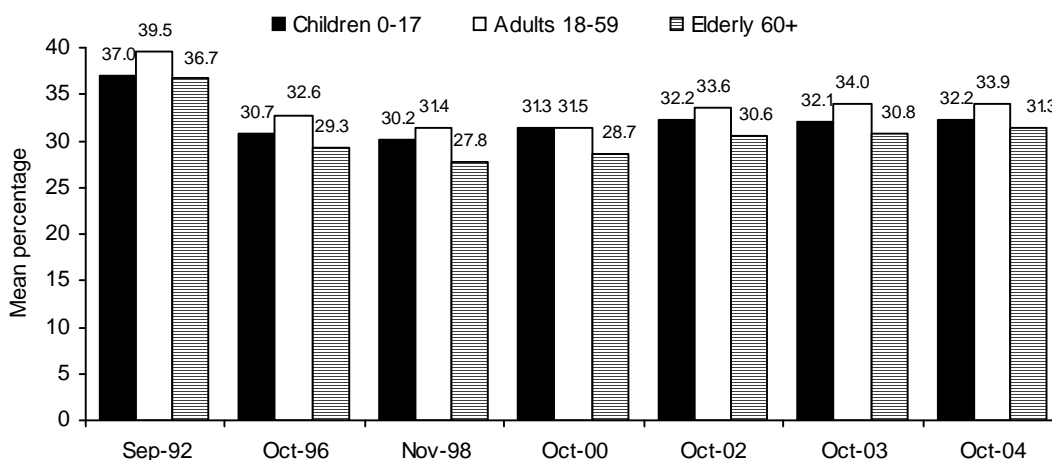
Although one might propose disability as another cause of reduced access among the elderly, no more than 10 individuals in each survey year cited this as a reason. Therefore, it is not disability that is preventing the elderly from going to the pharmacy and obtaining medications.

### Composition of Diet

The RLMS contains detailed information on dietary intake collected with a 24-hour dietary recall. Here, we present data on fat and protein.

Fat intake in Russia has historically been much higher than the recommended level of 30% of total energy intake. This has been of great concern since it has serious implications for a number of chronic diseases. For all age groups, we saw a steady decline in the percentage of energy from fat between September 1992 and November 1998 (Figure 6). However, beginning in October 2000 and continuing since then, a reversal of this trend has appeared, with the percentage of energy from fat increasing for all age groups.

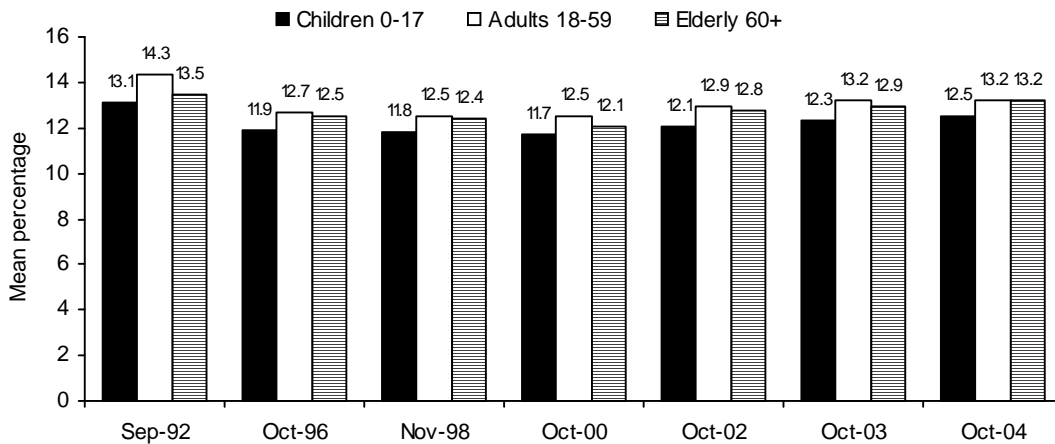
**Figure 6. Mean Percentage of Energy Intake from Fat**



Among the elderly, the percentage of energy from fat declined from 36.7% in 1992 to 27.8% in 1998, but increased again to 31.3% in 2004. There are similar trends in fat consumption among adults and children. Also, as shown in Figure 7, there was a persistent but much slower decline in the percentage of energy from protein between 1992 and 2000. For adults, energy from protein declined from 14.3% in September 1992 to 12.5% in October 2000. The corresponding decline for the elderly was from 13.5% to 12.1%, and for children from 13.1% to 11.7%. However, for all age groups, percentages have increased slightly but consistently since 2000.

These dietary intake shifts are indicative of important changes in Russian food-purchasing patterns and diets (see “Nutritional Status,” below, and also the companion report, “Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2004”). The shifts result from a combination of socioeconomic, market availability, and personal factors. It should be noted that the initial desirable declines in fat consumption are now reversing to levels above recommendations in all age groups.

**Figure 7. Mean Percentage of Energy Intake from Protein**

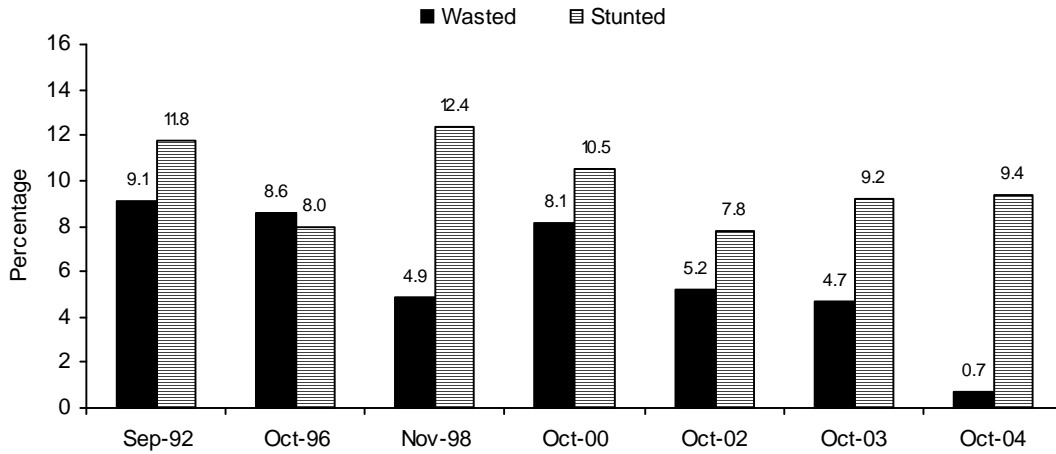


## Nutritional Status

Figures 8a and 8b present data on the nutritional status of children (height and weight are measured for all respondents). They show a mixed picture. Of particular concern in previous rounds was an increase in the prevalence of stunting (an indicator of chronic malnutrition) among children two years old and younger.<sup>4</sup> Between September 1992 and December 1994 there was a 26% increase in stunting in this age group (from 11.8% to 14.9%,

data not shown for 1994). Between 1994 and 1996 there was a decline to 8%. After a level of 12.4% in 1998, the prevalence of stunting in this age group had steadily declined to 7.8% by 2002, its lowest level since the start of the RLMS in 1992. However, in the last 2 years, there is a slight increase again to 9.4%. The prevalence of stunting among two- to six-year-olds has declined slightly since 2000, and remains fairly stable at about 9% (Figure 8b).

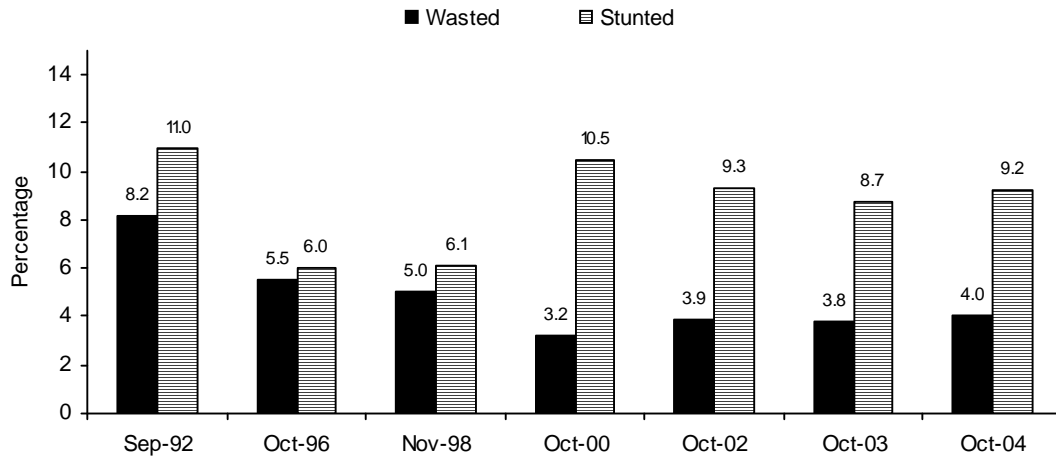
**Figure 8a. Children's Nutritional Status (0-24 months)**



Wasting (a measure of acute malnutrition) also presents a mixed picture. Among 0- to 24-month-olds, prevalence of wasting is at 0.7% in 2004, after a high of 8.1% in 2000. Among older children also (Figure 8b) the prevalence of wasting has been fairly stable at about 4% since 2002. It should be noted that children's nutritional status, particularly wasting, is quite sensitive to socioeconomic factors. Despite income increases since 1998, only in 2003 did household incomes

catch up to their levels of 1992 when the RLMS began; and, while total household expenditures rose by 47% between 1998 and 2004, average real food expenditures in 2004 were still only about 68% of their 1992 level (see the companion report, "Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2004").

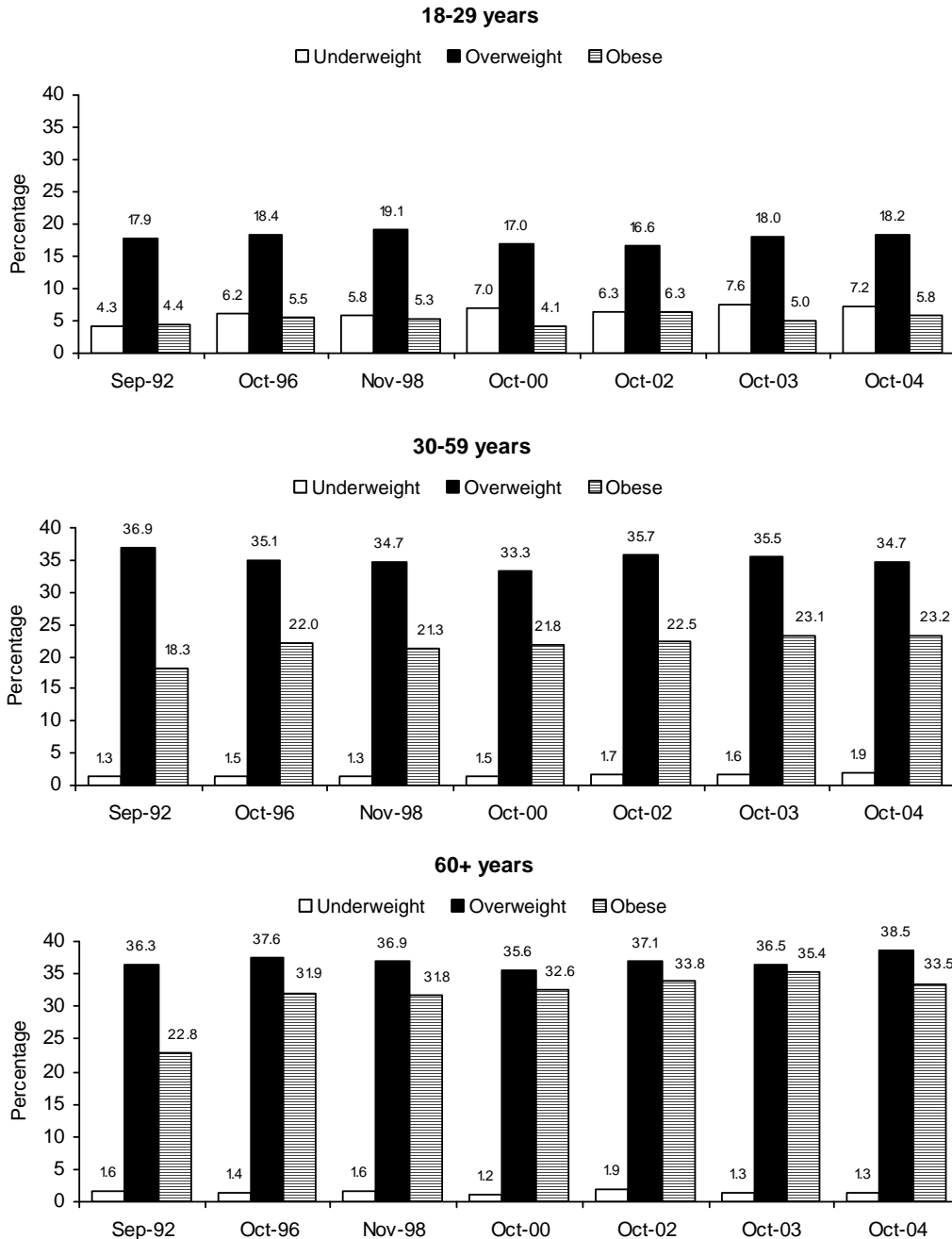
**Figure 8b. Children's Nutritional Status (25 months-6 years)**



The nutritional status of adults varies by age group (Figure 9). Among young adults (18-29 years), the trend of concern has been increasing under-nutrition, which rose between 1992 and 2003 from 4.3% to 7.6%, and currently is at 7.2% in the 2004 survey, a 67% increase over 1992. Conversely, among the elderly there was a steady increase in the proportion who were obese (according to WHO classifications),<sup>5</sup> from 22.8% in 1992 to 35.4% in 2003, a 55% increase. This level has

declined slightly to 33.5% in 2004. The prevalence of overweight among the elderly, however, is at its highest level since 1992, at 38.5%. These patterns in the two age groups are better understood against what the RLMS reveals about the economic situation of the Russian people and changes in their food expenditures, as outlined in the paragraph above, in addition to the fact that the elderly have traditionally fared better economically than the rest of the population.

**Figure 9. Adult Nutritional Status**



Among the middle-aged (30 to 59 years) also there has been a steady shift into the overweight and obese categories, where the prevalence of obesity in 2004 is at 23.2%, the highest level recorded since the start of the RLMS. The prevalence of underweight among both the middle-aged and the elderly remains steadily low.

### Childhood Immunizations

Figures 10a, 10b, and 10c present information about childhood immunizations between 1996 and 2004, for children up to six years of age.

The percentages of children who had received any vaccination by the time of these surveys are shown in Figure 10a. The data are displayed both by age group (0 to 24 months and 25 months to 6 years) and by poverty level. In the older group, 99.5% to 100% of all children, regardless of their household income level (measured as a proportion of the poverty level), have been vaccinated. In the younger group, also, immunization coverage is fairly high among all income groups, except for the low income group ( $\leq 50\%$  of poverty line, where the number of children in this year's sample are very small).

**Figure 10a. Percentage of Children Ever Vaccinated (by percentage of the poverty line)**

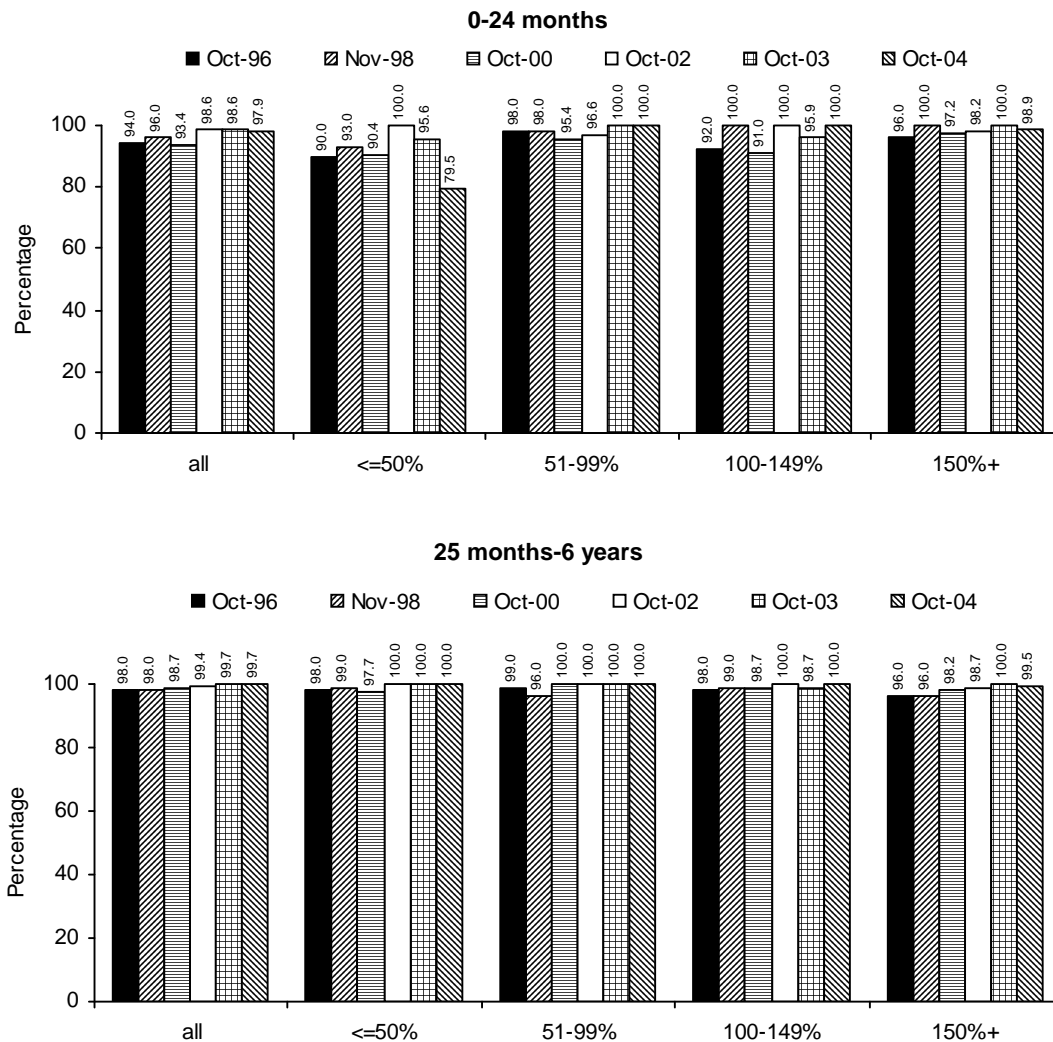
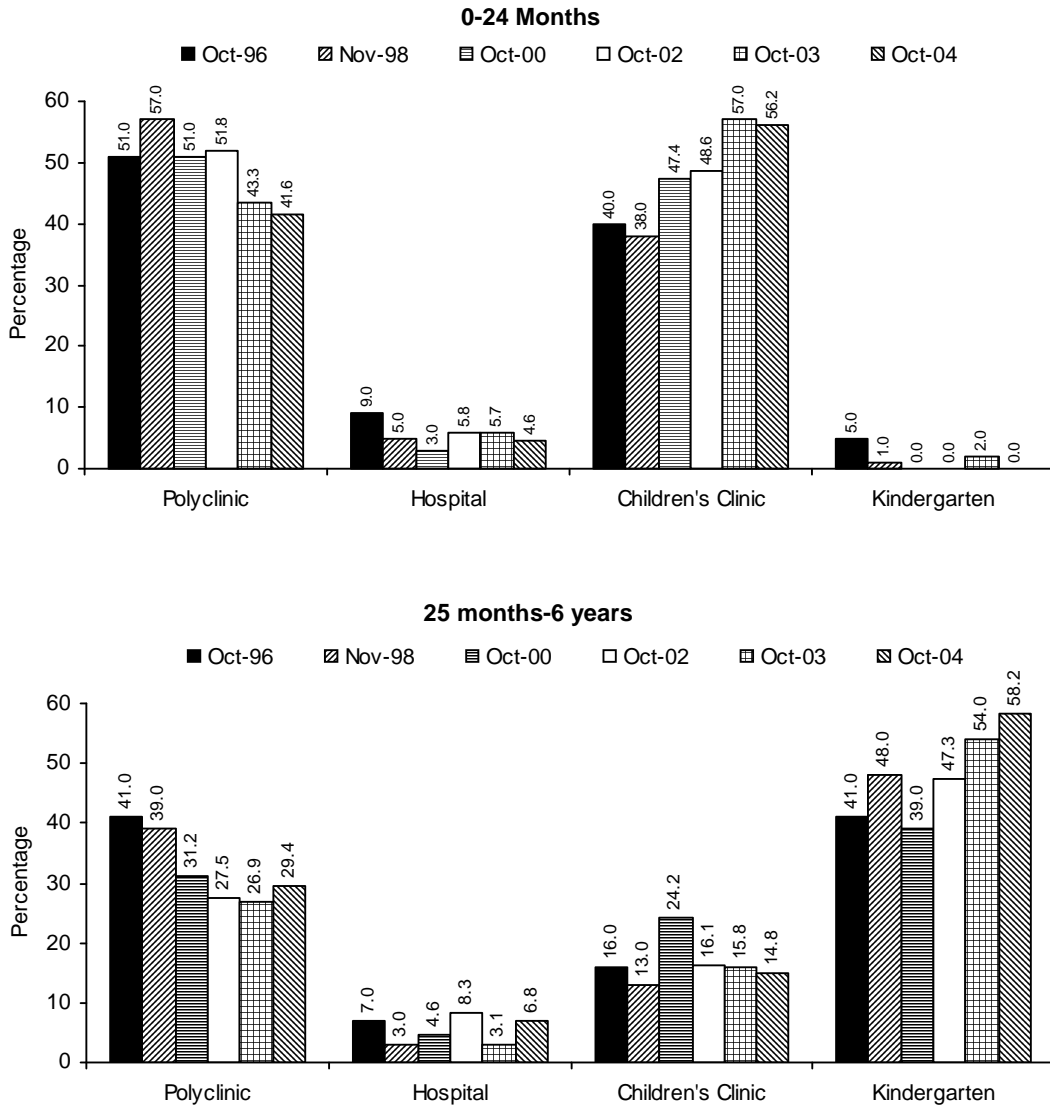


Figure 10b shows the distribution of places where vaccinations were obtained. Generally, for younger children, clinics (poly and children's) were the most common sites for immunization, with children's clinics becoming increasingly

more common with time (Figure 10b). For older children, kindergartens have assumed a greater share over time and are now the most common site for receiving vaccinations.

**Figure 10b. Places of Vaccinations  
(in the three months prior to the survey)**

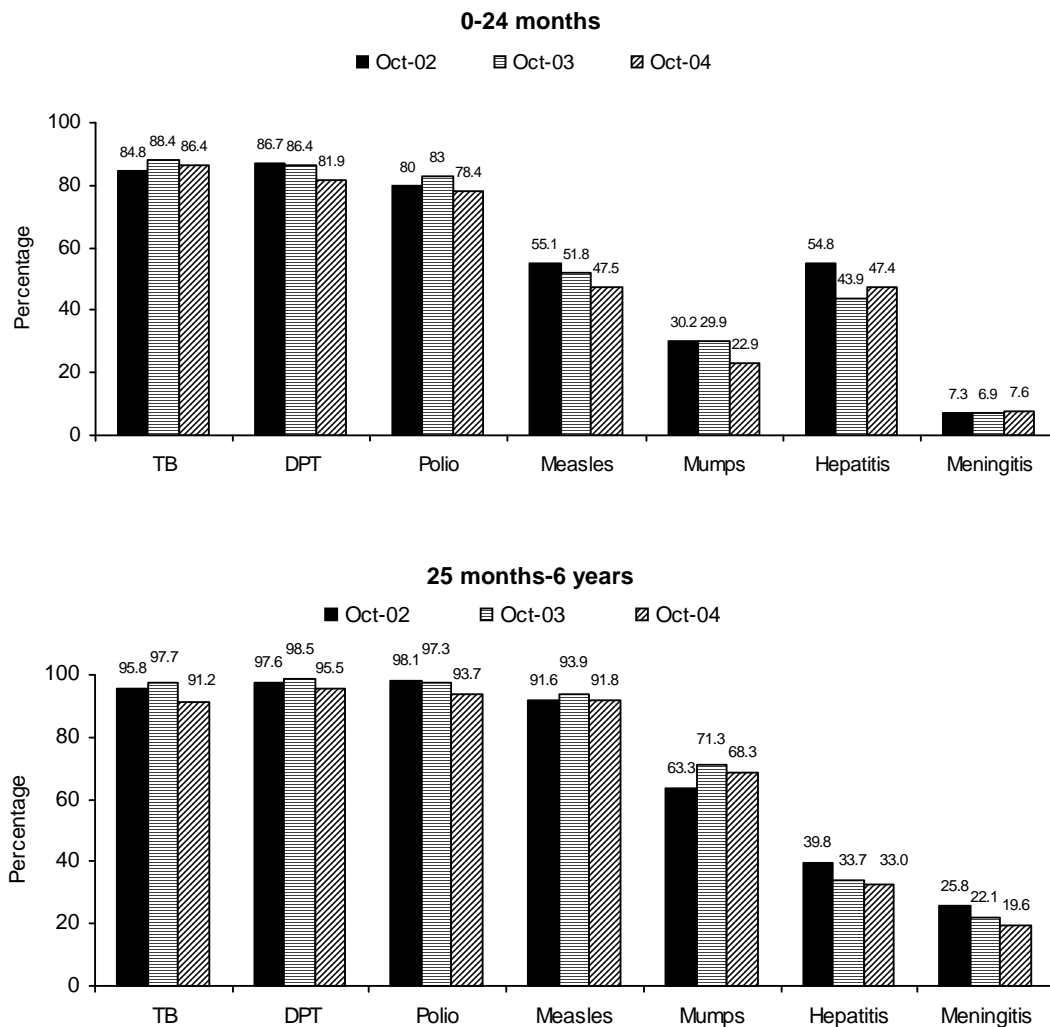


Due to a slight change in the manner in which the data on immunizations were collected beginning with the 2002 RLMS survey, the results of types of vaccinations (Figure 10c) are not comparable with those of previous years. Since we believe these latest results to be more complete and accurate, in this report we do not present data from years previous to 2002.

Figure 10c indicates that in 2002-4 there is under-coverage of varying degrees for specific vaccines. Among those 0-24 months of age, DPT (diphtheria/pertussis/tetanus), polio, and BCG, all of which are recommended during the first 2 months of life, had coverages ranging from 78.4%

to 86.4% in 2004, very similar to those in the previous year. Measles and mumps, which are recommended between the ages of 12-15 months, are reported in 47.5% and 22.9%, respectively, of these younger children in 2004. While, these lower numbers are partly due to their administration at a later age in this age-group, the different coverage rates of measles and mumps, as well as the 68.3% coverage rate of mumps in those older than 25 months, is an indication of incomplete coverage. Overall, however, there is over 90% coverage rate for most vaccines among older children—this is a continuation of the increasing trend that was seen in previous rounds of the RLMS (data not shown).

**Figure 10c. Types of Vaccines Received, among Those Ever Vaccinated (by age group)**



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# Endnotes

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1. Information for the graphs on drinking behavior comes from two sources in the RLMS surveys—the battery of questions on *usual* patterns of drinking in the health section of the adult individual questionnaire and the 24-hour dietary recall data. If the respondent considered him/herself a non-drinker in the drinking section of the questionnaire, but the 24-hour dietary recall included an alcoholic beverage, then that person was counted as a drinker.

The calculations of quantities of alcohol consumed are based on respondents' evaluations of their usual intake of various beverages, and not on the single 24-hour dietary recall.

It should be noted that, in the September 1992 survey, *samagon*, a homemade alcoholic brew, was not included as a separate response category, but was lumped together with “vodka and other strong drinks.” However, in February 1993 and subsequent rounds, *samagon* consumption was asked about specifically.

It is acknowledged that the data on alcohol consumption in the RLMS are based on self-reported information, and as such are subject to some of the possible biases of such reporting, such as under-reporting. Also, the RLMS sampling frame is based only on households, and does not include institutionalized individuals, those in the military and homeless persons, some of whom are likely to be heavier drinkers. Our results, therefore, may somewhat underestimate drinking prevalence and amounts.

2. The per capita data on alcohol consumption are meant to be comparable in their construction to those commonly reported,

which give annual per capita consumption for the entire sample population. However, due to the large disparity in alcohol consumption among adult men, adult women, and teenagers, we present per capita data drawn from the RLMS separately for each group.

3. Beginning in December 1994, questions on hospitalization and duration of hospitalization referred to the previous three months, as opposed to 30 days in the previous rounds. For the purposes of Figures 8a and 8b, the prevalence data from this and subsequent rounds were simply divided by 3, and only those with a duration of hospitalization of 30 days or less were used in the calculation of the mean.
4. The numbers for these figures prior to 2000 have changed compared to older versions of this report. The new numbers are based on new 2000 formulae and standards from the National Center for Health Statistics for the calculation of wasting and stunting.
5. The division of adults and elderly into various weight groups is based on Body Mass Index categories recommended by WHO: <18.5 (chronic energy deficiency), 18.5-24.9 (normal), 25-29.9, (overweight), and  $\geq 30$  (obese).