

# Monitoring Health Conditions in the Russian Federation

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*The Russia  
Longitudinal Monitoring Survey  
1992-95*

February 1996

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Russia Longitudinal  
Monitoring Survey



University of North  
Carolina at Chapel Hill

The Russia Longitudinal Monitoring Survey (RLMS) represents a series of nationally representative surveys of the Russian Federation implemented between 1992 and 1995. This report is based on surveys conducted in September 1992 (Round 1), February 1993 (Round 2), August 1993 (Round 3), November 1993 (Round 4), December 1994 (Round 5) and October 1995 (Round 6). Data from all Rounds have been weighted to ensure comparability of the information presented in this report.

The RLMS was carried out in two phases, each of which followed a different nationally representative sample of the Russian population. All aspects of field work in Phase II (the current Phase, consisting of Rounds 5 and 6) were handled by the Institute of Sociology, Russian Academy of Sciences headed by Drs. Polina Kozyreva and Mikhail Kosolapov, along with Dr. Michael Swafford, Paragon Research International. The Institute of Nutrition, Russian Academy of Medical Sciences, headed by Drs. Alexander Baturin and Arseni Martinchik coordinated and carried out the collection and processing of health and diet data.

Data collection for Phase I, consisting of Rounds 1-4, was implemented by the Russian State Statistical Bureau (Goskomstat) with Alexander Ivanov and Igor Dmitrichev co-directing this effort. 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. Paulina Kozyreva and Michael Kosolapov, and Michael Swafford of Paragon Research International 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 and the University of North Carolina at Chapel Hill.

The University of North Carolina team that has coordinated all phases of the RLMS includes: Barry Popkin, Principal Investigator, and co-investigators Namvar Zohoori, Barbara Entwisle, Tom Mroz and Lenore Kohlmeier.

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Access to RLMS data will be provided (as data become publicly available) through the RLMS home page on the World Wide Web, at [http://www.cpc.unc.edu/projects/rlms/rlms\\_home.html](http://www.cpc.unc.edu/projects/rlms/rlms_home.html).

# Monitoring Health Conditions in the Russian Federation

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*The Russia Longitudinal Monitoring Survey 1992-95*

*Namvar Zohoori*

*took the lead in the preparation of this report, with assistance from  
Laura Kline, Sarah Broome, Barry Popkin, and Lenore Kohlmeier*

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## Part 1: Overview of Key Findings

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- Between December 1994 and October 1995 there has been a decline in the quantity of alcohol consumed. Also, since 1992 there has been a steady decline in the prevalence of drinking among adult males and adult females. Among teenagers prevalence of drinking declined until 1993, but has been on the rise since then.
- In October 1995 the quantity of alcohol consumption by all those who drank was still considerably higher than in September 1992.
- In October 1995, smoking prevalence was at its highest, with large increases among teenagers and adult females over the previous three years.
- Among teenagers, almost a quarter are currently smokers--an increase of 44% since September 1992.
- Urban residents rate their air and water quality lower than rural residents. However, compared to December 1994, fewer people in October 1995 thought that the quality of air and water has deteriorated recently. Also, compared to the previous year, fewer people in October 1995 were willing to pay for improvements in the quality of air or water.
- There are no *systematic* shifts or changes in the patterns of health services use. Any notable differences between rounds are most likely attributable to seasonal variations.
- Dietary fat consumption in all age groups has steadily and consistently decreased between September 1992 and October 1995. Among the elderly the percentage of calories from fat is now at the recommended 30% level.
- Between 1992 and 1995, the prevalence of underweight has increased steadily among the under thirty age group, with no noticeable change in the past year. Among the elderly, in contrast, there is an indication of a small increase in undernutrition only between 1994 and 1995.
- In October 1995, the prevalence of stunting (chronic malnutrition) among children two years old and younger was 14.3%, up from 9.4% in September 1992. However, between 1994 and 1995 there was a slight decline in the prevalence of stunting.
- Both the 1994 and the 1995 surveys reveal that there are notable differences in childhood immunizations among different poverty levels, with young children in poorer households less likely to be immunized.
- Between a quarter and a half of children two years old or younger are not receiving specific vaccines usually recommended to be administered during the first year of life, such as diphtheria, pertussis, tetanus, polio and measles.

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## Part 2: Discussion of Results

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### Drinking and Smoking

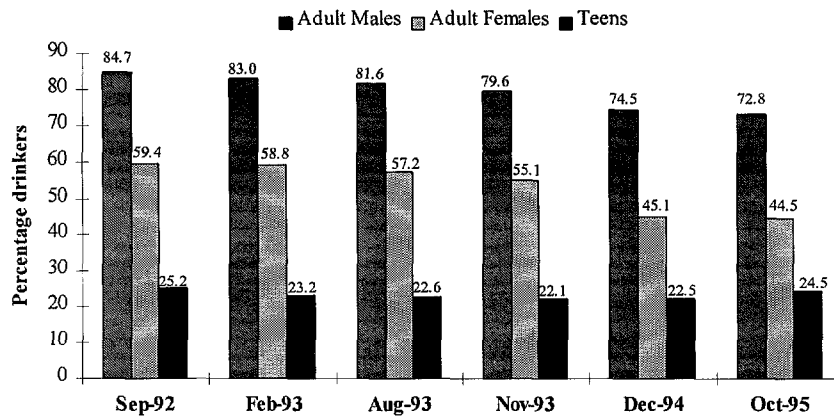
Increasing levels of alcohol consumption in Russia have been a matter of great concern recently. The RLMS data provide evidence of this increase among individuals since 1992.<sup>1</sup>

Figures 1a and 1b present data on the prevalence and the level of individual alcohol consumption, respectively. Data are presented for adult males

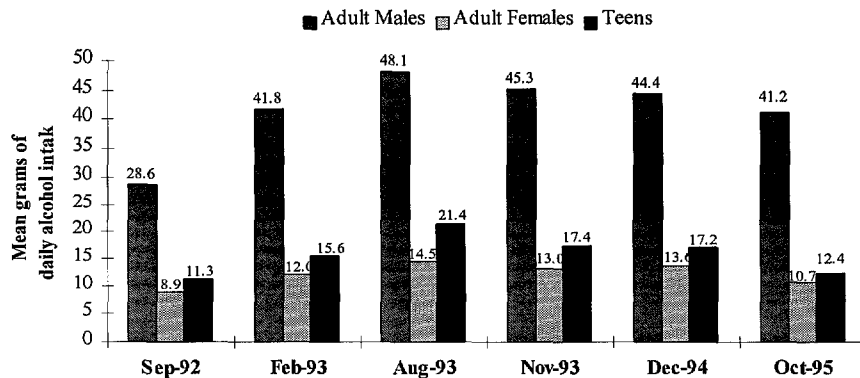
and females, as well as for teenagers (due to the relatively small number of teenagers, ages 14 to 18, it is not useful to subdivide them by gender). For the purpose of this report, a person was considered a drinker if there was any evidence in the data that he/she drank alcoholic beverages.

Generally, in Figure 1a we see a small but steady decrease in the proportion of the adult population who are drinkers (from 84.7% to 72.8% for males, from 59.4% to 44.5% for females. Among

**Figure 1a. Drinking--Adults 18 and Over and Teenagers**



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

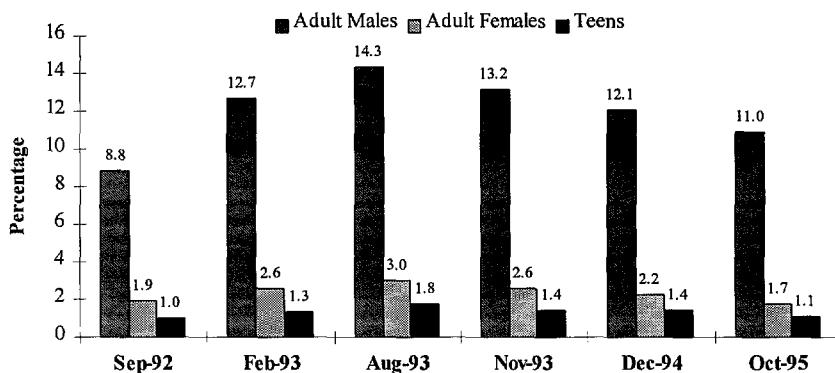


teenagers there was a decline from 25.2% to 22.1% between September 1992 and November 1993, followed by an increase to 24.5% by October 1995. However, when looking at the actual grams of alcohol consumed by those who drink (Figure 1b), we see a different picture of increasing levels of alcohol consumption in all three groups. These figures indicate a 44% increase in males (from 28.6 grams of alcohol per day in September 1992 to 41.2 grams in October 1995), a 20% increase in females (from 8.9 grams in September 1992 to 10.7 grams in October 1995), and a 9.7% increase among teenagers (from 11.3 grams in September 1992 to 12.4 grams in October 1995). The numbers from the latest round of data collection (October

1995) indicate a continuing trend of decreasing alcohol consumption following the peak that was reached in August 1993.

In Figure 1c we also present the alcohol consumption data in the form of annual per capita consumptions, separately for adult males, adult females and teenagers (combining drinkers and non-drinkers)<sup>2</sup>. The pattern of rise and fall is the same as that in Figure 1b--maximum annual per capita consumption was reached in August 1993, with 14.3, 3.0 and 1.3 liters per year for males, females and teenagers, respectively. In October 1995, respective annual per capita consumptions for these three groups were 11.0, 1.7 and 1.1 liters.

**Figure 1c. Annual Per Capita Alcohol Consumption among Males, Females, and Teenagers**

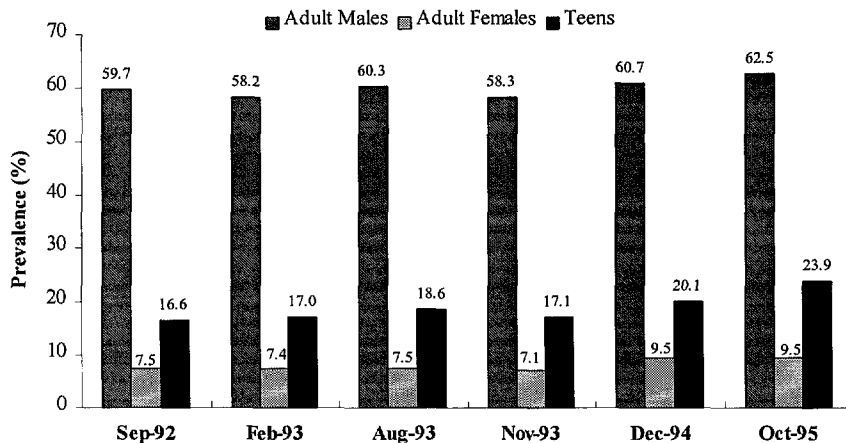


Figures 2a and 2b present information on the prevalence and extent of smoking. The most notable trend in the prevalence data (Figure 2a) is that smoking levels were at their highest in October 1995 (latest round of data), with the largest increases in the prevalence of smoking having been among teenagers and adult females over a three-year period. Smoking prevalence among teenagers has increased about 44% between September 1992 and October 1995 (from 16.6% to 23.9%). Among adult females, there has been a 27% increase in smoking prevalence (from 7.5% to 9.5%). The

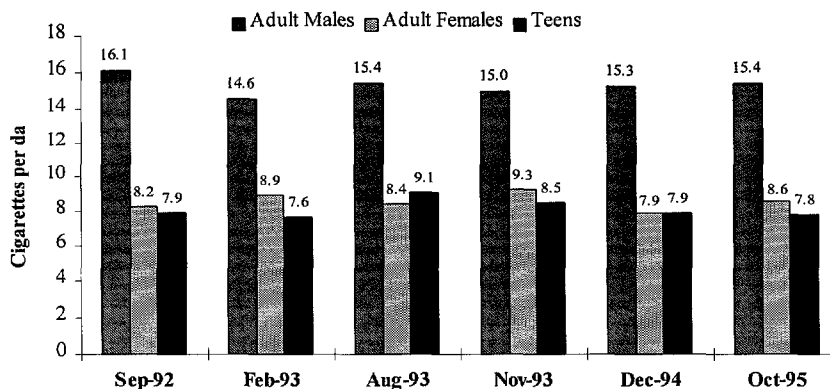
increase among adult males for the same period is much more modest (4.5%).

There is no notable change in the number of cigarettes smoked by adult male smokers (Figure 2b). Among teenage smokers, after a peak in August 1993, there has been a modest but steady decline to the October 1995 level (a drop of 14% since August 1993). There is a similar, though less pronounced pattern among adult females. These recent declines are probably due to the dilution effect of new smokers smoking fewer cigarettes.

**Figure 2a. Smoking - Adults 18 and Over and Teenagers**



**Figure 2b. Mean Number of Cigarettes Smoked by Cigarette Smokers**



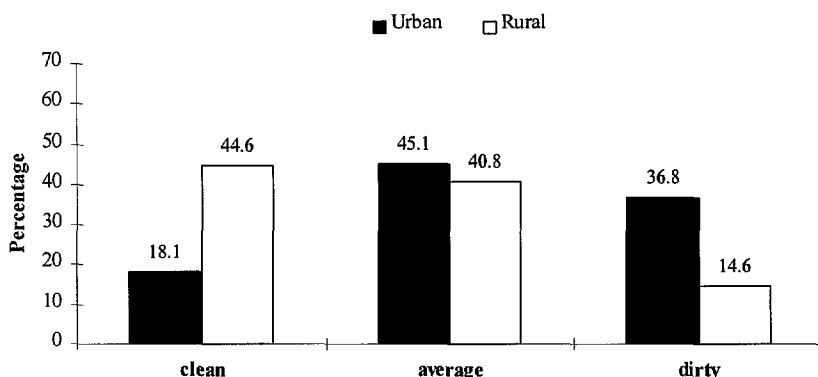
## Environmental Health

In the December 1994 Round of the RLMS, respondents were asked to rate the quality of air and water in their community. In this round, as well as the subsequent round (October 1995), respondents were also asked about a) their perceptions of changes in air/water quality over the past few years, b) whether they thought there is any connection between air/water quality and their chronic or frequent illnesses, and c) whether they were willing to pay for improvements in air/water quality.

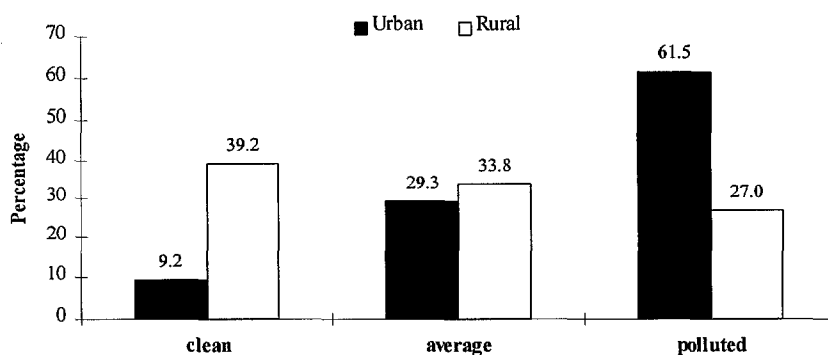
Generally, in December 1994 there was a much poorer rating of water and air quality in urban areas

compared to rural ones (Figures 3a and 3b)--almost 37% of urban residents thought that their water was dirty or very dirty, compared to about 15% in rural areas; the corresponding figures for air quality were 61.5% (urban) and 27% (rural). However, compared to the December 1994 survey, fewer people in October 1995 thought that the quality of air or water had deteriorated during the previous twelve months (Figures 4a and 4b). In both urban and rural areas, fewer people reported having had a frequent or chronic illness in October 1995 compared to a year before (Figures 5a). Generally, there was a higher perception of a connection between disease and environmental conditions among the urban population in both survey periods,

**Figure 3a. Perception of Water Quality, December 1994**



**Figure 3b. Perception of Air Quality, December 1994**



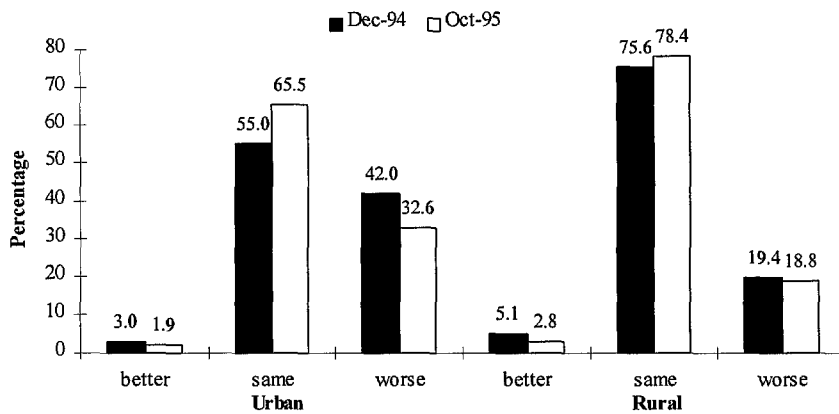


and there is very little change in these perceptions between 1994 and 1995 (Figure 5b).

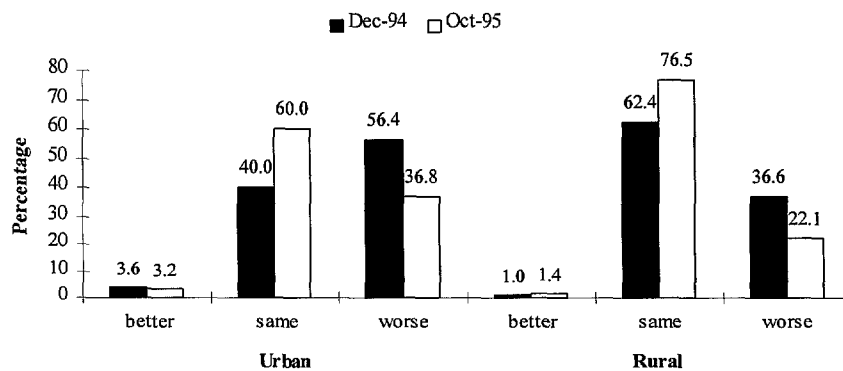
Perhaps partly related to the above observations is the substantial change in the proportion of respondents who are willing to pay additional

money for improvements in air or water quality (Figure 6). In October 1995, 46.5% of urban and 36.7% of rural residents would pay for such improvements; the corresponding percentages for the previous year were 58% and 47%, respectively.

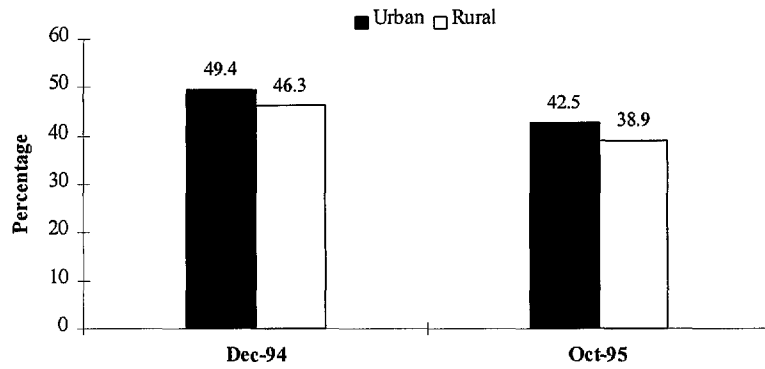
**Figure 4a. Perception of Change in Water Quality Over the Past Year**



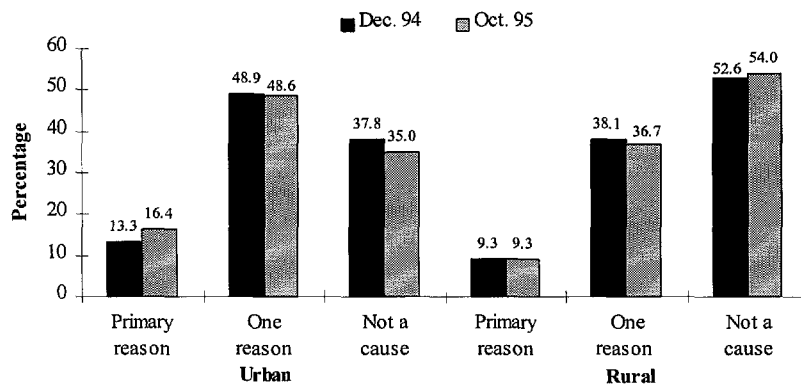
**Figure 4b. Perception of Change in Air Quality Over the Past Year**



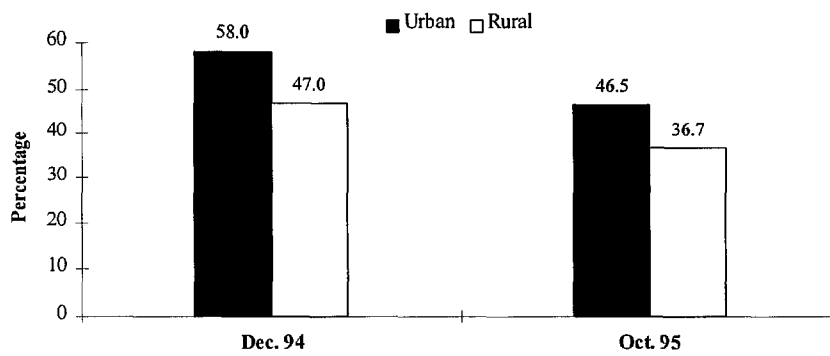
**Figure 5a.**  
**Percent with Self-Reported Chronic or Frequent Disease**



**Figure 5b. Perception of Connection between Disease and Environmental Conditions**



**Figure 6. Percentage of People Willing to Pay for Better Environmental Conditions by Urban/Rural Residence**



## Medical Problems, Health Services Use, and Hospitalization

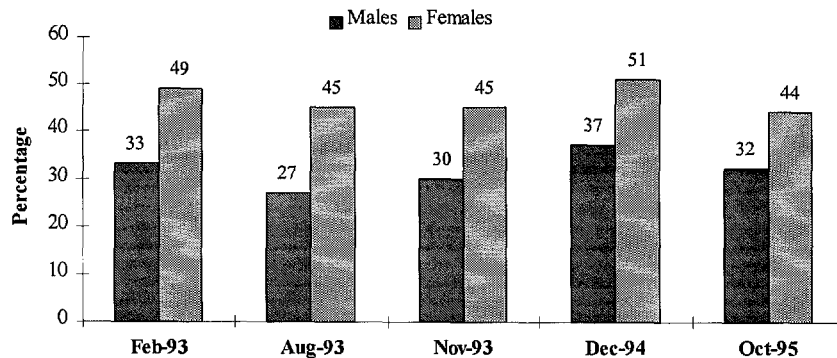
Beginning with Round 2, information on self-reported prevalence of medical problems and use of medical services for these problems was collected for the 30-day period preceding each survey.<sup>3</sup> These results are presented in Figures 7a and 7b.

Generally, more women report having had a medical problem than men, but a higher proportion

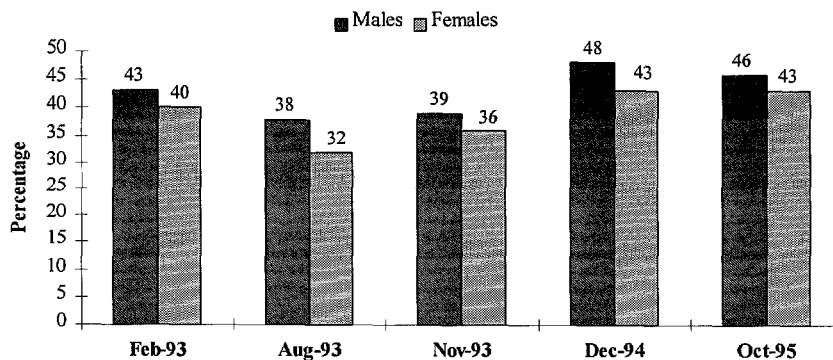
of men with illnesses sought medical advice. There is also an indication of a seasonal pattern, with lower reported prevalences in summer and fall.

Figures 8a and 8b present data on the prevalence of hospitalization among all respondents and the mean number of days of hospitalization among those who were hospitalized. Apart from a slight indication of a seasonal variation, there are no systematic shifts in the pattern of hospitalization.

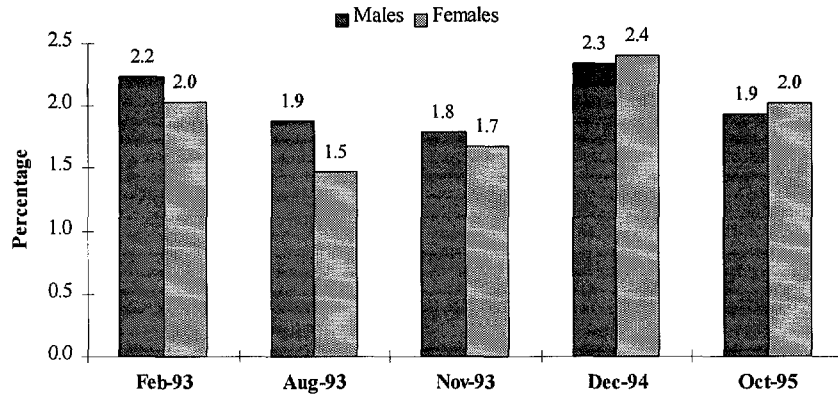
**Figure 7a.**  
**Prevalence of Self-Reported Medical Problems**



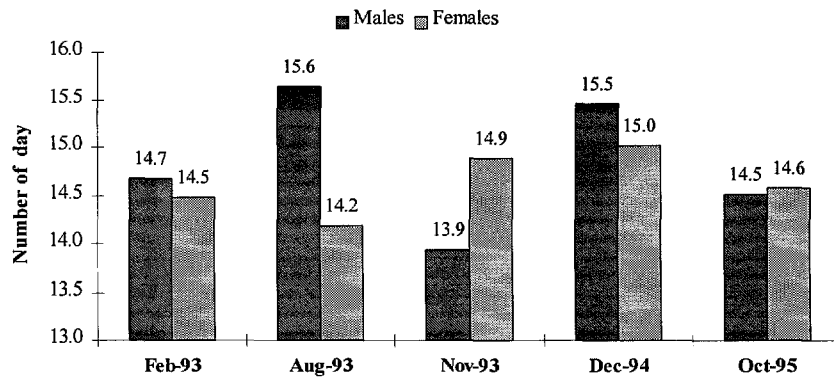
**Figure 7b. Percentage of Those with Medical Problems Who Used Medical Services**



**Figure 8a. Hospitalization**  
(within 30 days prior to each survey)



**Figure 8b. Mean Length of Hospitalization**  
(In Days)



## Drug Availability

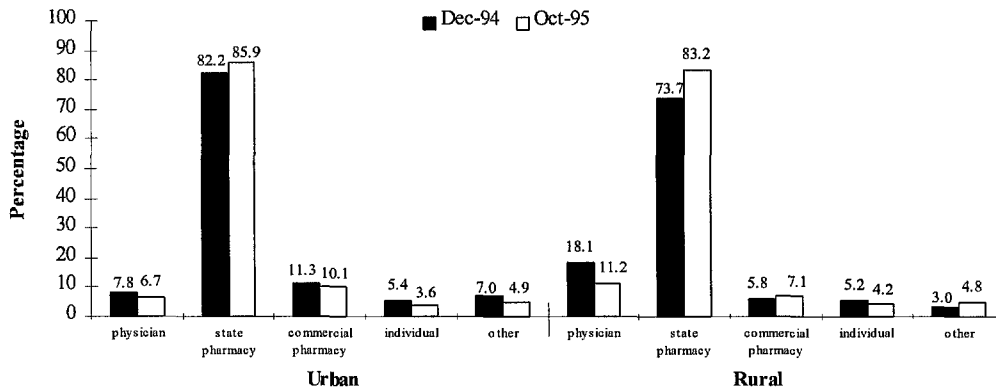
In the latest two rounds of the RLMS (December 1994 and October 1995), a series of questions were added to find out about the abilities of respondents to obtain medications that were prescribed by a health worker. Respondents were asked about where these medications were obtained and if they could not be obtained, the reasons why were recorded.

Overall, 85% of respondents in 1994, and 88% in 1995 were able to get the prescribed medications. In both rural and urban areas, by far the most common source of medications is the State pharmacy, (Figure 9a), but more so in urban

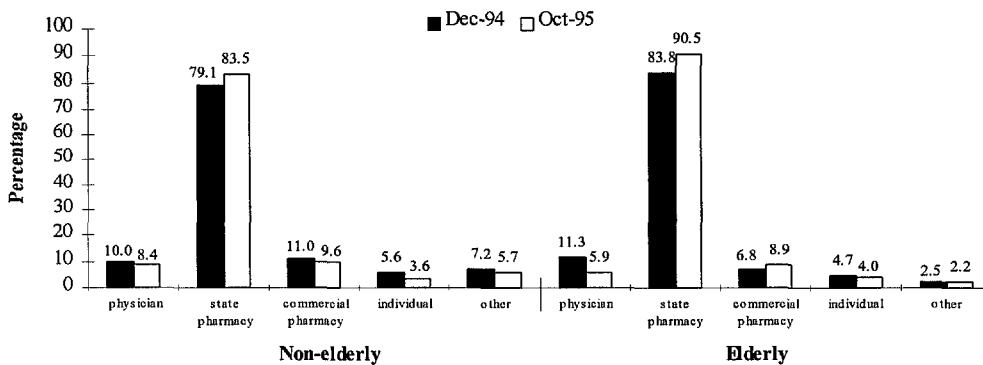
settings. In 1994, about 18% of rural respondents and 8% of urbanites also received medications directly from physicians. These latter proportions were somewhat reduced by October 1995, with corresponding increases in proportions of respondents who obtained medications from State pharmacies. There are no appreciable changes in other sources of medications.

Recently, there has been much interest in the situation of the elderly in Russia, particularly in their ability to obtain health care. Figure 9b presents the same drug availability information separating the elderly (60 years and older) from the non-elderly. The purchasing patterns of the elderly do not seem to be too different from those of the

**Figure 9a. Where Medications Were Obtained, by Place of Residence**



**Figure 9b. Where Medications Were Obtained, by Age**



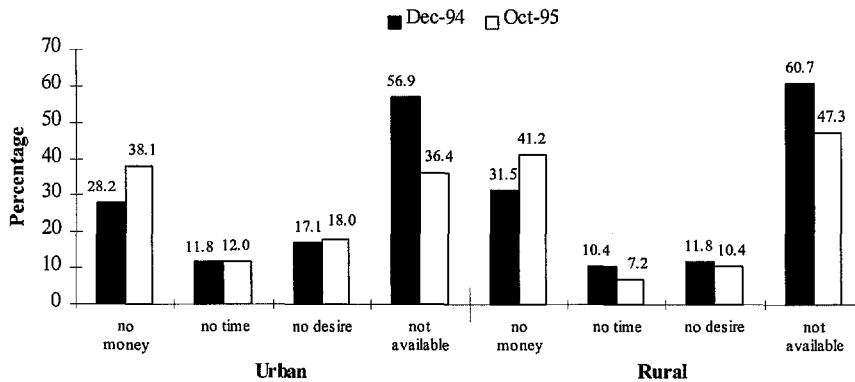
general population in that the majority receive their medications from State pharmacies. However, compared to a year ago, slightly more of the elderly in 1995 received their medications from State pharmacies.

Of the 12-15% of respondents who were unable to obtain their prescribed medication, 57-60% cited unavailability as the main reason and another 28% said they did not have enough money (Figure 9c). Other less frequently cited reasons were lack of time and lack of desire. By October 1995, about 41% said they did not have enough money, with a corresponding decline in 'unavailability' as a reason (it must be noted, however, that this decline in the prevalence of the 'unavailability' category is

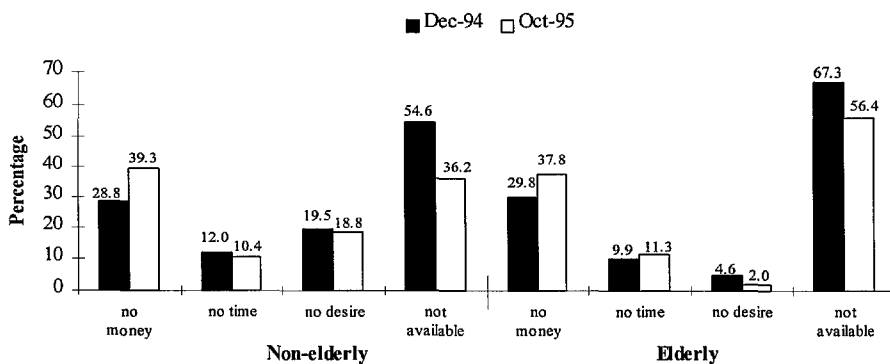
not necessarily due to increased availability of drugs, but rather to more respondents citing lack of money as the primary reason for not obtaining medications). Also, in 1995 there was a greater urban/rural differential for unavailability of drugs, with those living in rural areas less likely to obtain medications.

The situation of the elderly follows a similar pattern, with lack of money becoming a more prominent reason in 1995. Of note, also, is the greater elderly/non-elderly differential for drug unavailability in 1995. The reasons for this are unclear. First, it must be noted that even though in the 1995 questionnaire a specific choice was added for 'disability' as a reason for the inability to get

**Figure 9c. Reasons for Inability to Obtain Medications, by Place of Residence**



**Figure 9d. Reasons for Inability to Obtain Medications, by Age**



medications, only two elderly respondents cited this as a reason (data not shown). Therefore, this factor cannot be confounding the unavailability issue for the elderly (in other words, drugs are not unavailable to the elderly merely because disabilities are preventing them from going to the pharmacy). It may be that some of the types of medications prescribed for the elderly are less available than those prescribed for younger individuals. Also, the proportions of elderly in the urban and rural samples are 23% and 28%, respectively; that is, there is a somewhat greater proportion of elderly in rural areas. Therefore, 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 available.

## Composition of Diet

The RLMS contains detailed information on dietary intake collected via a 24-hour dietary recall at each round. In this report, we present data on fat and protein intake. Fat intake in Russia has been known to be much higher than the recommended level of 30% of energy intake. These high levels are of great concern since they have serious implications for a number of chronic diseases.

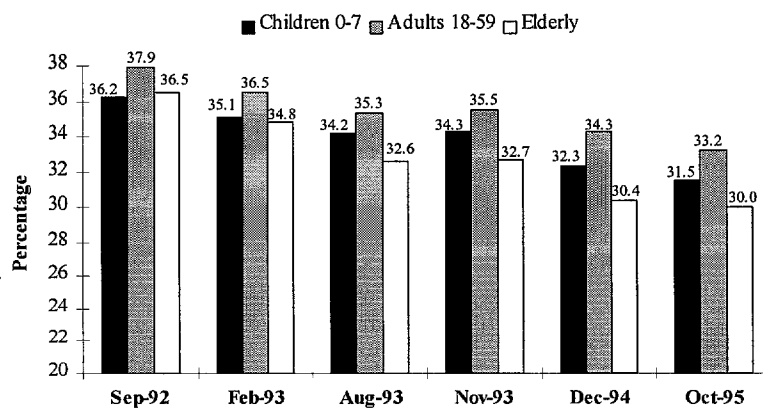
Figure 10 indicates a declining trend in the consumption of fat. For all age groups, there has

been a steady decline in the percentage of energy from fats during the three-year period from September 1992 to October 1995. Among the elderly (those 60 years and older), fat intake has declined from 36% to 30%. There have also been steady declines in fat consumption among young adults and children.

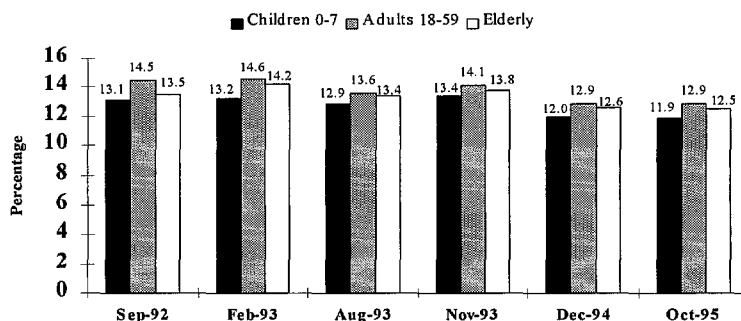
Also, as indicated in Figure 11, there has been a very small but persistent decline in the percentage of energy from protein, although these declines are not nearly as prominent as those for fat. For adults, the percentage of energy from protein has declined from 14.5% in September 1992 to 12.9% in October 1995. The corresponding figures for the elderly are from 13.5% to 12.5%, and for children from 13.1% to 11.9%.

These dietary intake patterns and shifts are indicative of drastic changes that Russians are making in their diet. The force behind these shifts is the result of a combination of socio-economic, market availability and personal factors. It should be noted that these changes, while perhaps desirable in some population groups, may in fact impact other more vulnerable age groups in unfavorable ways.

**Figure 10. Mean Percentage of Energy Intake from Fat**



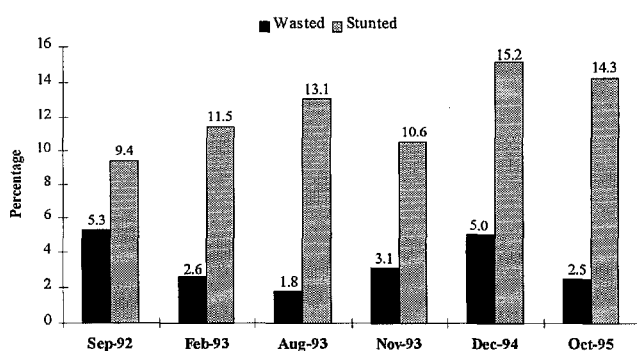
**Figure 11. Mean Percentage of Energy Intake from Protein**



## Nutritional Status

Figures 12a, 12b and 13 present data on the nutritional status of children and adults (height and weight data were measured on all respondents). Of particular importance is the increase in the prevalence of stunting (an indicator of chronic malnutrition) among children two years old and younger. These figures indicate that between September 1992 and December 1994 (a two-year period) there was a 62% increase in the level of stunting among this age group (from 9.4% to 15.2% in Figure 12a). Although a year later, in October 1995, there is a slight decline in this prevalence to 14.3%, the figure is still quite high. Prevalence of stunting among two to six year olds, which was also on the rise between 1993 and 1994 (from 7.2% to 11.1%), is at a lower level (7.7%) in October 1995 (Figure 12b). The prevalence of wasting, which is a measure of acute malnutrition, does not indicate any major acute nutritional

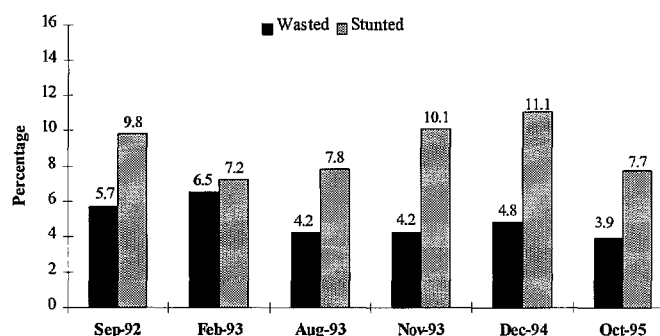
**Figure 12a. Children's Nutritional Status (0-24 months)**



problems among young children.

Among adults and the elderly, the situation is different (Figure 13). Here, the most prevalent conditions are overweight and obesity, although there is also an indication of increasing levels of undernutrition. Among the under 30 age group, the prevalence of underweight has increased by 32%

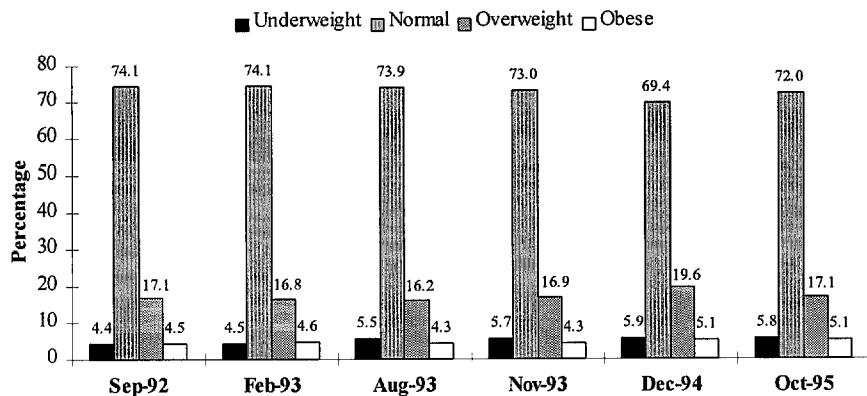
**Figure 12b. Children's Nutritional Status (25 months-6 years)**



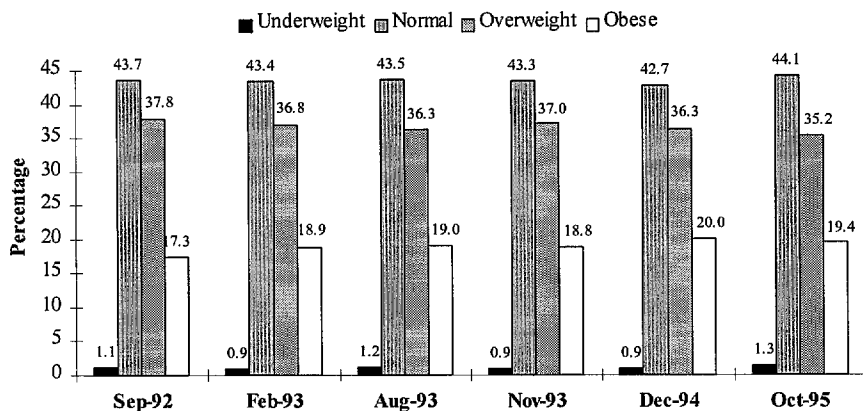
between 1992 and 1995. However, among the elderly there is an indication of a small increase in undernutrition only between 1994 and 1995--a possible sign of an emerging problem. Also noteworthy and of concern is that for all age groups, there is a steady increase in the proportions of the population that are in the overweight and obese categories (according to WHO classifications)<sup>4</sup>. In October 1995, 55% of older adults (30-59 years old), and 68% of the elderly (60 years old and over), had weights above normal.



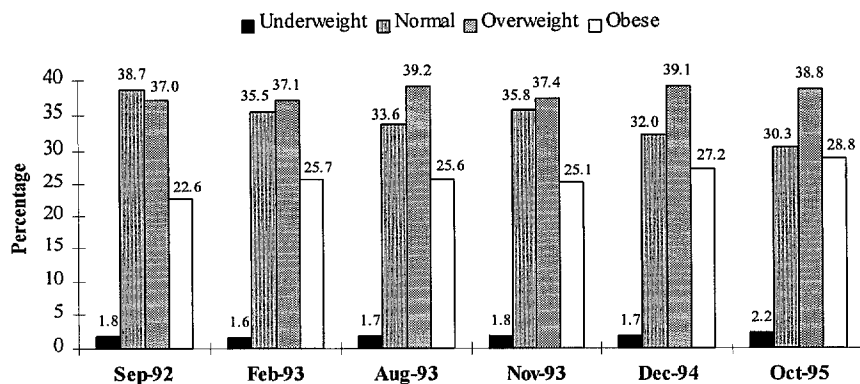
**Figure 13. Adult Nutritional Status**  
(18-29 years)



(30-59 years)



(60+ years)



## Childhood Immunizations

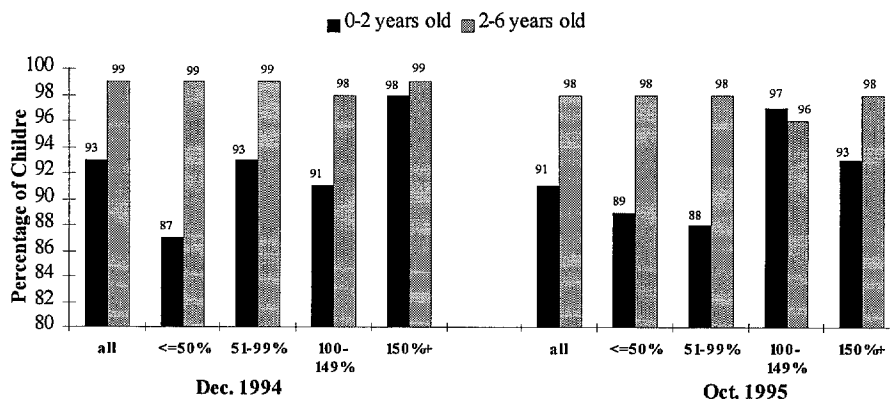
Figures 14a-14c present information about childhood immunizations from the December 1994 and the October 1995 surveys for children up to six years old. Information on the distribution of vaccination location (Figure 14b) and types of vaccines (Figure 14c) is only presented for the latest Round (October 1995), since these figures were almost identical for the two rounds.

The percentage of children who had ever received any vaccination at the time of these two surveys is shown in Figure 14a. These data are shown by age group (0-2 and 2-6 years old) and by poverty level.

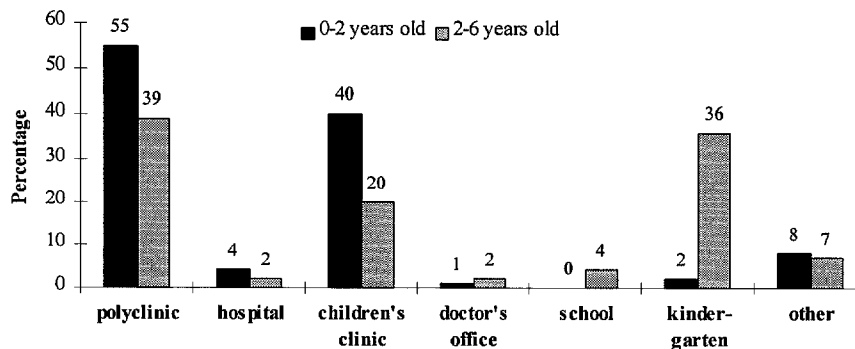
Among the older age group overall coverage is about 97-99% and fairly uniform across poverty level groups. However, there are notable differences in vaccination coverage among different poverty levels in the younger age group-- in both surveys, there are lower percentages of immunized children in the lower income groups, suggesting a socioeconomic effect on the rate of immunization in the two years immediately preceding the surveys.

As seen in Figure 14b, the most common places for vaccinations among the 2-6 year olds are polyclinics and kindergarten, which partly explains the higher coverage among this older age group. Another point of concern is coverage by type of

**Figure 14a. Children Ever Vaccinated**  
(by age and percent of the poverty line)



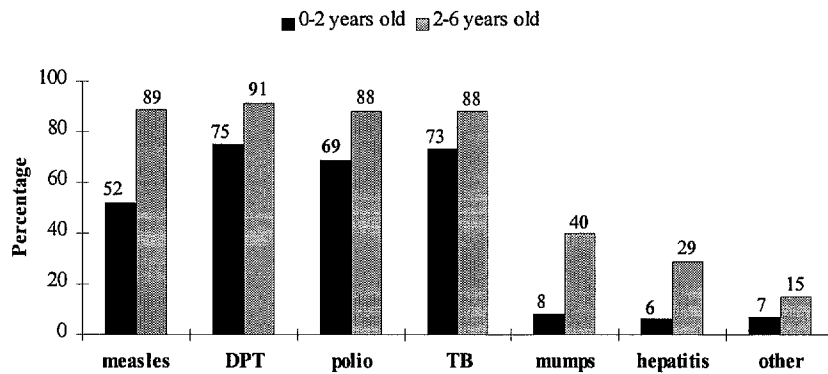
**Figure 14b. Place of Vaccination**  
(for vaccinations in the last 3 months)



vaccine (Figure 14c). Even by the age of 2 years, between a quarter and a half of children are not receiving specific vaccines usually recommended to be administered during the first year of life--

these include DPT (diphtheria/pertussis/tetanus), polio and measles--and even by age 6, coverage of these immunizations is not universal.

**Figure 14c. Types of Vaccines Received, by 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 in each round, and the 24-hour dietary recall data. For purposes of this study, a person was considered a drinker if the data gave any evidence that he/she drank alcoholic beverages. In other words, 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 the person was counted as a drinker.

The calculations of quantities of alcohol consumed are based on respondents' evaluations of their 'usual' intake of various alcoholic 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 rather lumped together with "vodka and other strong drinks." However, in the February 1993 and subsequent rounds, *samagon* consumption was asked about specifically.

2. The per capita data on alcohol consumption are meant to be comparable in their construction to those commonly reported, in that they report annual per capita consumption for both drinkers and non-drinkers. However, due to the large disparity in alcohol consumption between adult males, adult females and teenagers, we present these data separately for these three groups.
3. In the December 1994 survey, the questions on prevalence and duration of hospitalization were asked with a three-month time frame, as opposed to a 30-day time frame in the previous rounds. For the purposes of Figures 8a and 8b, the prevalence data from this round were simply divided by 3, and only those with a duration of hospitalization of 30 days or fewer were used in the calculation of the mean.
4. Division of adults and elderly into various weight groups is based on Body Mass Index categories as recommended by the WHO: <18.6 (chronic energy deficiency), 18.6-25 (normal), 25.1-30 (overweight), and >30 (obesity).