Monitoring Health Conditions in the Russian Federation

The Russia Longitudinal Monitoring Survey 1992-2002

April 2003

Russia Longitudinal Monitoring Survey

University of North Carolina at Chapel Hill

The Russia Longitudinal Monitoring Survey (RLMS) is a series of nationally representative surveys of the Russian Federation between 1992 and 2002. 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), and October 2002 (Round 11). 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 5-11) 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.

Funding for the RLMS has been provided by the United States Agency for International Development, 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), 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.

This document may be referenced as:

> Zohoori, N., D. Blanchette, and B. Popkin. "Monitoring Health Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2002." Report submitted to the U.S. Agency for International Development. Carolina Population Center, University of North Carolina at Chapel Hill, North Carolina. April 2003.

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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

The Russia Longitudinal Monitoring Survey 1992-2002

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

Part 1. Overview of Key Findings

- Since 1992, there have been fairly steady general decreases in the proportions of the adult population and of teenagers who are drinkers.
- Among teenagers, however, there is a slight increase in prevalence of drinking since 1998.
- For all groups, the mean daily amount of alcohol consumed by drinkers is higher in 2002 than in previous years (Figure 1b), being at the highest level for adult men and women since the RLMS began in 1992.
- The mean quantity of alcohol consumed by the heaviest drinkers (top 20%) in each group is over three times the respective group mean.
- For females, the top quintile alcohol consumption is the highest recorded since the start of the RLMS.
- Smoking prevalence among men in 2002 is at its highest level (64.9%) since the start of the RLMS in 1992.
- Smoking prevalence among women has steadily risen, by 99% since 1992, to 14.5% in 2002. The quantity smoked by women smokers has also increased steadily since 1994.
- Among teenagers, there was an increase in smoking prevalence in 2002 (15.8%) compared to 2000, reversing the declining trend of the prior six years.
- Over 92% of respondents are covered by some sort of medical insurance.
- About 44% of those seeking medical attention report paying "unofficial" money or gifts.
- Just over 1% of respondents report having had a diagnosis of tuberculosis.
- Commercial pharmacies continue to gain prominence as an important source of medications (33% in urban areas, and 29% in rural areas).
- Since 1994, lack of money has emerged as clearly the number one reason for the inability to obtain prescribed medications, although there has been a decline since 2000.
- 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, is now fairly stable.
- Since 1998, the prevalence of stunting (chronic malnutrition) among 0-24 month-olds has steadily declined to 7.8%, its lowest level since the start of the RLMS in 1992.
- The prevalence of stunting among two- to six-year-olds has remained fairly high since 1998, after a sharp increase in October 2000 (10.5%), and stands at 9.3% in 2002.
- Among young adults, the prevalence of under-weight steadily increased between 1992 and 2000, but has declined over the past 2 years.

- Among the middle-aged and the elderly, there has been a steady increase in the prevalence of obesity since the start of RLMS. In the elderly, obesity increased by 48% between 1992 and 2002, and stands at 33.8%.

- The combined overweight/obese prevalence is now 58.2% for middle-aged adults, and 70.9% for the elderly.

- As of 2001, there was great improvement in childhood immunization at all income levels. Between 98% and 100% of all children up to age 6 were reported to have had some form of vaccination.

- In October 2001, 15% to 51% of children under two years of age had not received at least one of the vaccines specifically recommended to be administered during the first year of life.

Part 2. Discussion of Results

Drinking and Smoking

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.[1]

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

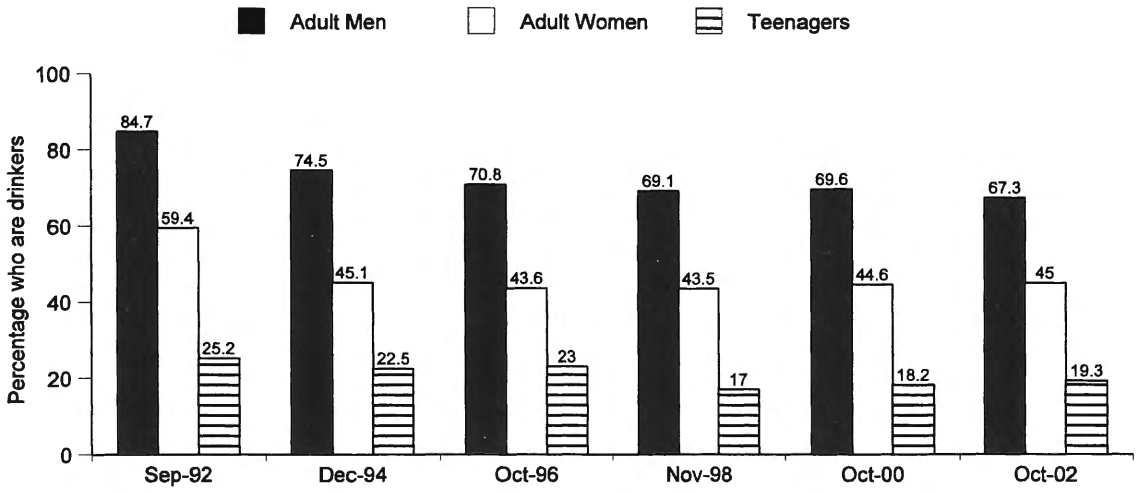
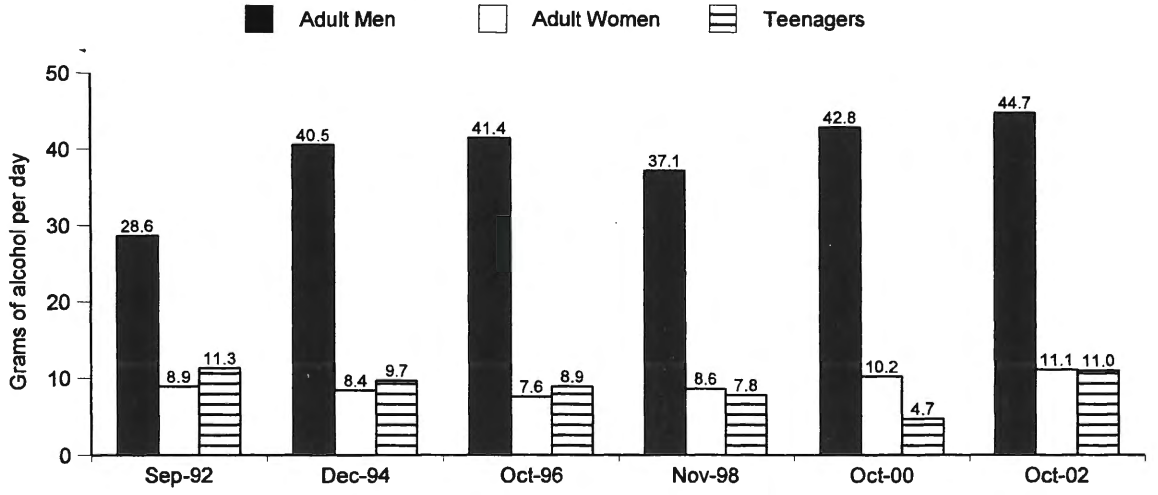


Figure 1b. Mean Daily Amount of Alcohol Consumption (for drinkers)



Since 1992, there have been fairly steady decreases in the proportions of the adult population and of teenagers who are drinkers (from 84.7% to 67.2% for adult men, from 59.4% to 45% for adult women, and from 25.2% to 19.3% for teenagers), as seen in Figure 1a. It must be noted, however, that for teenagers, there has been a slight increase in prevalence of drinking since 1998. For all groups, the mean daily amount of alcohol consumed by drinkers is higher in 2002 than in previous years (Figure 1b), being at the highest level for adult men and women since the RLMS began in 1992. 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 a steady increase between 1998 and 2001 (see the companion report, "Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2002"). These economic trends and the reversal of the decline in consumption over the past few years are noteworthy and should be monitored closely.

Figure 1c presents annual per capita alcohol consumption for all adult men, all adult women, and all teenagers.[2] The patterns are similar to those in Figure 1b: maximum per capita consumption for all groups was reached in 1994, at about 17, 3, and 2 liters per year among adult men, adult women and teenagers, respectively. For October 2002, annual per capita consumption figures are 13.9, 2.3, and 1.0 liters among men, women, and teenagers, respectively.

Figure 1c. Annual Per Capita Alcohol Consumption

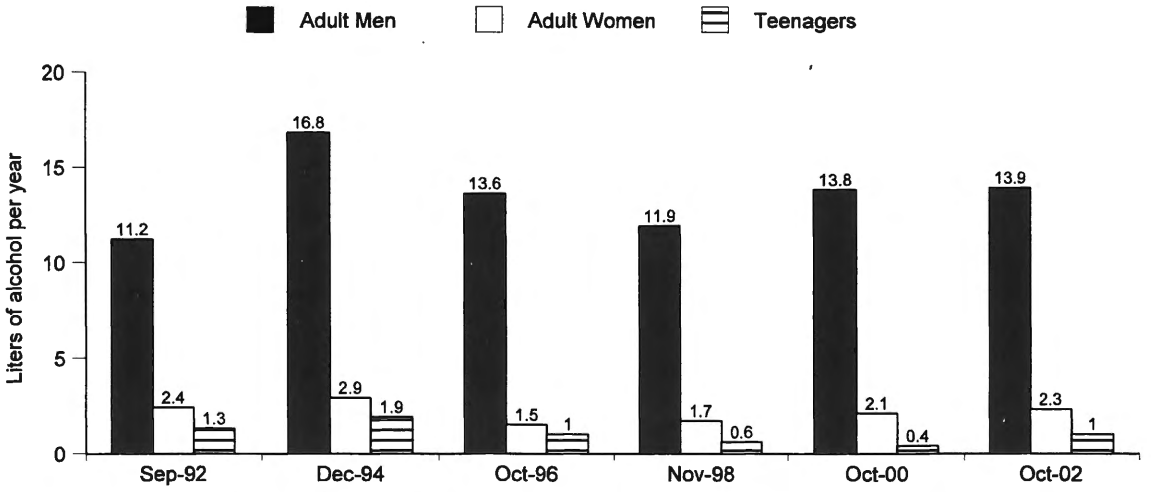
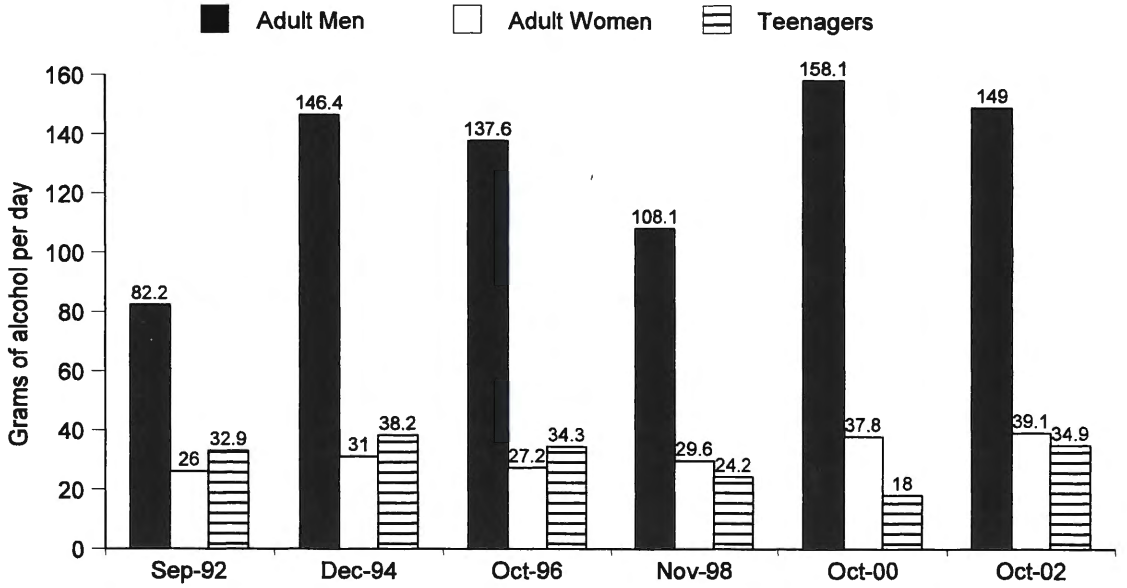


Figure 1d shows the mean daily amount of alcohol consumption for the 20% of drinkers who drink the most among adult men, adult women, and teenagers. The patterns over time are very similar to those in Figure 1b. However, it is important to note the several-fold higher levels of consumption among these heavy drinkers. While the overall mean daily alcohol consumption among men in 2002 was about 45 grams, the mean consumption for the top quintile was 149 grams. Corresponding figures for women are 11.1 grams (overall mean) versus 39.1 grams (top quintile), and for teenagers 11.0 grams (overall mean) versus 34.9 (top quintile). It must be noted that for females, the top quintile consumption is the highest recorded since the start of the RLMS. 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. In October 2002, smoking prevalence among men was at the highest level (64.9%) since the start of the RLMS in 1992. There has also been a steady increase in the prevalence of smoking among women, from 7.3% in 1992 to 14.5% in 2002–a 99% increase over a ten-year period. Among teenagers, there was an increase in prevalence in 2002 (15.8%) compared to 2000, reversing the declining trend of the prior six years. Figure 2b indicates that there has also been a modest increase in the number of cigarettes smoked per day by both adult women and teenagers.

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

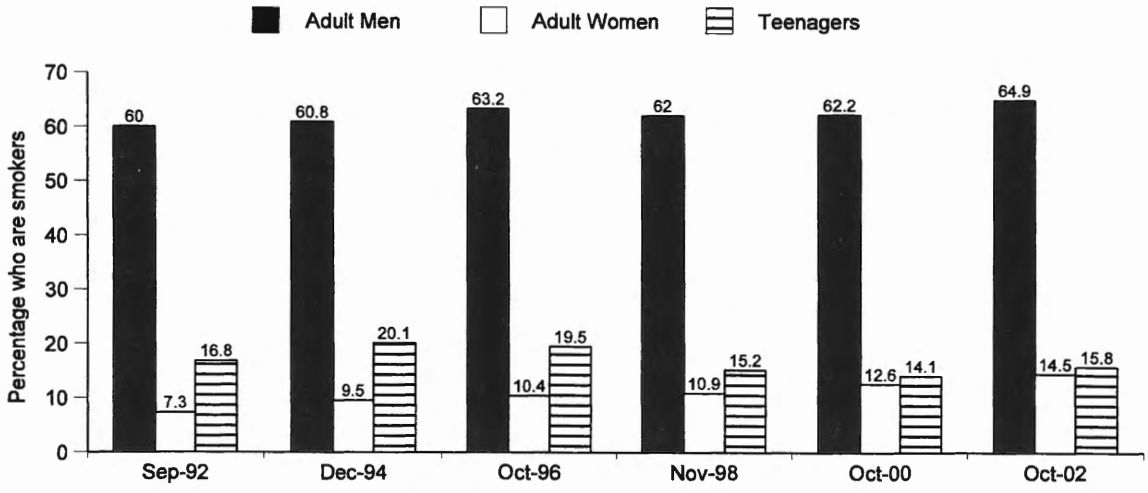
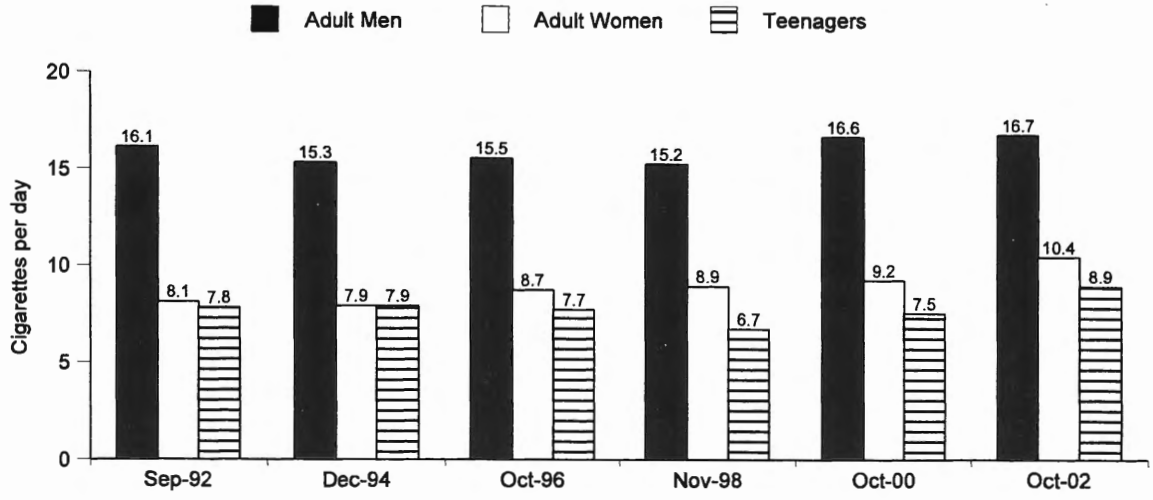


Figure 2b. Mean Daily Number of Cigarettes Smoked (for cigarette smokers)



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 the survey.[3] Since 2000, questions have been added about out-of-pocket health-related expenses and types of health insurance.

Respondents are asked if they have any compulsory health insurance, and also if they have any supplemental voluntary health insurance. In 2002, 92.5% *(87.7% in 2000)* reported having compulsory insurance, and 3.0% *(1.9% in 2000)* reported having supplemental insurance. Of those with supplemental insurance, 22.3% *(19.5% in 2000)* reported paying for it themselves, at annual amounts of up to 12,000 rubles *(5,000 rubles in 2000)*.

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).

Figure 3a. Prevalence of Self-Reported Medical Problems

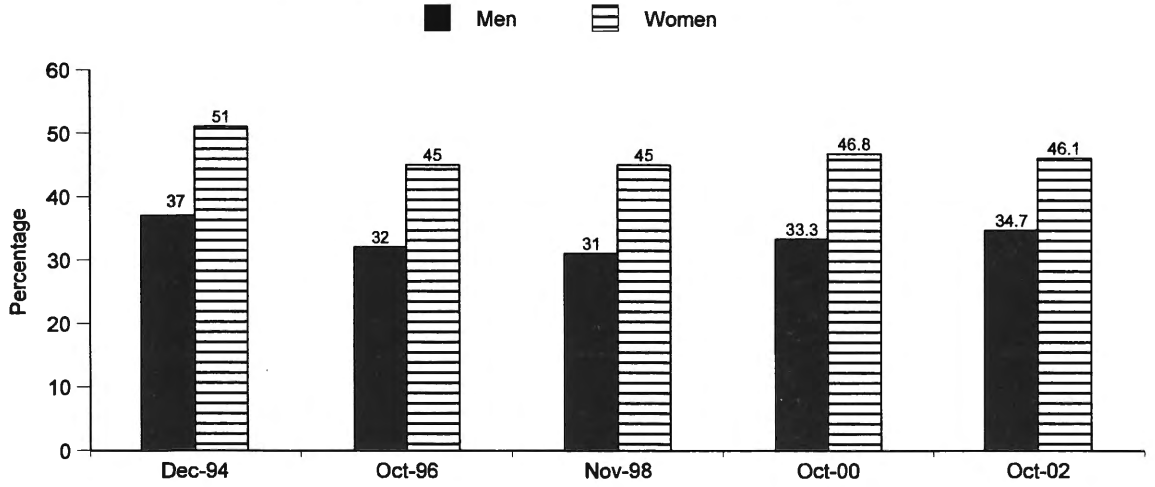
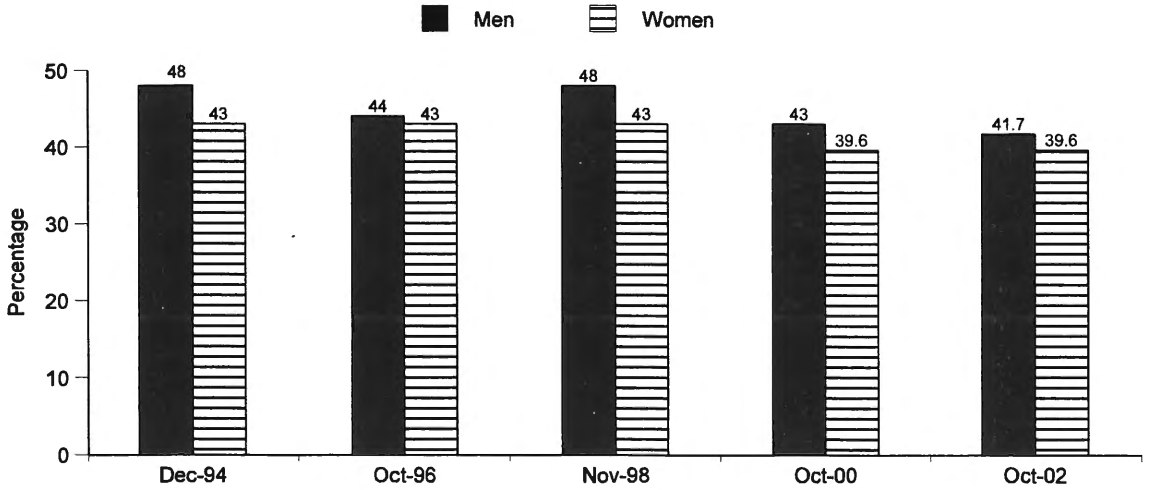


Figure 3b. Percentage of Those with Medical Problems Who Used Medical Services



Beginning in 2000, the RLMS collected data about the types of medical-care payments. Here we report the 2002 data (*with 2000 figures italicized and in parentheses for comparison*). Of those who sought medical help, about 11.2% (*8.5%*) reported paying for it. Of these, 59.7% (*53.2%*) paid "officially in the cashier's office," in amounts ranging from 10 to 3,500 (*2 to 5,000*) rubles, and 43.7% (*51%*) paid "money or gifts to the medical personnel", with reported amounts ranging from 5 to 3,000 (*12 to 2,000*) rubles. Also, among those who sought medical help, 41.5% (*41.1%*) reported undergoing "additional tests or procedures." Of these 20.3% (*16.7%*) paid for tests or procedures, of whom 66.4% (*68.1%*) paid "officially," in amounts ranging from 2 to 2,000 (*2 to 3,400*) rubles, and 37.9% (*38.6%*) paid "unofficially," in amounts ranging from 1 to 2,000 (*1 to 4,500*) rubles.

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. The numbers for 2002 are almost identical to those for 2000. Trends over time are not indicated.

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

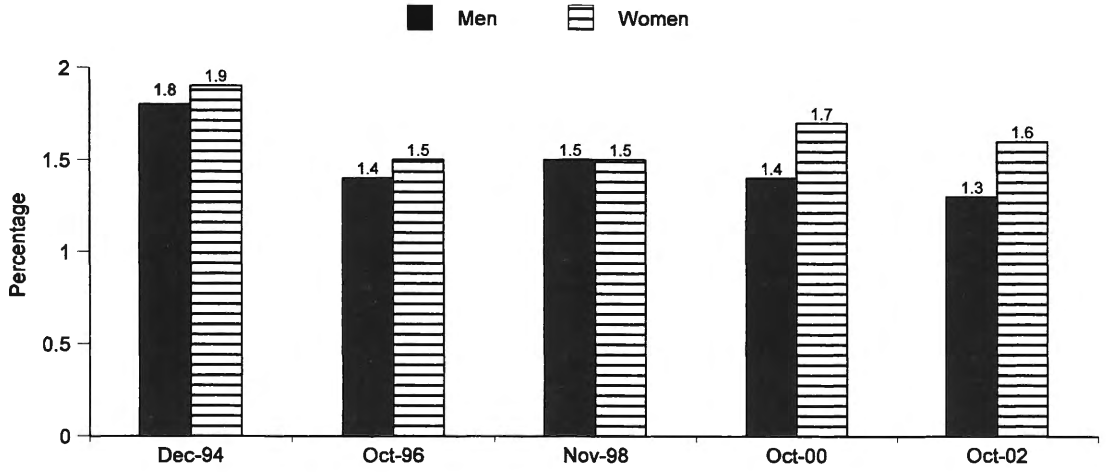
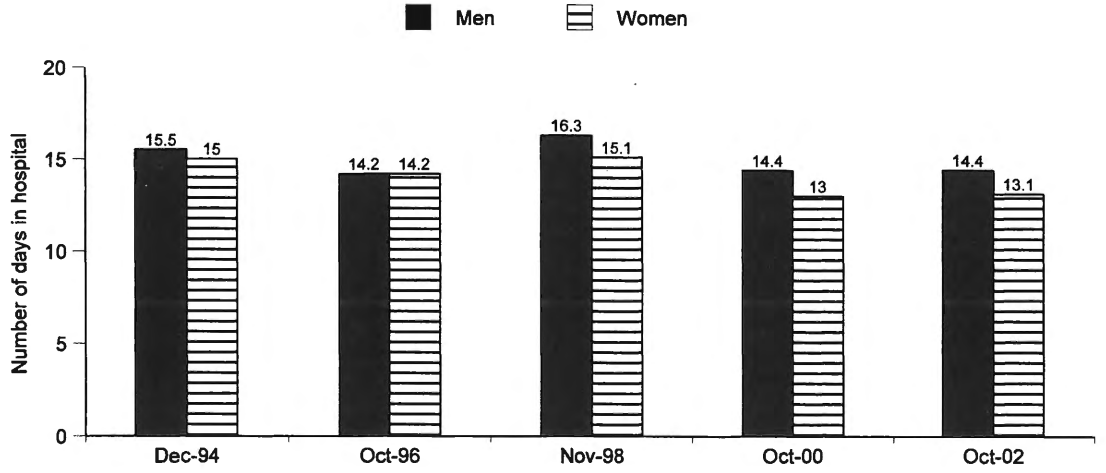


Figure 4b. Mean Length of Hospitalization (in days)



Among those who were hospitalized, about 14.3% (*13.9%*) reported paying for the hospital stay. Of these, 48.1% (*43.2%*) paid "officially in the cashier's office," in amounts ranging from 27 to 4,000 (*10 to 50,000*) rubles, and 73.4% (*46.4%*) paid "money or gifts to the medical personnel," in amounts ranging from 150 to 2,000 (*5 to 5,000*) rubles. Also, among those who were hospitalized, 49.4% (*12.4%*) reported paying for "medicines, syringes, and dressing materials." Of these, 35.9% (*50%*) paid "officially," in amounts ranging from 10 to 4,000 (*60 to 1,500*) rubles, and 8.1% (*7.4%*) paid "unofficially." It should be noted, however, that the numbers who responded to the questions reported in this paragraph were fairly small.

Finally, 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 almost 11,000 respondents, only about 1% in 2002 reported such a diagnosis. These figures are almost identical to those in 2000 and 2001.

Drug Availability and Costs

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 2002, overall, 91.9% of respondents who received prescriptions were able to get all or some of the medications; this compares with 78% in 2000, and 93% in 2001. In both rural and urban areas, state pharmacies remain the predominant source of medications (Figure 5a), but commercial pharmacies are gaining ground. Between 1994 and 2002, commercial pharmacies, as a source of medications, have increased from 10% to 32.9% in urban areas, and from 5% to 28.8% in rural areas. The proportion of respondents who received medications directly from physicians is consistently higher in rural areas (9.9% compared to urban areas (4.3%).

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

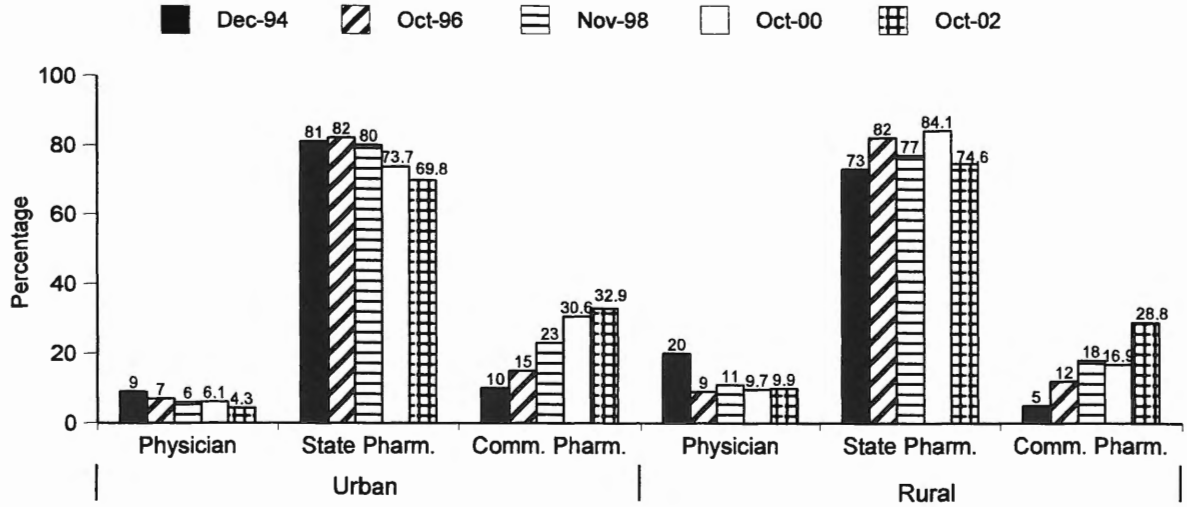
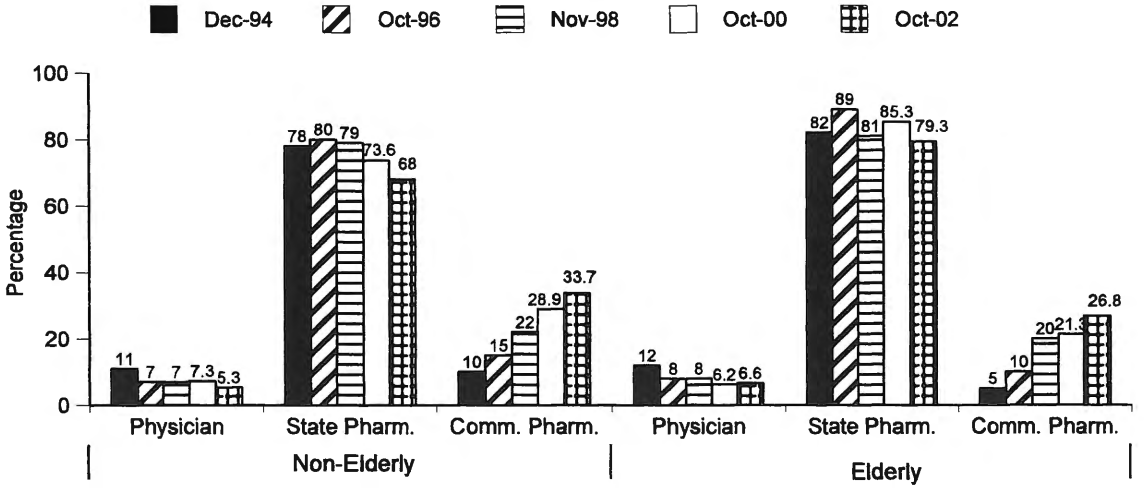


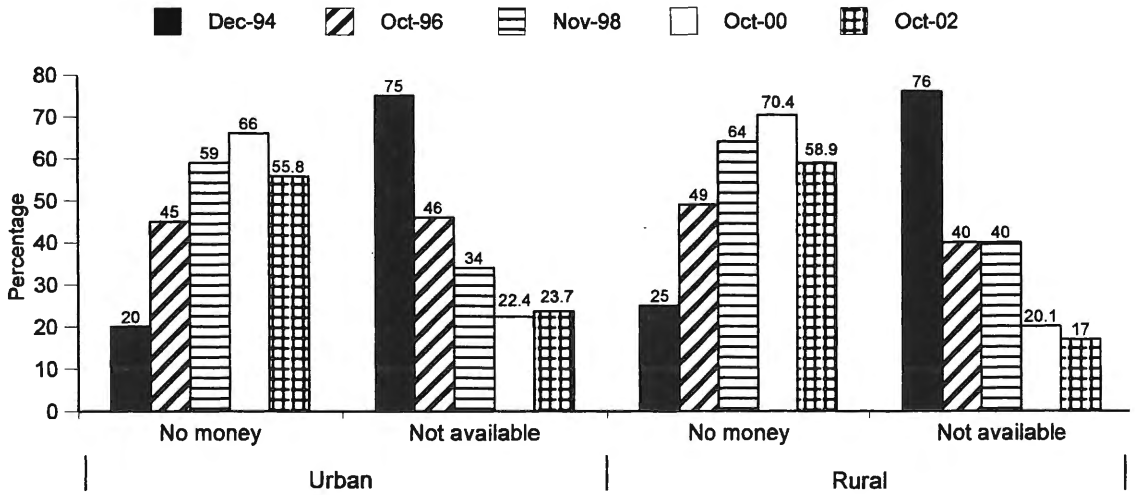
Figure 5b presents the drug availability information reported in for elderly (60 years and older) and non-elderly respondents. The purchasing pattern of the elderly does not differ much from that of the general population; the majority received their medications from state pharmacies, but increasing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

Figure 5b. Where Medications Were Obtained, by Age



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. In 2001 (data not shown) and 2002, however, there has been a gradual decline in the frequency of 'No money' as the major reason.

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



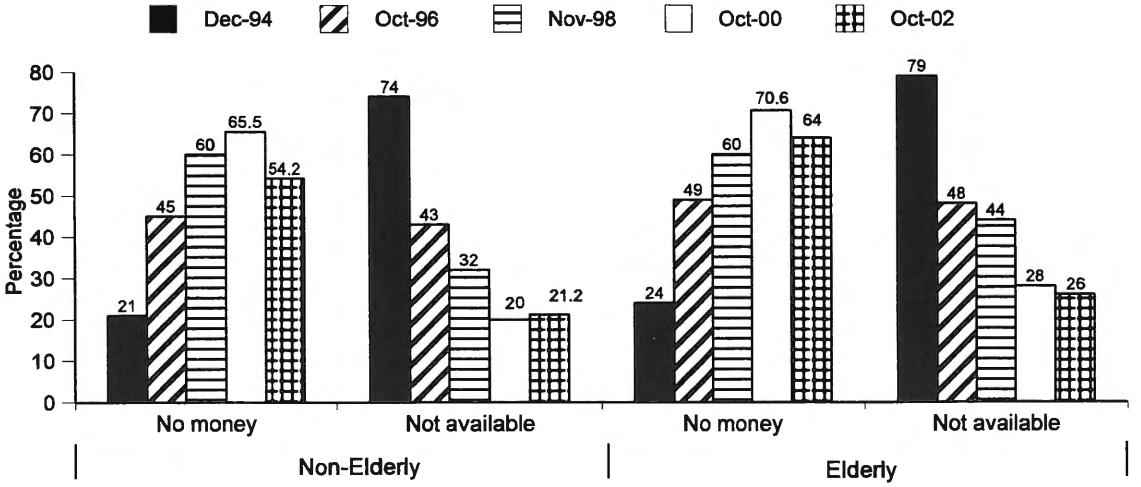
It must be noted that the decrease in the prevalence of 'Not available' as the major reason is not necessarily due to an increased availability of drugs. All that can be reported is that more respondents are citing lack of money as the primary reason for not obtaining medications.

In 2002, of the 1,561 (*1,456 in 2000*) respondents who received prescriptions and were able to obtain some or all of their medications, about 72% (*15% in 2000*) were entitled to a full discount. The others reported paying amounts ranging from 8 to 2,000 (*1 to 10,000 in 2000*) rubles. The median amount paid was about 120 (*95 in 2000*) rubles.

The inability of the elderly to obtain medications follows a similar pattern, with lack of money the reason most often cited (Figure 5d). Shifts in 2021 are also similar. The elderly report both unavailability of drugs and lack of money more often 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 may be due to the fact that more elderly live in rural areas where drugs are less readily available.

Although one might propose disability as another cause of reduced access among the elderly, less than 10 individual in each survey year cited this as a reason. It is not disability that is preventing the elderly from going to the pharmacy and obtaining medications.

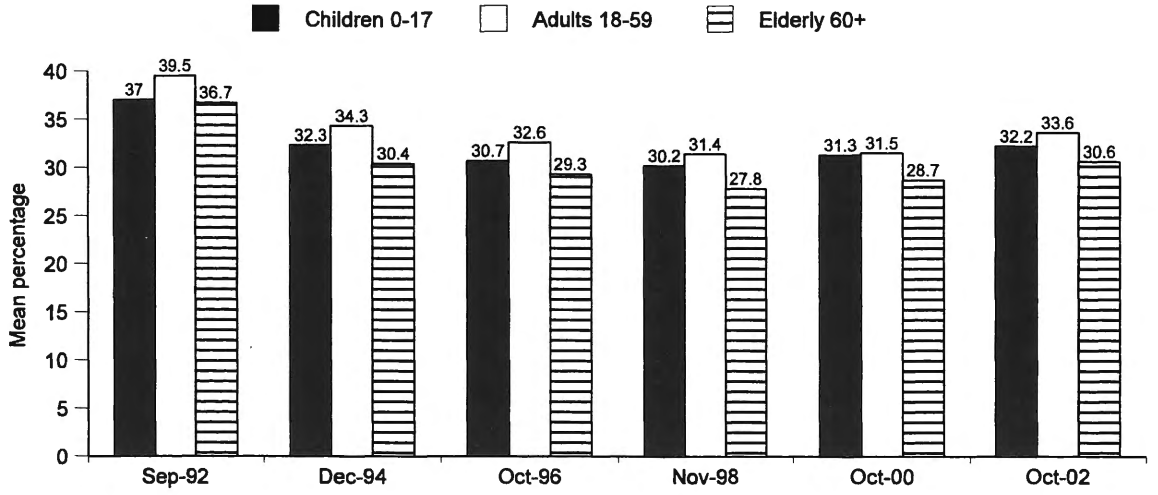
Figure 5d. Reasons for Inability to Obtain Medications, by Age



Composition of Diet

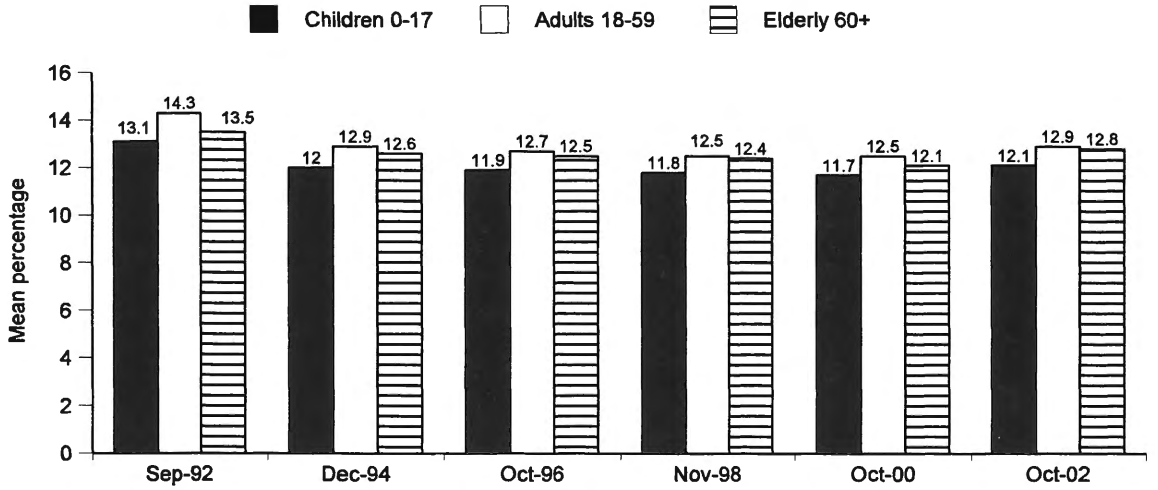
The RLMS contains detailed information on dietary intake collected with a 24-hour dietary recall. Herein, we present data on fat and protein. Fat intake in Russia has historically been much higher than the recommended level of 30% of total energy intake. This has been of great concern since it has serious 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 in 2001 (data not shown) and 2002, 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 2000, but increased again to 30.6% in 2001. 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 in 2001 and 2002.

Figure 7. Mean Percentage of Energy Intake from Protein



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 1992-2002"). The shifts result from a combination of socioeconomic, market availability, and personal factors. It should be noted that these dietary changes, while perhaps desirable to some extent in some population groups, are approaching levels at which they may impact vulnerable groups unfavorably.

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.[4] Between September 1992 and December 1994 there was a 26% increase in stunting in this age group (from 11.8% to 14.9%, as shown in Figure 8a). Between 1994 and 1996 there was a decline to 8%. Since 1998, however, the prevalence of stunting in this age group has steadily declined to 7.8%, its lowest level since the start of the RLMS in 1992. The prevalence of stunting among two- to six-year-olds has remained fairly high since 1998, after a sharp increase in October 2000 (10.5%), and stands at 9.3% in 2002 (Figure 8b).

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

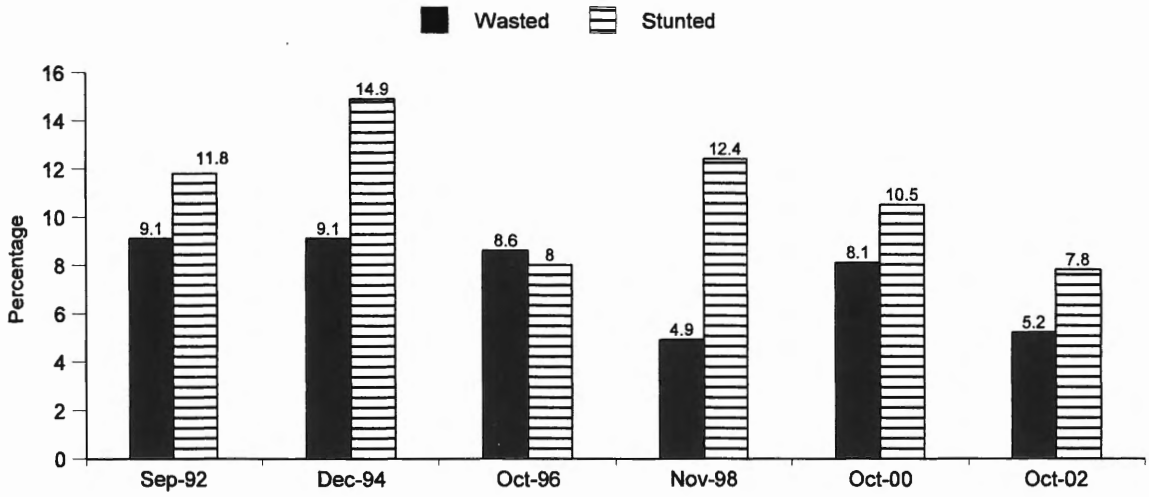
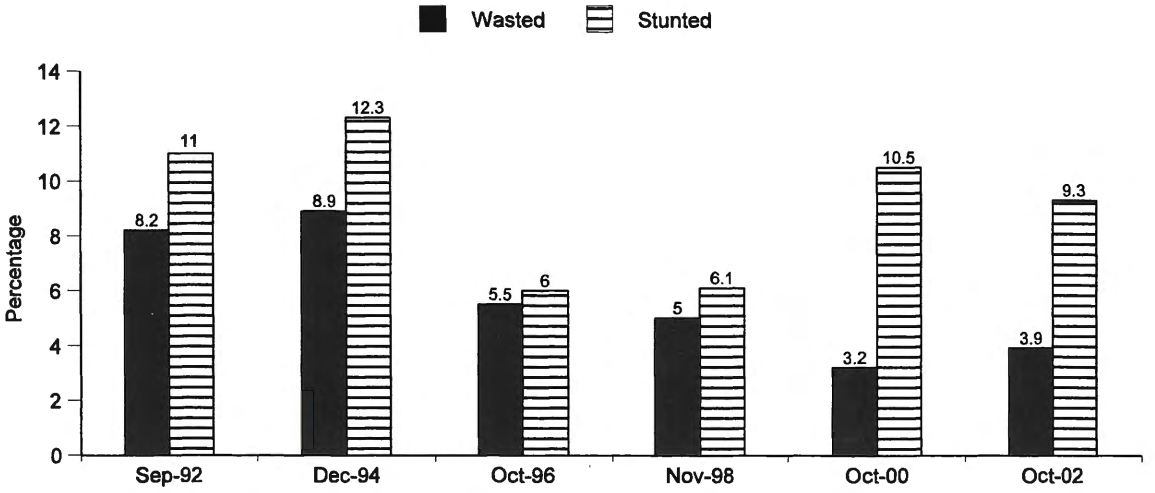


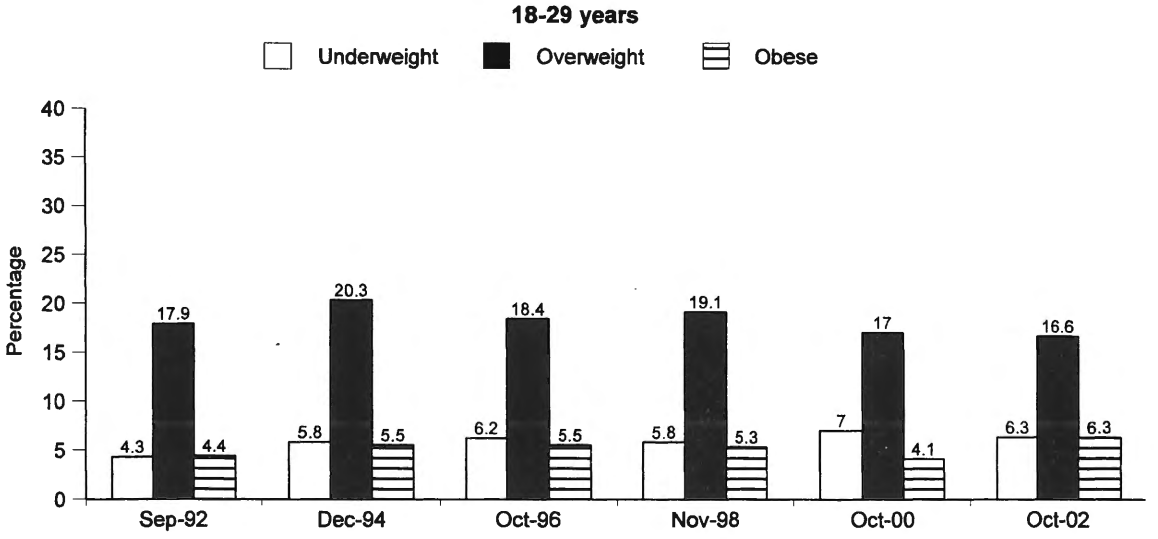
Figure 8b. Children's Nutritional Status (25 months-6 years)



Wasting (a measure of acute malnutrition) also presents a mixed picture. Among 0- to 24-month-olds, prevalence of wasting is at 5.2% in 2002, after a low of 2.4% in 2001 (data not shown). However, the declining trend of wasting among older children (Figure 8b) was interrupted in 2001 when the prevalence rose to 6.6% (data not shown), and stands at 3.9% in 2002. It should be noted that children's nutritional status is quite sensitive to socioeconomic factors. Despite income increases since 1998, incomes during the fall of 2001 were still 17% below their levels in the fall of 1992; and, while total household expenditures rose by 33% from 1998 to 2001, average real food expenditures in 2001 were only 61% of their 1994 level (see the companion report, "Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-2001").

The nutritional status of adults varies by age group (Figure 9). Among young adults (18-29

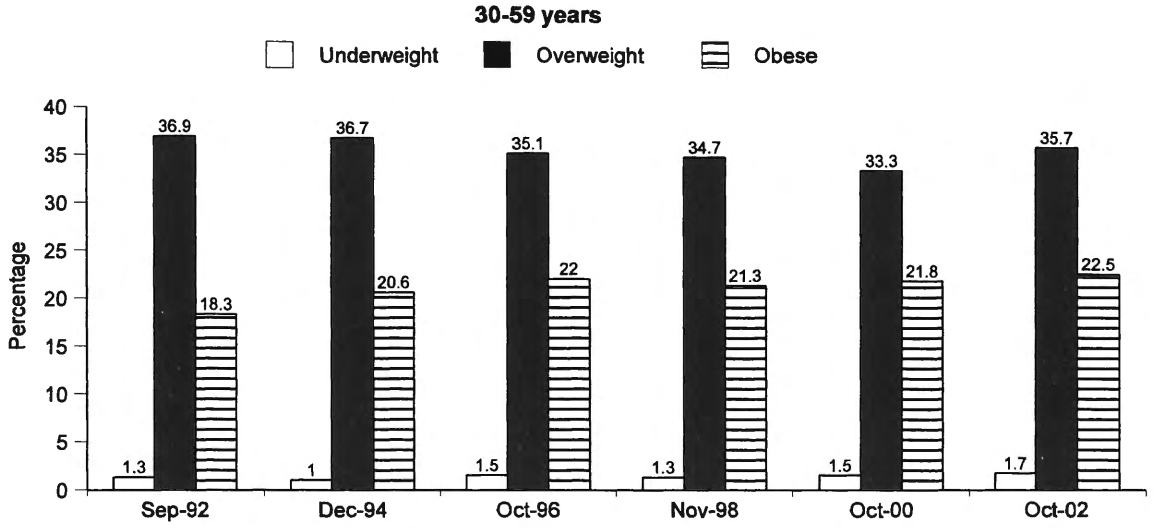
Figure 9. Adult Nutritional Status

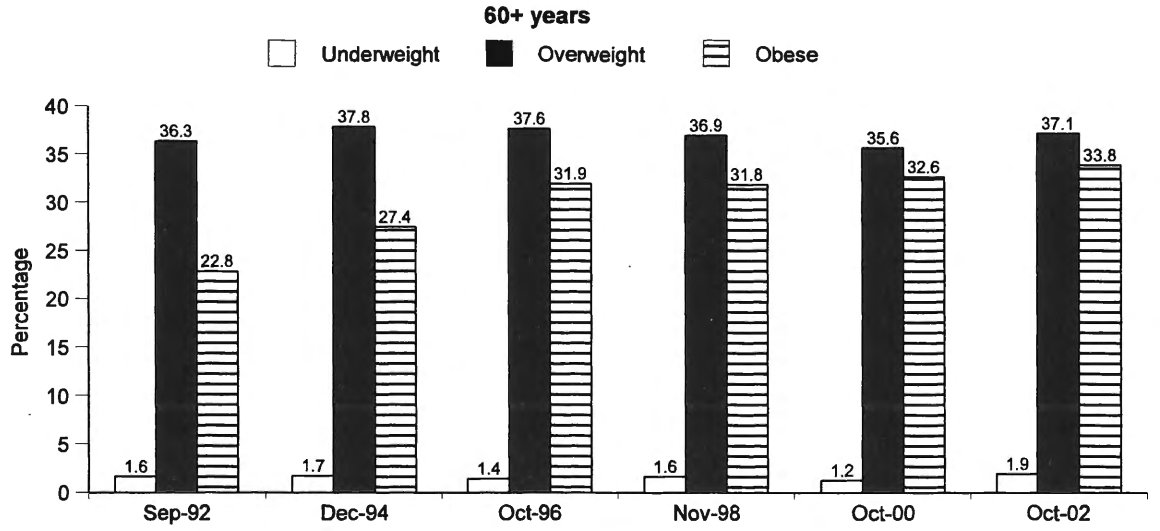


years), the trend of concern has been increasing under-nutrition, which steadily rose between 1992 and 2000 from 4.3% to 7% (a 63% increase). This prevalence is currently at 6.3% in 2002. Conversely, among the elderly there has been a steady increase in the proportion who are obese (according to WHO classifications),[5] from 22.8% in 1992 to 33.8% in 2002, a 48% increase. 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.

Among the middle-aged (30 to 59 years) also there has been a steady shift into the overweight and obese categories. The prevalence of underweight among both the middle-aged and the elderly remains steadily low.

Figure 9 (continued)





Childhood Immunizations

NOTE: Due to a slight change in the manner in which the data on immunizations were collected in the 2002 RLMS survey, the results are not comparable with those of previous years. The 2002 data are, therefore, not presented in this report. The following is the report as presented in the previous edition and is unchanged.

Figures 10a, 10b, and 10c present information about childhood immunizations between 1994 and 2001, 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% 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 has increased among all income groups, and ranges between 98% and 100%. These changes are probably a reflection of improved socioeconomic conditions.

Figure 10b shows the distribution of places where vaccinations were obtained as of October 2000. (No new information has been added to this figure for October 2001 due to a clerical error that renders the 2001 data not comparable to data from previous rounds.) The figure will be updated in future versions of this report. As of 2000, for younger children, clinics (poly and children's) were the most common sites for immunization (Figure 10b). For older children, kindergartens assumed a greater share, which may partly explain the higher coverage in this age group.

Another point of concern is coverage by type of vaccine (Figure 10c). In 2001, by the age of two years, between 15% and 51% of children had not received specific vaccines usually called for during the first year of life, including DPT (diphtheria/pertussis/tetanus), polio, and measles. Coverage rates for hepatitis vaccination have improved steadily, from 5% in 1996 to 33% in 2001. Among older children, vaccination coverage is generally greater, with fairly steady levels over the past few years.

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

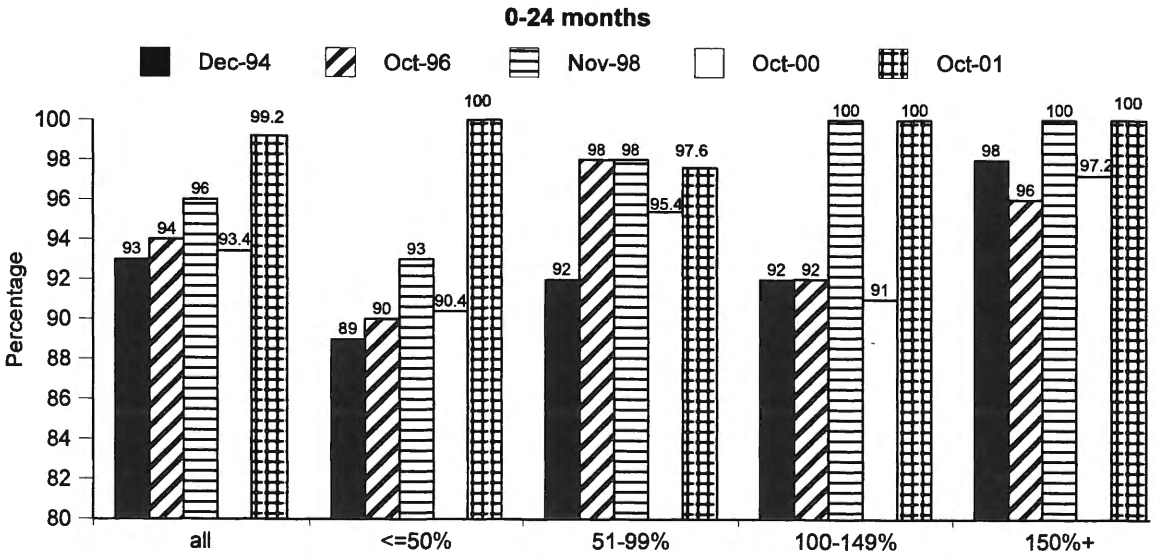


Figure 10a (continued)

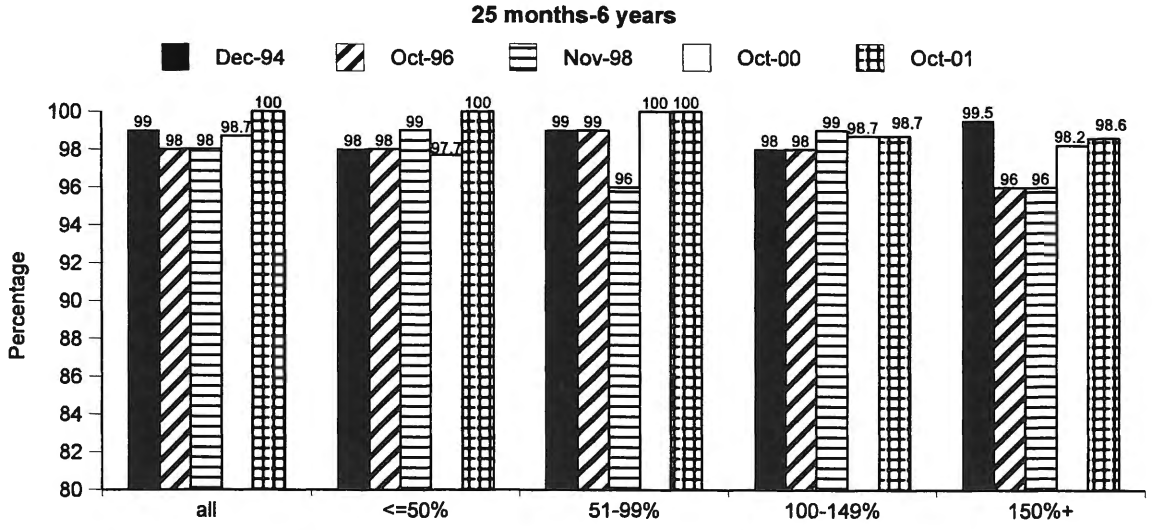


Figure 10b. Places of Vaccinations
(in the three months prior to the survey)

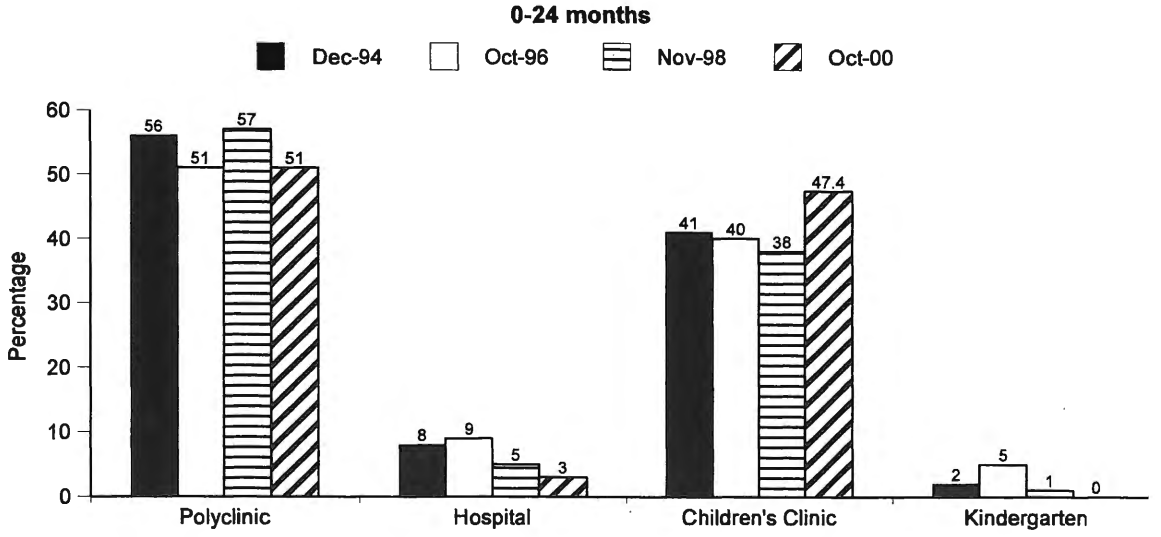


Figure 10b (continued)

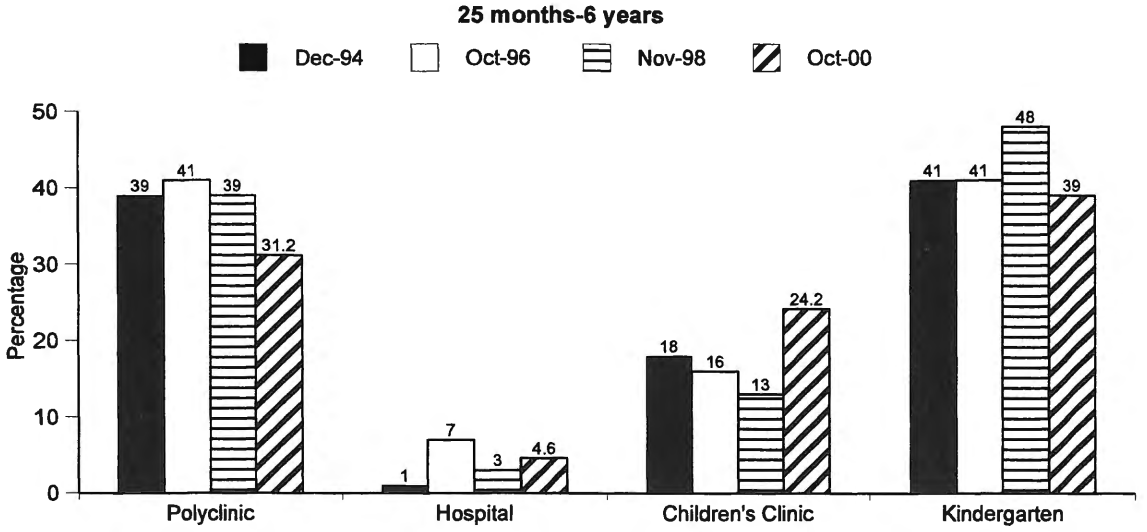


Figure 10c. Types of Vaccines Received, among Those Ever Vaccinated (by age group)

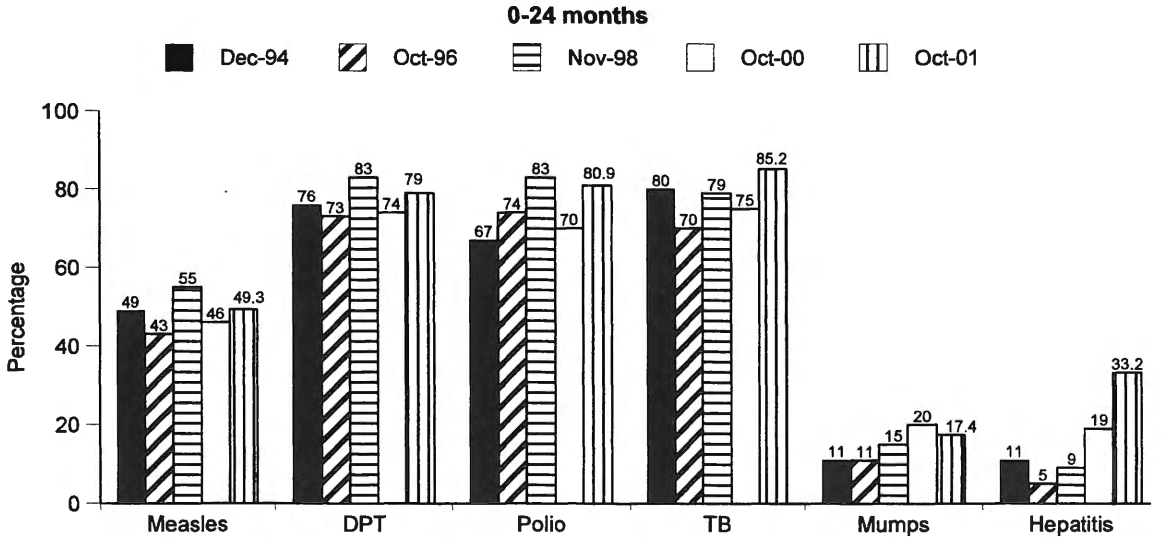
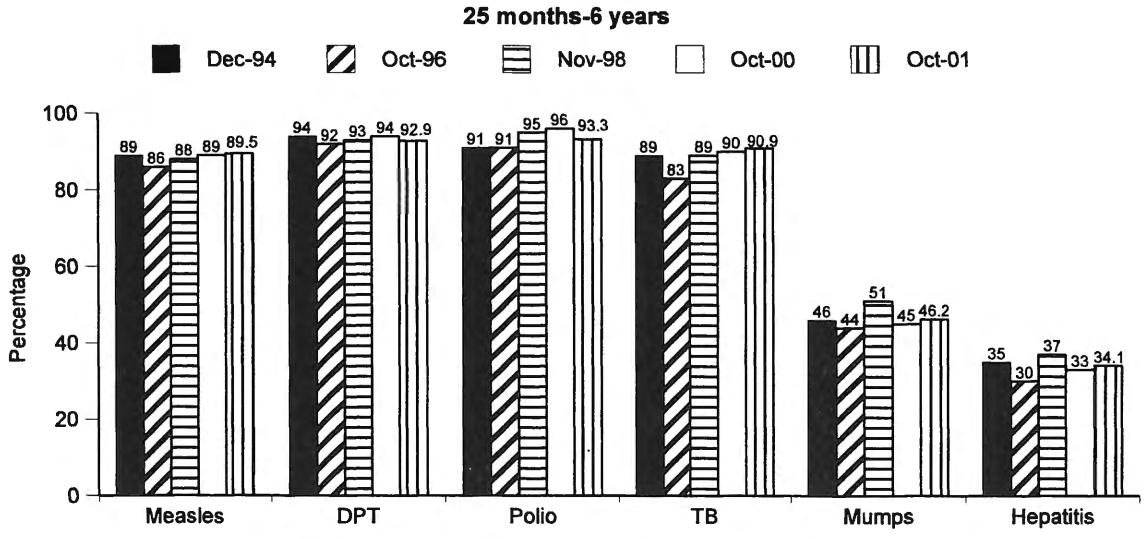


Figure 10c (continued)



Endnotes

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 re abased on self-reported information, and as such are subject to some of the possible biases of such reporting, such as under-reporting.

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 ≥30 (obese).