id21 health highlights #17

maternal & child health

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Comparing maternal health services in four countries

While the availability and use of trained midwives can shape the quality of care received in pregnancy and childbirth, a number of other underlying health systems structures and processes are important. The management of health workforces, the mix of public and private provision and the impact of reforms affect quality of care across countries.

During a comparative study, conducted in 2001-2002, researchers at the London School of Hygiene and Tropical Medicine examined how the structure and operation of a health system influences maternal health care provision and outcomes in Bangladesh, Russia, South Africa and Uganda. Significant conclusions include:

- Health outcomes in pregnancy and childbirth are not rigidly linked to quantifiable inputs, such as number of staff or proportion of deliveries with a skilled attendant. Instead, outcomes will be affected by larger systems structures such as health centre workplace dynamics, national reforms shaping practice, or formal and informal private practice by health workers.
- The impact of private providers on maternal health depends on the services they offer, the populations they serve, and their interactions and relationships with other health providers.
- Private sector providers can be difficult to regulate. In urban areas they compete with the public sector, but in rural areas they can fill a gap where the public sector does not operate.
- Health sector reform can put a strain on health workers. However, a lack of reform can slow improvements in maternal health services, as is the case in Russia.
- User fees can increase staff motivation but may reduce demand for services. Removing fees may not increase demand.
- Informal fee charging and medical staff working in both private and public sectors take place in various forms. Public sector doctors may also operate private clinics to which they may refer their patients, while staff may re-sell drugs or charge for services.

The four country comparison reveals some common elements where the structure of health care systems can affect maternal health care. Implications for policy include:

- It is essential to look beyond the simple measurable inputs into a health system, such as numbers of staff or use of services, in order to understand how to improve quality and outcomes.
- The effectiveness of birth attendants depends on the system in which they work. The mix of staff, human resource allocations and the accessibility of emergency care can affect health outcomes.
- Income disparities allow the private sector to attract public sector staff. But where public services are not available, the private sector can play a key role in maternal care.
- Informal health care providers may be poorly linked to the rest of the health system, bringing increased risks for women.
- Informal practices can undermine state policies on free care, but may operate to support public sector workers in positions that would be otherwise unfilled.

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Iron supplements for school children in the Philippines

There is increasing evidence that iron deficiency affects children's ability to learn at school. Are iron supplements the answer? And are daily or weekly supplements more effective?

The World Health Organisation (WHO) has recommended that if more than 40 percent of a country's school children are anaemic, then children should be given iron supplements. Save the Children, together with the University of Westminster, UK, carried out research into the effects of iron supplements on rural school children on the islands of Iloila and Guimaras in the Philippines. Children in 25 schools were given an iron pill each week for 10 weeks while children in another 24 schools were used as a control.

Iron supplements are part of a wide-ranging health programme in the Philippines aimed at improving children's educational performance. Two age groups were targeted: children aged 7 to 8, and those aged 10 to 12.

The study found that:

- The younger children had lower levels of haemoglobin in their blood than the older children before they took the tablets.
- As a result the younger children benefited more from the course of tablets.
- After taking the tablets levels of anaemia fell slightly from 20 percent to 18 percent.
- During the same period of time, anaemia in the control group of children rose from 14 percent to 26 percent.

Haemoglobin counts in the control group may have dropped because it was the lean season between harvests and food was scarce. For every child with anaemia, another one or two will be suffering from an iron deficiency, so many more children benefit from the supplements.

The report recommends that:

- children should be dewormed before beginning to take iron supplements
- a large dose of vitamin A may be appropriate before starting the course of iron, as some anaemia is caused by vitamin A deficiency
- a control group should be used initially so that the benefits of iron tablets are visible. Without this a school programme might conclude that iron tablets were of no use because the children had the same level of anaemia at the end of the treatment as they had at the beginning
- if anaemia levels are above 20 percent, rural children would benefit from a course of iron tablets over a period of 10 to 16 weeks. These could be given by the class teacher on a weekly basis
- supplements should, in particular, be given to those children in areas that suffer from annual food shortages.

The WHO recommends iron supplements for school children on a daily basis for three months where anaemia is a major health problem. However, weekly tablets are just as effective if they are given in a supervised environment such as a school. Even where anaemia is only a mild public health problem, weekly iron supplements given by teachers will prevent a fall in the haemoglobin count and benefit anaemic and non-anaemic children.

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Waste collection and diarrhoea in Brazilian children

Diarrhoea is one of the main causes of death and disease amongst children in developing countries. On average children under the age of five experience three episodes of diarrhoea per year. Proximity to open sewage and other waste is a major cause of childhood diarrhoea. Inadequate waste collection and management can make this situation worse.

Many poor people live without adequate sanitation, proper sewage disposal and rubbish collection. The Federal University of Bahia, Salvador, in Brazil looked at the effect rubbish has on young children's health. The study was carried out in Canabrava, a poor district near to Salvador's rubbish dump, amongst children under the age of two. The district does not have a sewage system. Faeces and household rubbish litter the streets. Water, piped into the houses through leaking pipes, is likely to be contaminated and lack of drainage in some areas means there is a danger of landslides.

The average income in Canabrava is between US$ 75 and 150 per month. Four out of five children do not attend school. More than 40 percent of the families may try to increase their income by sorting and selling rubbish from the dump and may even eat discarded food. The rubbish is often contaminated with faeces. Five percent of waste in Salvador is nappies and toilet paper.

174 families with children under the age of two took part in the study. Researchers asked the families if they threw their rubbish and faeces into the street, into a drainage ditch, into vacant plots of land or if they had access to a rubbish collection service. They also asked if the children had suffered from diarrhoea in the two weeks before the study. The results suggest that:

- Children from families where there is no rubbish collection are four times more likely than other children to have diarrhoea.
- Diarrhoea is twice as likely in children who have not been breastfed or where the father is unemployed.
- It is three times more likely in children whose mothers are uneducated.
- There appears to be no link between diarrhoea and the absence of a toilet.

Lack of rubbish collection by the local authorities is a major cause of diarrhoea in young children. Disease can be caused in a number of ways:

- Adults touch the children after handling rubbish.
- Children play near the rubbish and may pick it up and play with it.
- The rubbish attracts animals that defecate near the home.
- The faeces attract insects which then contaminate food.
- Living by a rubbish dump may lead to more disease-carrying insects in the neighbourhood.

The report recommends the following:

- People need to be educated to improve their personal hygiene.
- Breastfeeding should be encouraged.
- Rehydration salts need to be available for sick children.
- Most importantly, the city authorities must provide adequate rubbish collection so it is not left lying around in the streets.

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Paid to be healthy Health prevention in Honduras

Effective preventive treatments are not reaching the mothers and children who need them. One reason for this is lack of demand for these services. In parts of Latin America, families are being paid to be healthy and seek regular check-ups.

Results from Mexico and Nicaragua, where direct payments are made to poor families on condition that they keep up with preventive health measures, show a significant improvement in the coverage of services. But would the improvement be similar, or greater, if the money was invested in improving basic services? In 1998 the government of Honduras implemented a health programme that included a randomised trial to test this question.

The programme included activities designed to increase demand for preventive health care for pregnant women, new mothers and children under three years old. The study measured the use of health facilities, along with the proportion of women and children covered by immunisation and growth monitoring services.

Two sets of interventions were designed: one included direct payments for regular attendance at health checks (the household level package); the other was aimed at strengthening health services (the service level package). The programme was implemented and evaluated in 70 mountainous, rural municipalities with a total population of 660,000 and the highest prevalence of malnutrition in the country.

Significant findings include:

- In 2001, 79 percent of households received their payment vouchers, whereas only 17 percent of payments were made to community health teams.
- Groups receiving the payment vouchers showed an 18 to 20 percent increase in uptake of antenatal care and routine child check-ups. No increase in uptake occurred with the service level package, and neither package affected attendance levels for the ten day check-up.
- The household level package was associated with increased coverage of growth monitoring, while there was no significant increase in this measure associated with the service level package.
- The household level package increased coverage of some but not all vaccines.
- Government statistics showed an increase in service use in municipalities assigned to the service level package. There was increased use of services for pre-school children, but not for antenatal care, in municipalities assigned to the household level package.
- An unexpected side-effect saw the proportion of women reporting a pregnancy during the previous 12 months decrease markedly in the groups that did not receive the vouchers. The decrease was far smaller in groups that received the vouchers.

The incentives tested produced a large increase in the coverage of some preventive health care services. Lessons for policy are:

- Conditional direct payments to poor households in disadvantaged areas can increase the use of preventive services.
- The increased attendance for child check-ups allows child immunisation and growth monitoring to take place more regularly and effectively.
- Transferring resources to hard to reach primary care services proved difficult both legally and logistically. Direct payments to households were more effective.
- To ensure that increased uptake is translated into improved health, high quality preventive health services must be provided.

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