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Use of Services in the Transition to a Static Clinic System in Two Rural Upazilas, 1998-2002

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Acronyms

AHI	Assistant Health Inspector
ANC	Antenatal Care
BCC	Behaviour Change Communication
BDHS	Bangladesh Demographic and Health Survey
BRAC	Bangladesh Rural Advancement Committee
CC	Community Clinic
CG	Community Group
CPR	Contraceptive Prevalence Rate
DGHS	Directorate General of Health Services
DOTS	Directly Observed Therapy Short Course
EPI	Expanded Programme on Immunization
ESP	Essential Services Package
FP	Family Planning
FPI	Family Planning Inspector
FWA	Family Welfare Assistant
FWV	Family Welfare Visitor
HA	Health Assistant
HNPSP	Health Nutrition and Population Sector Programme
HPSP	Health and Population Sector Programme
HSID	Health Systems and Infectious Diseases Division
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
MOHFW	Ministry of Health and Family Welfare
MO-MCH	Medical Officer, Maternal and Child Health
Non-CC	Non-Community Clinic (Ward)
OCP	Oral Contraceptive Pill
ORP	Operations Research Project
PHC	Primary Health Care
PIP	Programme Implementation Plan
SC	Satellite Clinic
SEG	Socio-economic Group
UFPO	Upazila Family Planning Officer
UHC	Upazila Health Complex
UHFPO	Upazila Health and Family Planning Officer
UHFWC	Union Health and Family Welfare Centre
UMIS	Unified Management Information System
UNO	Upazila Nirbahi Officer
UP	Union Parishad

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Summary

A major change in the service delivery system was planned under the Health and Population Sector Programme (HPSP) (1998-2003) of the Government of Bangladesh. Under this programme, community clinics (CC) were to be built as the lowest level government health facility to serve catchment populations of about 6,000. An extended range of services, the essential services package (ESP), was to be provided at the CCs to replace basic health and family planning services provided through domiciliary visits and satellite clinics (SC).

By 2002, no upazilas had fully implemented this static clinic system of service delivery. A mixed system was in place within upazilas and unions, with wards at different stages of transition, some with CCs functioning to some extent, and some without CCs. By December 2002, 9,413 CCs were reported to be constructed, and 8,598 had been handed over to be operationalized. Over 6,000 CCs were reported to be "functioning" in 2002. The future of the CCs under the Health Nutrition and Population Sector Programme (HNPSP) (2004-2006) is still uncertain. There has been no systematic study of use and coverage of ESP services in the HPSP period, and decisions about the future service delivery system need to take into account available evidence.

Study design and methods

This study used data from two ICDDR,B health and demographic surveillance sites to compare trends in selected key indicators of ESP service use and coverage for areas that did, and did not, have CCs operationalized. Since no CCs were operational before 2000, surveillance data for the period 1998-2002 provide a good basis for reviewing trends before the transition to a static clinic system (1998-1999) and during their operational period (2001-2002). The study was not intended to be a full evaluation of the static clinic system, since it was not fully implemented in any upazila in Bangladesh.

Surveillance data have been collected from households in two ICDDR,B field sites (5 unions in Abhoynagar upazila, Jessore district and 7 unions in Mirsarai upazila, Chittagong district) for 20 and six years, respectively. The study population includes members of all households under surveillance in the rural wards of these unions: about 22,000 in Abhoynagar and about 38,000 in Mirsarai. The study was based on three types of survey: (1) longitudinal quarterly surveys of about 11,000 married women of reproductive age (15-49 years) (referred to in this paper as women) conducted in surveillance households during1998-2002, (2) a cross-sectional survey of a sub-sample (n=2,183) of women in 2003, and (3) a survey of local managers, supervisors, and CC service providers in 2003.

Key indicators of ESP service use and coverage were selected based on the data routinely collected in the quarterly surveillance interviews with women. These include

visits to CCs and other government health facilities; visits by a Family Welfare Assistant (FWA) and Health Assistant (HA) in the home; current use of contraception, methods used and source of supply; use of antenatal care (ANC) services, deliveries attended by a qualified person; and coverage of children with BCG and measles vaccination by age 12 months.

Quarterly time series graphs were plotted for each selected indicator, comparing CC and non-CC wards in Abhoynagar and Mirsarai separately. The trends were interpreted in relation to the opening of CCs, which mostly occurred in 2001. As the main objective of the static clinic system and HPSP was to improve access to ESP services for the poor, the study reports on trends in selected indicators for a low socio-economic group (low SEG) separately (women with no schooling or a husband who is a day labourer). Data on more direct indicators of poverty have not been recently collected in the surveillance. However, data from the cross-sectional survey showed that this group included a higher proportion of the poor in terms of reported household expenditure.

Implementation of the community clinic system

Each union has three wards (the lowest local administrative unit). Of the five surveillance unions in Abhoynagar, one union had no CCs operationalized, although three were built. Of the 12 wards in the other four unions, one ward had no CC operationalized, three wards had a Union Health and Family Welfare Centre (UHFWC), and eight wards had at least one CC operationalized (12 CCs were operational). Of the seven surveillance unions in Mirsarai, three unions had no CC built. Of the 12 wards in the other four unions, three wards had no CC operationalized, three wards had a UHFWC, and eight wards had a CC operationalized (8 CCs were operational).

Upazila Health and Family Planning Officers (UHFPO), Upazila Family Planning Officers (UFPO) and other government health providers were asked about (a) the process and timing of changes in the system of service delivery, (b) decision-making on phased construction, number of CCs, formation of Community Group (CG), and selection of site, (c) when CCs were completed and handed over, (d) when FWAs and HAs were trained and assigned to CCs, (e) what supplies were provided and when, and (f) when CCs started providing services and what services were provided.

Generally, the process of transition to a static clinic system reported by local managers was similar in Abhoynagar and Mirsarai. The national guidelines were followed, and local politics reportedly affected very few decisions about the location of CCs. The managers thought that people of the area generally accepted the changes in the service delivery system.

Use of government ESP facilities and domiciliary visits: 1998-2002

In Abhoynagar, the first CC started providing services at the end of 2000, while the others became operational in 2001. The proportion of women reporting a visit to a CC in the previous 3 months increased steadily in 2001, before leveling off in 2002 at 30-35% among the low SEG women and 25-30% among others. In Mirsarai, the first CC was opened in 2000, while the others became operational in the second half of 2001. The proportion of users increased to 20-30% among low SEG women and 15-20% among others in 2002. In both the areas, there was a decline in the proportion of women reporting use of SCs, and services were transferred to CCs as they became operational. Use of UHFWCs and the Upazila Health Complex (UHC) does not appear to have been much affected by the transition to CCs.

The proportion of women reporting a home visit by an FWA remained around 30% until April-June 2000, after which it declined considerably, both in wards that had a CC operational and those that did not. The local health managers suggested that, in the non-CC wards, FWAs may have reduced their activities in anticipation of their own transfer to a CC, while lack of supervision could also have contributed.

Sources of family planning services

The CCs very quickly became a major source of supply of contraceptives in 2001 and 2002 in the CC wards of both the areas and also among the low SEG women and others. By 2002, the CCs were supplying about one-third of contraceptive users in Abhoynagar and about one-fifth of users in Mirsarai. There was a decline in the proportion of women obtaining contraceptives from other government facilities when the CCs were operational in 2001-2002, mainly reflecting the transfer of SC services to CCs.

Women also switched to shops and pharmacies for contraceptive supplies as home visits by the FWAs declined, in both the areas, both the types of ward, and both socio-economic groups. In the CC wards of both the areas, the proportion of women obtaining contraceptives from shops and pharmacies increased from about 5% in 1998 to about 15% in 2002. Generally, any decline in home-delivery of contraceptives was offset by the increasing use of sources outside the home in both the areas, in both types of ward, and in both the socio-economic groups.

Trends in contraceptive prevalence

During the period 1998-2002, when there was a considerable change in the service delivery system and in sources of contraceptive supplies used by women, the contraceptive prevalence rate (CPR) for all methods remained around 60% in the CC wards of Abhoynagar and around 55% in the non-CC wards. In Mirsarai, the CPR increased slightly from about 42% to 45% in both types of ward. The CPR among the low SEG women was about the same as for others in Abhoynagar throughout the period

1998-2002. In Mirsarai, the CPR among the low SEG women increased and was consistently higher than among others, which probably reflects the high proportion (25%) of women with a husband living away from home for work.

In both the areas, the main contraceptive methods used were oral contraceptive pills and injectables. Around 20% of women reported using pills in the CC wards from 1998 to 2000, and the proportion increased when the CCs became operational, to around 25% in 2002. Just over 20% of women reported using injectables in the CC wards of Abhoynagar from 1998 to 2000. The proportion dipped below 20% in 2001, possibly because of shortage of supplies, or because many women had previously been supplied in the home by the FWAs. The proportion of women using each of the other methods was below 5% throughout the period, although the CPR for tubectomy fell slightly from about 7% to 5%. The slight increase in the overall CPR in the CC wards of Mirsarai was mostly due to the increase in use of pills in 2001 and 2002, which coincided with the opening of CCs. In the CC wards, the proportion of women using pills increased from 15% to 25% over the period 1998-2002, with a steady increase when the CCs were operational, while the proportion using injectables remained around 10%.

Coverage of antenatal care

Bearing in mind that women were not specifically asked whether they received a physical check up, ANC coverage was much higher in 2000-2002 than in 1998-1999 in both the areas. This partly reflects efforts to mobilize women to attend SCs for ANC, although changes in recording mean that the trend for the whole period should be treated with caution. Considering only the period from the end of 1999, reported use of ANC increased slightly in the CC and non-CC wards of Mirsarai, to around 60% in 2002. Coverage leveled off in Abhoynagar at over 60% in the CC wards and between 40% and 60% in the non-CC wards. The proportion of women who received ANC at SCs declined considerably in Abhoynagar as the CCs became operational and services were transferred. In Mirsarai, the CCs became operational later in 2001, and the proportion of women who received ANC at a CC reached only 10-15% and most women continued to receive ANC at the UHC. There was a fairly marked socio-economic differential in Mirsarai, particularly in the non-CC wards where ANC coverage was consistently 10-30 percentage points lower among low SEG women.

Use of qualified attendant at delivery

The proportion of annual deliveries conducted by a qualified attendant increased from below 7% in 1998 to 12-13% in 2002, in both CC and non-CC wards of both the areas. The low SEG women were much less likely to have a qualified attendant, in both the types of ward and in both the areas.

Coverage of BCG and measles vaccination

There was little difference in coverage of children with BCG and measles vaccination by age 12 months in the periods before and after the CCs were operationalized. In Abhoynagar, BCG coverage for quarterly and annual birth cohorts was between 90% and 100% in the CC and non-CC wards. Coverage was much the same for low SEG children and others, and over 95% for those born in 2001. In Mirsarai, BCG vaccination coverage was generally between 85% and 95% for annual birth cohorts in both the types of ward, with coverage slightly lower among the low SEG children compared with others. Measles vaccination coverage for annual birth cohorts was generally between 80% and 90% in Abhoynagar. In Mirsarai, coverage was much lower in the CC wards (65-73%) than in the non-CC wards (80-85%), but this was the case before and after the CCs became operational.

Conclusion and recommendations

This study in the surveillance areas in Abhoynagar and Mirsarai identified major changes in the provision of ESP services, which were reflected in reported use over the period 1998-2002. The study did not assess the quality of care, and the study areas were not representative of Bangladesh as a whole. Nevertheless, the user-reported changes indicate compliance with the planned strategic shift from domiciliary and outreach service provision to static clinic service delivery where CCs were operational, most women had used them, particularly those with no schooling and those aged 15-29 years. Overall, despite the major supply-side changes, the key indicators of CPR and EPI coverage were maintained or improved over the period 1998-2002. Despite a tendency for shortage of supplies to undermine the proper functioning of static clinics and consumer confidence, the required strategic shift in service seeking behaviour occurred, with women increasingly accessing family planning (FP) services outside the home. In view of reinstatement of domiciliary services by the Government and the uncertainty about the future of CCs under the current sectoral programme (HNPSP), consideration of the evidence of past performance is essential. A prospective study should also be carried out to assess the user-reported trends in service use and coverage in selected areas under the revised system. For comparison, static clinic service provision should be fully implemented in selected areas, possibly by NGOs whose fieldworkers also conduct regular household visits and mobilize women to use ESP services. A comparative evaluation would allow evidence-based decisions about the future development of ESP service delivery in Bangladesh.

Introduction

Impressive improvements in selected health indicators were achieved in the 1980s and early 1990s in Bangladesh under a system of domiciliary and satellite clinic (SC) provision of primary health care (PHC) services. However, continuing with this system would require more resources because of the increasing number of married women of reproductive age (hereafter referred to as women) (15-49 years). The five-year Health and Population Sector Programme (HPSP) (1998-2003) of the Government of Bangladesh was based on a major change in service delivery strategy. It was envisaged that an extended range of integrated health and family pl anning services, the Essential Services Package (ESP), would be provided. The services would be delivered through static Community Clinics (CCs), which would each serve a local catchment population of about 6,000 people.

About 18,000 CCs were required, of which about 13,500 were to be newly constructed, while the remainder would be located within existing Upazila Health Complexes (UHCs) and Union Health and Family Welfare Centres (UHFWCs). The static clinic services were aimed at replacing basic health and family planning services previously provided through outreach workers and sites. The field workers previously engaged in domiciliary service provision were to be retrained. One Health Assistant (HA) and one Family Welfare Assistant (FWA) would be assigned to run each CC and provide limited curative care (LCC) and the services previously provided at SCs and combined SC/EPI sites. They would make only selective household visits on one day a week. Clearly, adequate training and skills would be required for the fieldworkers assigned to CCs, together with regular attendance and adequate supplies. Family Welfare Visitors (paramedics) would visit the CCs at least twice a month to provide some services and the Medical Officer from the UHFWC would visit at least once a month to supervise clinical services.

Major health sector reforms were also planned under the HPSP, such as unification of the Health and Family Planning Directorates of the Ministry of Health and Family Welfare (MOHFW), and decentralization of authority to the local upazila level. These did not progress as intended, while the programme of building CCs was much delayed and not completed. By 2002, no upazilas had fully implemented the static clinic system of service delivery. A mixed system was in place within upazilas and unions, with wards at different stages of transition, some with CCs functioning to some extent and some without. By December 2002, 9,413 CCs were reported as constructed, and 8,598 had been handed over to be made operational (Streatfield et al., 2003). Over 6,000 CCs were reported as "functioning" in 2002.

A considerable amount of operations research contributed to the development of the static clinic model (Shahrirar et al., 1999; Sarker et al., 1999, 2000a, 2000b, 2001, Islam et al., 1999; Gazi et al., 2001). The ICDDR,B: Centre for Health and Population

Research also gave support on the development of the CC guidelines and on the implementation process and conducted a preliminary assessment of the performance of two CCs in two surveillance areas in 2001 (Sarker et al., 2002). At that time, the two selected study clinics in Chalisia union of Abhoynagar upazila and Dhum union of Mirsarai upazila had been operating for 11 months and 6 months respectively. Static clinic delivery of services was found to be operating more or less according to the government guidelines, with EPI outreach and SC services partially transferred to the CCs, with only selected home visits being conducted on one day each week as intended. An in-depth assessment of the quality of services was conducted, based on special surveys, interviews, group discussions with service providers and users, and observation of client-provider interactions. A preliminary review of surveillance data on service use and statistics from the Unified Management Information System (UMIS) and other studies suggested that the change in the service delivery system was not having an adverse effect on use of key services in these two areas, such as FP and the Expanded Programme on Immunization (EPI). However, it was recognized that a longer follow-up of service use in more CC catchment areas was required, which was the main aim of the present study.

The study is based on user-reported data from the demographic and health surveillance systems operated by the Health Systems and Infectious Diseases Division (HSID) of ICDDR,B in two rural sites--Abhoynagar (Jessore district) and Mirsarai (Chittagong district). These two long-established surveillance systems are the only source of self-reported data on service use and coverage during the HPSP period for areas that had only government services.[1] The Bangladesh Demographic and Health Survey (NIPORT, 2001) and the Service Delivery Survey (CIET, 2001) provide national estimates of service use, user satisfaction, and perceptions on service provision. However, they do not provide local-level data and do not cover the period when most CCs were operational (2001-2002).

For the development of a responsive, user-centred ESP delivery system, it is important to collect local-level information from users about service use and coverage. Phasing out of domiciliary service delivery and transfer of SC services to static clinics necessitated a major change in service-seeking behaviour by women. The new CC system would actually bring basic curative services closer to the place of residence of most people, but some preventive services, such as FP and child immunization, would be provided further away from where most women live. As further changes in the service delivery system are envisaged under the HNPSP for 2004-2006, it is important to review evidence of the changes in use and coverage of ESP services that occurred during the transition from domiciliary/SC to static clinic provision under the HPSP. In 2003, the

[1] The Bangladesh Rural Advancement Committee (BRAC) implements community-based tuberculosis services (Directly Observed Treatment, Short Course--DOTS) in some parts of Mirsarai, but does not provide other ESP services or facilities.

Government reinstated domiciliary services for the HNPSP (MOHFW, 2003), although details have not been finalized, and the future of about 10,000 CCs is uncertain. This study provides evidence relevant to the development of the service delivery system in Bangladesh.

Research Design and Methods

Research design

The study was designed to identify any significant changes in the patterns of use of different facilities and coverage of ESP services that occurred in the period 1998-2002, particularly in the period of transition to the static clinic system. Since CCs were mostly not operational until 2001-2002, there are data for a considerable period (1998-99) before the transition with which to make comparisons. The study was not intended to be a full evaluation of the static clinic system, since it was not fully implemented in any upazila in Bangladesh. Many CCs were not operating long enough for a proper evaluation of their impact, and they were handed over for use at different times in different places. Nevertheless, changes in selected key indicators of use of ESP facility and service coverage, based on user-reported data, can be compared for areas that did, and did not, have CCs operationalized. Information from interviews with the local managers and CC service providers about the change in the service delivery system together with that from service users, provides explanations of the trends in service use and coverage.

Specific research objectives

To achieve a better understanding of changes in service use and coverage in the transition to a static clinic system of delivery, the study had two specific objectives:

1. To compare the patterns and changes in the use of health and family planning services in areas of two rural upazilas that did, and did not, undergo the transition to a static clinic system of service delivery in the period 1998-2002.
2. To assess what changes, if any, in the use of particular services and facilities among different socio-economic groups might be attributable to the transition to a static clinic system of delivery.

The study was based on data collected from: (1) longitudinal quarterly surveys of households in two surveillance areas during 1998-2002; (2) a cross-sectional survey of a sub-sample of women conducted in 2003; and (3) a survey of local managers, supervisors, and CC service providers in 2003.

ESP indicators

A considerable range of ESP services was intended to be provided at the new static clinics (MOHFW, 1997). The question of whether changes in use and coverage occurred during the transition from domiciliary/SC to provision of static clinic service was addressed by analyzing quarterly trends over the period 1998-2002 for selected ESP indicators that could be derived from the quarterly household surveillance conducted by the ICDDR,B in two upazilas. A particular issue was whether women had adopted new sources for FP supplies outside the home with this change in the service delivery system. The following were chosen as key indicators of ESP service use and coverage, based on the surveillance data routinely collected:

Indicators of service use

1) % of women who visited a CC in the previous three months
2) % of women who visited other types of government health facility in the previous three months
3) % of women visited at home by an FWA and HA in the previous three months
4) % of women currently using any method of contraception: modern and permanent methods
5) % of women delivered in the previous three months who received ANC at least once during pregnancy
6) % of women receiving ANC at different government facilities
7) % of women delivered in the previous three months who were attended by a qualified person
8) % of children born in the previous three months who received BCG vaccination by age 12 months
9) % of children born in the previous three months who received measles vaccination by age 12 months

Study sites and population

As mentioned, the study was conducted in the ICDDR,B's, HSID field sites located in five unions in Abhoynagar Upazila and in seven unions of Mirsarai Upazila. Demographic and health surveillance has been conducted in these areas for the last 20 years and 6 years respectively, although only five unions of Mirsarai were under surveillance before 1999. Since the HPSP focused on rural populations, the predominantly urban wards in Abhoynagar were excluded from the study. The study population included members of all households under surveillance in the rural surveillance wards of these unions.

Classification of wards and stages in the transition

The study identified the trends in the selected indicators in different types of ward, classified according to the stage reached in the transition from domiciliary/SC to static clinic service delivery (Table 1). At one extreme were wards (A) that had no CC built, which included wards that had a UHFWC. No CCs were built there, and the UHFWCs did not receive resources to function as CCs. The UHFWCs were neither provided with a trained FWA and HA nor with medicines, and no SCs were transferred to them. At the other extreme were wards (E) that had a CC 'operational' to some extent during 2001-2002. The study definition of 'operational' was that an FWA and/or HA attended the CC providing some EPI, reproductive health, and basic curative services on most working days for at least 12 months continuously during 2001-2002. All CCs handed over were made operational on this definition, and wards with such an operational CC were classified as 'CC wards'. All other wards were classified as 'non-CC wards'.

Table 1. Stages in the transition from domiciliary/SC to CC service delivery

Type of ward	Stage
A	Domiciliary/satellite clinic service delivery and no CC built
B	CC in preparation
C	CC handed over for operationalizing
D	CC provided some services
E	CC provided some services continuously (curative, FP and/or EPI/SC provided for at least 12 months during 2001-2002; regular presence of FWA and HA)

It was a policy decision to build CCs, and the operational guidelines were issued to the UHFPOs by the Ministry. However, in view of the possible local political influence over decisions about site selection, phasing of construction, and operationalizing CCs, the managers were asked about local circumstances that might have influenced whether a ward had a CC operationalized. It should be emphasized that this was not a prospective study in which intervention and comparison areas could be randomly selected or pre-determined to facilitate research. The researchers had no influence over where CCs were built and which wards had CCs operationalized.

Classification of socio-economic groups

Since the static clinic system was intended to fulfill the HPSP objective of improving access to ESP services for the poor, a low socio-economic group (low SEG) was identified for disaggregated data analysis, based on data routinely collected during surveillance.

Women with no schooling or a husband who was reported to be a day labourer were classified as low SEG. All other women were classified as 'others'. Data on better indictors of poverty, such as household income and expenditure, assets, and dwelling type, are not available from the surveillance. However, data from the cross-sectional survey of a sub-sample of women confirmed that a higher proportion of low SEG women were poor in terms of reported monthly per-capita household expenditure (see results).

Data collection

Surveillance in Abhoynagar and Mirsarai, 1998-2002

Under the demographic and health surveillance system of HSID, ICDDR,B, data were collected through quarterly interviews from which the selected study indicators of ESP service use and coverage were derived. The sampling fraction for the surveillance system is 1/6 in Abhoynagar and 1/4 in Mirsarai, with women in 4,528 and 6,905 households interviewed each quarter in the two areas respectively. In July-September 2002, there were 4,635 women in the Abhoynagar surveillance households and 6,511 in Mirsarai. These women constitute the sample for the longitudinal component of the study. Field Research Assistants (FRA) collected data in quarterly survey rounds by interviewing women. Women were asked about their reproductive status, pregnancy outcomes, use of contraception, the method and source of supply; whether they visited the government health facilities (CC, SC, EPI site, UHFWC, UHC) in the last three months, and what service they received; and whether an FWA and an HA visited them in the last three months and what service they received. They were also asked about vital events in the last three months and immunization of their children. For women who reported a birth, information on who attended the delivery was collected. Data from the previous four quarters were used for determining whether a woman had ANC from a government facility during pregnancy. Data recorded for that child over the next four quarters were used for determining whether the child had received BCG and measles vaccination by age 12 months.

Cross-sectional survey of women in 2003

The cross-sectional survey was conducted among a random sub-sample of women in the surveillance areas during September-December 2003. The survey collected more detailed information about changes in service delivery and service-seeking behaviour. The interviews were conducted with sub-samples of low SEG and other women (CC users and non-users) using structured questionnaires. Interviewers asked about the womens' knowledge and experience of changes in the system that had occurred in their ward; awareness of the services provided at a CC; use of CCs for different services; level of satisfaction and the reasons; how service-seeking behaviour was affected by changes in service delivery and suggestions for the future system of service delivery.

Sample size

For the cross-sectional survey among sub-samples of women, calculation of sample size was based on standard formulae (Kirkwood, 1988). The required level of precision on estimates of proportions for different sub-groups of the survey population was ±0.05. Assuming a proportion of 0.50 might be identified, a sample size of 384 was required for this level of precision based on 95% confidence limits. From the non-CC wards, the target was to interview about 384 low SEG women and 384 other women, and a list of randomly selected households was obtained from the surveillance database. Four further samples of 384 women were randomly selected from households in the CC wards: low SEG women who had used a CC; low SEG women who had never used a CC; others who had used a CC; and others who had never used a CC.

Survey of local managers and CC service providers in 2003

During September-December 2003, senior researchers conducted semi-structured interviews with the UHFPOs, Medical Officers-Maternal and Child Health (MO-MCH), and Upazila Family Planning Officers (UFPO). Some managers had been transferred, and both current and previous UHFPO and UFPO were interviewed. They were asked about the process and timing of changes in the system of service delivery: decision-making on phased construction, number of CCs, formation of Community Groups (CGs), site selection; construction of CCs and their hand-over; FWA and HA training and allocation to CCs; provision of supplies; functioning of CCs; and services provided.

After a two-day training of experienced interviewers and field-testing of structured questionnaires, the supervisors and CC service providers (7 Assistant Health Inspectors (AHI), 7 Family Planning Inspectors (FPI), 32 FWAs, and 15 HAs working in the study wards were interviewed. Although the initial aim was to interview all 78 FWAs and 44 HAs in the surveillance areas, interview was not continued after interviewing 21 FWAs and 5 HAs in Mirsarai and 11 FWAs and 10 HAs in Abhoynagar since little new information was being provided.

Information on the transition to the CC system was collected from the service providers. Those in the CC wards were asked about the process of operationalizing CCs and training; the services provided in the CCs; current operational status, organization and maintenance; the role of the CG; supply of medicine and other items; disposal of waste; and phase-out of SC/EPI outreach activities.

Data analysis

Time series analysis of surveillance data

Quarterly time series graphs were plotted for most selected ESP indicators for the CC and non-CC wards in the surveillance areas of Abhoynagar and Mirsarai separately. All the trends were interpreted in relation to the time when most CCs became operational (2001). Where the number of cases was relatively small and there was a considerable quarterly fluctuation, the annual trends were assessed (e.g. use of a qualified attendant at delivery). The coverage of BCG and measles vaccination was also calculated for annual birth cohorts, and the changes were assessed for statistical significance based on 95% confidence intervals.

For most indicators, a continuous series of comparable data has been presented for the whole study period with data points corresponding to each quarterly reporting period (January-March, April-June, July-September, and October-December). However, some data points were excluded because of the effect of various changes: (1) In Mirsarai, only five unions were under surveillance in 1998 and seven thereafter. There is sufficient comparability in the indicators to present the trend for the whole period 1998-2002, although data for the first quarter of 1999 have been excluded because some indicators for that quarter were affected by the change. (2) There was a change in the basis of recording ANC services in the third quarter of 1999. Up to then, there were many codes for ANC received in combination with other services (e.g. ANC + tetanus toxoid vaccination). After this, women were asked more specifically which of six government facilities they had visited and what services they received. Data have only been presented for the period after this, when there was just one code for ANC. In some cases, the ANC service could have been only advice and information, as the respondents were not specifically asked about whether they had received a physical check-up. (3) In the second quarter of 2000, the FWAs visited many more households when assisting with the Geographical Reconnaisance (GR) survey. Since this does not constitute a normal household visit, this data point has been excluded from the trends.

Data from cross-sectional survey of women

Data from the cross-sectional survey of women in 2003 were analyzed to determine the level of knowledge and experience of CCs; the constraints women had experienced in accessing reproductive health and child immunization services they needed under a static clinic system; and what they thought were the advantages and disadvantages of the domiciliary/SC and static clinic systems. Data were analyzed for women using/not using modern contraceptive methods to determine whether they had experienced any difficulty in getting FP services and supplies they needed in the CC and non-CC wards.

Disaggregation of data by socio-economic group (SEG) and type of ward

As mentioned, the trends in service use and coverage were reviewed separately for low SEG women with no schooling or a husband who was reported to be a day labourer. Graphs and contingency tables for some indicators have been presented for low SEG and other women, in some cases by type of ward (CC or non-CC) as well.

Data from interviews with local MOHFW staff

The data from the semi-structured interviews with the local managers (UHFPO; UFPO) were used for cross-checking the criteria for classification of wards (stage reached in the transition) based on information from the supervisors and CC service providers. Information from interviews with supervisors and CC service providers (AHI, FPI, FWV, FWA, and HA) was cross-checked to establish the process of transition to the static clinic system in the two areas. Data from these informants were analyzed to assess the level of understanding of the static clinic system; what the system was in practice; what problems and constraints had been encountered; and views on the static clinic system compared with a domiciliary/satellite clinic system.

Results

Implementation of the static clinic system

Local managers' perceptions of the transition

Generally, the process of transition to a static clinic system of service delivery reported by the local managers was similar in Abhoynagar and Mirsarai. ICDDR,B had given considerable support under the previous project to develop the guidelines and the implementation process, but not for service delivery (Sarker et al. 2002). The UHFPOs reported that they were able to follow the national guidelines and that they formed the CGs before the CCs were constructed.

The MOHFW decided on the number of CCs, although three extra CCs were requested in Abhoynagar to ensure one CC per 6,000 population and the MOHFW agreed to two more clinics. A group was involved in taking a decision to build the CCs in two phases. This included the local Member of Parliament (MP), Upazila Nirbahi Officer (UNO), UHFPO, Union Parishad (UP) chairmen, and other local leaders. Two distinct geographical areas were identified. Each was to have half its target of CCs built in the first phase. In Mirsarai, a similar process was reported with the number of clinics determined by the MOHFW and the unions to receive clinics in the first phase decided by a similar local group.

Together with the field staff and their supervisors, the UHFPOs decided on the best location for the clinics on the basis of population distribution. A central location was proposed and usually agreed at a meeting chaired by the UP chairman, who then got the approval of the UP. In only one case, in Abhoynagar, was political influence reported to have affected the location of the clinic. On completion of buildings, the contractors formally handed them over to the CG chairman in the presence of the UP chairman and local health managers.

The FWAs and HAs were selected for posting at the CCs based on their performance, although reportedly there was some lobbying. The FWAs received three-week training from the upazila and district managers. In two unions of Abhoynagar, this was preceded by three-day training from the ICDDR,B. Supplies sent from the district to the UHC were allocated to specific CCs by the UHFPO and, in some cases, CC kits were provided. Further supplies for the CCs only arrived two or three times in Abhoynagar, and the UHFPO distributed these. Some managers thought that lack of supplies adversely affected public perceptions. There was no central allocation of supplies for the UHFWCs to enable them to function as CCs, and outreach workers were not instructed to move the SCs to the UHFWCs. This justified the research decision to classify wards with a UHFWC as non-CC wards for this comparative study.

Where the SCs were near an operationalized CC, they were closed. The local managers thought that people had few problems going to the CC instead, and they generally accepted the shift in service provision to the static clinics.

CC service providers' perception of transition

Interviews with other government health workers generally confirmed the managers' reports on the process of transition. The FWAs and HAs were aware that CCs were to serve about 6,000 people. The fieldworkers confirmed that most CCs were built in a location that made them easily accessible to everyone as intended. One AHI mentioned that "because of political influence, one CC was established in a particular corner of the village". In nearly all cases, the CG formed before construction of the CCs and it consisted of health officials and local elites, with the latter being the most influential.

Most FWA/HAs had received the nationally-designed ESP training of 21 days on family planning, mother and child health, EPI, general health, and nutrition. None of the FWA/HAs had received any subsequent training, and some requested more training on management of common illnesses. The FWA/HAs reported that the services provided in the operational CCs included family planning, ANC, EPI, and treatment for ARI, malnutrition, diarrhoeal diseases and other common health problems.

The FWAs and HAs reported that the CCs initially received oral contraceptive pills (pills), oral rehydration salts (ORS), vitamin A, metronidazol, antacid, vitamin B complex, and albendazol. Most CCs received an instrument for measuring blood pressure,

a stethoscope, a clinical thermometer, a timer, and a weighing machine, although only one received a delivery kit. With the exception of one CC, these durable supplies were still available for use, and most were in working condition in 2003. All the CCs had a tubewell, and nearly all these were still functioning. There was a cleaner in some CCs paid by the CG, in some cases through funds raised from each client (Taka 2). Most CCs used a dustbin for waste management, although a few used a ditch.

Community clinics providing services

All except two CCs in the study wards became operational in 2001. Tables 2a and 2b show wards in the surveillance unions that had a CC built and the approximate periods during which they were providing at least some services.

Table 2a. Community clinics built in Abhoynagar and providing at least some services, 2000-2002

Union/ward		Community clinic			Services provided at community clinic *		
		Planned	Built	Handed over	2000	2001	2002
Chalisa	1	2 CC	CC1	6/00		FP + 2 SC/EPI + 3 EPI	
			CC2	11/01			FP + 2SC/EPI 3 EPI
	2	1 CC	CC	11/01			FP + 2SC/EPI 2 EPI
	3	FWC					
Paira	1	FWC					
	2	1 CC	CC	3/01		FP + 3SC/EPI + 5 EPI	
	3	1 CC	CC	3/01		FP + 3SC/EPI + 5 EPI	
Sreedarpur	1	CC1	CC1	1/01		FP + 3SC/EPI + 3 EPI	
		CC2	CC2	12/01			FP + 3SC/EPI + 5EPI
	2	CC1	CC1	2/01		FP + 3SC/EPI + 3 EPI	
		CC2	CC2	12/01			FP + 3SC/EPI + 3EPI
	3	CC	CC	5/01		FP + 2SC/EPI	+ 1 EPI
Bhaghutia	1	CC1	CC1	2/01		FP + 3SC/EPI + 5 EPI	
		CC2	CC2	2/01		FP + 3SC/EPI + 5 EPI	
	2	FWC					
	3	CC	-	-			
Siddipasha	1	CC1	CC1	-			
		CC2	CC2	-			
	2	CC	-	-			
	3	CC	CC	-			

* This is intended to be a guide to the types of service provided, although in many cases all the services were not provided for the whole period in which the CC was reported to be 'functioning'. In addition to these reproductive health and immunization services, clinics were providing some limited curative care

Table 2b. Community clinics built in Mirsarai and providing at least some services, 2000-2002

Union/ward		Community clinic			Services provided at community clinic *		
		Planned	Built	Handed over	2000	2001	2002
Dhum	1	1 CC	CC	10/01			3SC/EPI + 5EPI
	2	FWC					
	3	1 CC	CC	10/01		FP + 3SC/EPI 5 EPI	→ 1 SC/6SCI
Mirsarai	1	2 CC	CC	-			
	2	FWC					
	3	1 CC	CC	7/01		FP +	1 SC/EPI+7EPI →1 SC/EPI
Hinguli	1	2 CC	CC1	8/01		FP +	2SC/EPI+2EPI →2 SC/EPI
			CC2	10/01			FP+1SC/EPI+2EPI →1SC/EPI
	2	FWC					
	3	2 CC	CC1	5/01		FP +	1SC/EPI+3EPI →1SC/EPI
			CC2	8/01		FP +	2 SC/EPI+2 EPI →1SC/EPI
Durgapur	1	1 CC	CC	-			
	2	1 CC	-	-			
	3	1 CC	CC	10/01			FP+1SC/EPI+4EPI → 2EPI
Mithanala	1	1 CC	-	-			
	2	1 CC	-	-			
	3	1 CC	-	-			
Mayani	1	1 CC	-	-			
	2	FWC					
	3	1 CC	-	-			
Hait Kandi	1	-	-	-			
	2	1 CC	-	-			
	3	1 CC	-	-			

* This is intended to be a guide to the types of service provided, although in many cases all the services were not provided for the whole period in which the CC was reported to be 'functioning'. In addition to these reproductive health and immunization services, clinics were providing some limited curative care

Each union has 3 wards (local administrative sub-units). Of the 5 surveillance unions in Abhoynagar, one union had no CCs handed over, although 3 were built. Of the 12 wards in the other 4 unions, one ward had no CC operationalized, 3 had a UHFWC, and 8 had at least one CC operationalized (12 operational CCs). Three of the 7 surveillance unions in Mirsarai had no CC built. Three of the 12 wards in the other 4 unions had no CCs handed over, 3 had a UHFWC, and 8 had a CC operationalized (8 operational CCs).

At the end of 2002, the population in the rural surveillance households included in the study was 22,175 in Abhoynagar and 38,096 in Mirsarai, of which 4,370 and 6,894, respectively, were married women of reproductive age (women). The number of low SEG women and other women living in the CC and non-CC wards and the number interviewed in the cross-sectional survey are shown in Table 3.

Table 3. Number of low SEG and other women in CC and non-CC wards in 2002

Sub-groups of women	Abhoynagar			Mirsarai		
	CC wards	Non-CC wards	Total	CC wards	Non-CC wards	Total
	Total (sample)	Total (sample)	Total (sample)	Total (sample)	Total (sample)	Total (sample)
Low SEG	1,028 (334)	789 (153)	1,817 (487)	1,011 (322)	1,704 (133)	2,715 (455)
Others	1,398 (441)	1,155 (243)	2,553 (684)	1,786 (327)	2,393 (215)	4,179 (542)
Total	2,426 (775)	1,944 (398)	4,370 (1,171)	2,797 (649)	4,097 (348)	6,894 (997)

Use of government ESP services and facilities

Community clinics

A few women reported using the two CCs that opened in 2000, although the rest became operational in 2001. In Abhoynagar, the proportion of women reporting a visit to a CC in the previous three months increased steadily in 2001 and leveled off in 2002 at 30-35% among low SEG women and 25-30% among others (Fig. 1a). In Mirsarai, most CCs were opened in the second half of 2001, and the proportion of users increased to 20-30% among low SEG women and 15-20% among others in 2002 (Fig. 1b.)

EPI sites

In both the areas, there was a decline in the proportion of women reporting use of EPI, sites and services had been transferred to CCs when they became operational. However, the trends were similar for the CC and non-CC wards, suggesting a possible decline in outreach activities even where the CCs were not operational. In Abhoynagar (Fig. 2a), the proportion of women using EPI sites dropped from 30-40% in 2000 to 10-20% by the end of 2001, but increased again in 2002 particularly in the non-CC wards. In Mirsarai (Fig. 2b), there was much less use of EPI sites, and only a slight decline in the proportion of women using them, from 15-20% in 2000-2001 to 10-15% in 2002.

Satellite clinics

In Abhoynagar and Mirsarai, the increase in the use of SCs leveled off in 2000, then declined when the CCs started to become operational in 2001 (Fig. 3a-3b). However, this planned decline in the use of SCs in the CC wards also occurred in the non-CC wards (see Discussion).

Union Health and Family Welfare Centres

The proportion of women using the UHFWCs increased in both CC and non-CC wards of Abhoynagar until the end of 1999 (Fig. 4a). It then leveled off around 15% in the non-CC wards and declined steadily to about 5% in the CC wards. In Mirsarai, there was an

increase in the proportion of women using the UHFWCs in both CC and non-CC wards to 15% at the end of 2000. After a slight decline, it leveled off at 10-12% in both the types of ward (Fig. 4b).

Upazila Health Complex

The overall trend in the reported use of UHCs was much the same for the CC and non-CC wards in both the areas. An increased proportion of women used the UHC in three-month periods up to the end of 2000. The proportion then declined from about 10% to 5% in Abhoynagar (Fig. 5a), while it leveled off at around 15% in Mirsarai (Fig. 5b).

Visits of FWA and HA

The proportion of women reporting home visits by an FWA in the quarter remained around 30% until 2001, when there was a decline in both the areas. There was a peak in April-June 2000 when the FWAs assisted the GR survey normally conducted at this time of year by the HAs. The proportion of women reporting visits was higher for the HAs than for the FWAs in Abhoynagar and slightly lower in Mirsarai (Fig. 6a-6b). For comparison, the proportion of women visited by a government fieldworker (FWA/HA) in rural Bangladesh reported in the Demographic and Health Survey (1999-2000) was 21.3% for FP services and 17.3% for other health services (NIPORT, 2001).

The trends in reported FWA visits were similar for the CC and non-CC wards. In Abhoynagar (Fig. 6c), the proportion declined from about 30% at the end of 2001 to 5-15% in 2002. In Mirsarai, the proportion declined from around 30% at the end of 2001 to 10-20% in 2002 in the CC wards (Fig. 6d). In both the areas, the decline was only slightly greater in the CC wards than in the non-CC-wards.

Use of family planning services

Sources of contraceptive supplies

The CC very quickly became a major source of contraceptives in 2001 and 2002 in the CC wards of both the areas. Figures 7a-7d show the proportion of women obtaining contraceptives from different sources. By 2002, about one-third of all contraceptive users obtained their contraceptives from a CC in Abhoynagar, and about one-fifth of users in Mirsarai. In both the areas, there was a decline in the proportion of users obtaining contraceptives from other government facilities when the CCs were operational in 2001-2002 (Figs. 7a-7c). This was mainly a result of the planned transfer of SC services to the CCs. No such decline occurred in the non-CC wards.

Women also switched to shops and pharmacies for contraceptive supplies as home visits by the FWAs declined in both the areas, both the types of ward, and both the socio-economic groups. In the CC wards of both the areas, the proportion of women obtaining

contraceptives from these sources increased from about 5% in 1998 to about 15% in 2002 (Figs. 7a-7c).

The shift towards obtaining contraceptives outside the home also occurred in the non-CC wards over the period 1998-2002. In the absence of CCs, the shift was from contraceptive supplies obtained in the home through the FWAs to use of shops and pharmacies. The proportion of women obtaining supplies from these sources increased from about 7% in 1999 to about 15% in 2002 in Abhoynagar and to about 12% in Mirsarai (Figs. 7b and 7d). As in the CC wards, the increase was greater among the higher socio-economic group (others).

Figures 7a-7d show the considerable decline in the proportion of FP users obtaining contraceptives in the home, which reflects the decline in reported household visits by the FWAs. In the CC wards of Abhoynagar (Fig. 7a), there was a decline from around 20-25% of women in 1998 to only 5% in 2002, while in the CC wards of Mirsarai the proportion declined from about 10% to 5% (Fig. 7c). In non-CC wards of Abhoynagar, the proportion also declined steadily from about 20-25% in 1998 to about 10% in 2002 (Fig. 7b), while the proportion remained around 10% in the non-CC wards of Mirsarai (Fig. 7d). About 5-10% of the women continued to be supplied at the FWA's home, which was consistent with the strategy of encouraging women to seek services outside their own home.

Trends in CPR in CC and non-CC wards

Generally, the decline in domiciliary supply of contraceptives over the period 1998-2002 was offset by the increasing use of sources outside the user's home in both the areas, both the types of ward, and both the socio-economic groups. Despite the considerable change in the service delivery system and facilities and in sources of contraceptive supply used by women, the contraceptive prevalence rate (CPR) for all methods remained around 55-60% in Abhoynagar (Fig. 8a) and increased slightly from about 42% to 45% in Mirsarai (Fig. 8b). In Abhoynagar, the CPR remained slightly higher (around 60%) in the CC wards compared with the non-CC wards (around 55%). The CPR among the low SEG women and others was about the same throughout the period 1998-2002 in Abhoynagar (Figs. 8c and 8d), while in Mirsarai (Figs. 8e-8f) the CPR among the low SEG women was consistently higher than among others (see Discussion). The increase in the CPR in Mirsarai occurred among the low SEG women and others in the CC wards (Fig. 8e), while in the non-CC wards the increase only occurred among the low SEG women (Fig. 8f).

Method-specific CPR

In the CC and non-CC wards of both the areas, the main contraceptive methods used were pills and injectables (Figs. 9a, 9c, 9e, and 9g). In Abhoynagar, the pill-CPR was around 20% in both the types of ward from 1998 to 2000, after which it increased to about 25%.

There appears to have been a shift from use of injectables for which the CPR declined around the same time. The injectables-CPR was just over 20% in the CC wards of Abhoynagar from 1998 to 2000, but dipped below 20% in 2001. In the non-CC wards, it declined from around 20% to about 17%.

After pills and injectables, tubectomy was the next most popular method, although the proportion of women reporting the use of this method declined throughout the period (Figs. 9b, 9d, 9f, and 9h). It declined from about 6% to 4% in the CC and non-CC wards of Abhoynagar, from 4% to 2% in the CC wards of Mirsarai, and from 8% to 6% in the non-CC wards. Vasectomy was hardly reported at all in Mirsarai and by only about 1% of women in Abhoynagar. The proportion of women using IUDs remained around 2-3% in both the types of ward in both the areas, while the use of Norplant leveled off at around 1% in Abhoynagar and 2% in Mirsarai. Two to 4% of women reported the use of traditional methods of contraception throughout the period.

Use of antenatal care

The reported use of ANC services was much higher in 2000-2002 than in 1998-1999 in both the areas. The increase, in part, reflects efforts by FWAs to mobilize women to attend the SCs for ANC. However, the data are not strictly comparable because of changes in the surveillance question and in recording of ANC service use. From mid-1999, the coverage increased to around 60% in the CC and non-CC wards of Mirsarai (Fig. 10b). In Abhoynagar, the coverage was generally over 60% in the CC wards and between 40% and 60% in the non-CC wards.

The proportion of women receiving some form of ANC at the SCs declined considerably from 2000 to 2002 as services were transferred to operational CCs (Fig. 10c). At the end of 2002 in Abhoynagar, 40-50% of women who delivered in the last three months had received ANC services at a CC, 5-10% at SCs, and 15-20% at other government facilities (Fig. 10c). There was also a considerable decline in the proportion of women who had received ANC services at SCs in the non-CC wards of Abhoynagar in 2001-2002, from 40% to 10%. The proportion of women who had received some ANC services at other government facilities (excluding CCs) remained around 20-30% in 2001-2002 (Fig. 10d).

In Mirsarai, the proportion of women who had received ANC services at a SC was generally below 10% in both the types of ward (Fig. 10e-10f). The CCs in Mirsarai mostly became operational from the end of 2001, and the proportion of women who had received ANC services at a CC was lower than in Abhoynagar in 2002 (10-20% v 40-50%). In Mirsarai, most women obtained ANC services either at a UHFWC or at the UHC, and the proportion leveled off at 40-50% in both CC and non-CC wards in 2001-2002 (Figs.10e-10f).

The leveling off in overall coverage of ANC in the CC and non-CC wards of both the areas (Figs. 10a-10b) occurred among the low SEG women and others (not shown). The socio-economic differential in coverage of ANC was more marked in Mirsarai, particularly in the non-CC wards where coverage was consistently lower among the low SEG women, by 10-30 percentage points in each quarter.

Attendance at delivery

Use of qualified attendant

There was no discernible difference between the CC and the non-CC wards with regard to trends in the use of a qualified attendant at delivery, in either area. Analysis of data for women delivered in each year from 1998 to 2002 (Table 4) shows that the coverage increased from 7.1% in 1998 to 12.8% in 2002 in the CC wards of Abhoynagar and from 3.8% to 11.8% in the non-CC wards. In Mirsarai, the proportion increased from about 6% in 1998 to about 13% in 2002, in both CC and non-CC wards. The coverage was considerably lower among low SEG women in both Mirsarai and Abhoynagar.

Table 4. Percentage of deliveries conducted by qualified attendants, 1998-2002

Place and year	Percentage of deliveries with qualified attendant †											
	Low SEG				Others				Total			
	CC wards		Non-CC wards		CC wards		Non-CC wards		CC wards		Non-CC wards	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abhoynagar												
1998	77	5.2	60	1.7	93	8.6	72	5.6	170	7.1	132	3.8
1999	94	3.2	60	5.0	108	17.6	87	19.5	202	10.9	147	13.6
2000	92	6.5	72	2.8	128	15.6	87	11.5	220	11.8	159	7.5
2001	109	6.4	72	6.9	135	23.0	107	15.0	244	15.6	179	11.7
2002	100	5.0	85	9.4	158	17.7	136	13.2	258	12.8	221	11.8
Mirsarai												
1998 *	33	3.0	180	2.2	30	10.0	225	10.2	63	6.3	405	6.7
1999 *	101	5.9	168	3.6	107	15.0	260	14.6	208	10.6	428	10.3
2000	101	5.9	236	4.5	161	13.0	341	13.2	262	10.3	588	9.5
2001	166	7.2	180	3.3	163	16.0	336	14.9	329	11.6	516	10.9
2002	110	4.5	170	7.1	194	17.5	391	15.1	304	12.8	561	12.7

* Data were collected from only 5 surveillance unions until the second quarter of 1999

† Nurse/FWV/Medical assistant/Physician

EPI coverage

Coverage of BCG vaccination

Very high coverage of BCG vaccination by 12 months of age was maintained for quarterly birth cohorts over the period 1998-2001 in the CC and non-CC wards of both the areas (Figs. 11a-11b). Data for annual birth cohorts indicate that BCG coverage was much the same for low SEG and other children in Abhoynagar (Table 5a). It was generally over 90% and over 95% for those born in the CC and non-CC wards in 2001. Data for annual birth cohorts in Mirsarai indicate that coverage was generally between 85% and 95% and usually about the same among low SEG children and others in both the types of ward. Coverage was lower in the CC wards than in the non-CC wards, but this was the case for children born in each year before and after the CCs were operational.

Table 5a. Coverage of children with BCG vaccination by age 12 months

Place and year of birth	Low SEG				Others				Total			
	CC wards		Non-CC wards		CC wards		Non-CC wards		CC wards		Non-CC wards	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abhoynagar												
1998	77	92.2	93	97.8	60	90.0	72	93.1	137	91.2	165	95.7
1999	94	90.4	108	95.4	60	93.3	87	94.3	154	91.5	195	94.9
2000	92	92.4	128	96.9	72	100.0	87	89.7	164	95.7	215	94.0
2001	109	94.5	135	96.3	72	97.2	107	95.3	181	95.6	242	95.9
Mirsarai												
1998 *	33	93.9	30	86.7	180	82.8	225	91.6	213	84.5	255	91.0
1999 *	24	87.5	48	93.8	161	85.1	261	92.3	185	85.4	309	92.5
2000	68	85.3	112	89.3	203	84.2	296	89.2	271	84.5	408	89.2
2001	166	89.8	163	93.3	180	86.1	336	93.2	346	87.9	499	93.2

* Data were collected from only 5 surveillance unions until the second quarter of 1999

Coverage of measles vaccination

High coverage of measles vaccination by 12 months of age was also maintained over the 1998-2001 period in both the areas and both the types of ward. Coverage for annual birth cohorts was generally between 80% and 90% in the CC and non-CC wards of Abhoynagar (Table 5b). However, in Mirsarai, coverage was much lower in the CC wards (65-73%) than in the non-CC wards (80-85%), but this was the case before and during the period of operational CCs. Coverage was at least as high among low SEG children as among others in the CC and non-CC wards of both the areas.

Table 5b. Coverage of children born in each year with measles vaccination by age 12 months

Place and year	Low SEG				Others				Total			
	CC wards		Non-CC wards		CC wards		Non-CC wards		CC wards		Non-CC wards	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abhoynagar												
1998	77	81.8	93	91.4	60	80.0	72	81.9	137	81.0	165	87.3
1999	94	83.0	108	88.0	60	73.3	87	85.1	154	79.2	195	86.7
2000	92	83.7	128	92.2	72	77.8	87	79.3	164	81.1	215	87.0
2001	109	88.1	135	91.1	72	91.7	107	84.1	181	89.5	242	88.0
Mirsarai												
1998 *	33	87.9	30	86.7	180	66.7	225	80.0	213	70.0	255	80.8
1999 *	24	70.8	48	85.4	161	64.0	261	86.2	185	64.9	309	86.1
2000	68	70.6	112	87.5	203	73.9	296	87.5	271	73.1	408	87.5
2001	166	72.3	163	85.9	180	71.7	336	81.8	346	72.0	499	83.1

* Data were collected from only 5 surveillance unions until the second quarter of 1999

The data in Table 5c provide a comparison of coverage of measles and BCG vaccinations by age 12 months in a period befor e CCs (1998-1999) and in the first year of operational CCs (2001). Coverage of both measles and BCG vaccinations increased in the CC wards of both the areas between 1998-1999 and 2001. The increase in measles vaccination from 80.0% to 89.5% in the CC wards of Abhoynagar was statistically significant, based on 95% confidence intervals. On the other hand, coverage increased either only slightly or not at all in the non-CC wards, bearing in mind that it was already higher compared with the CC wards.

Table 5c. Coverage of children with BCG and measles vaccination by age 12 months: in periods before and during CC operation (1998-99 and 2001)

Location and year	BCG vaccination: % covered (n)		Measles vaccination: % covered (n)	
	CC wards	Non-CC wards	CC wards	Non-CC wards
Abhoynagar				
1998-99	91.4% (291)	95.3% (360)	80.0% (291)	86.9% (360)
2001	95.6% (181)	95.9% (242)	89.5% (181) *	88.0% (242)
Mirsarai				
1998-99	84.9% (398)	91.8% (564)	67.6% (398)	83.7% (564)
2001	87.9% (346)	93.2% (499)	72.0% (346)	83.1% (499)

* The increase from 1998-99 to 2001 was statistically significant based on 95% confidence intervals

Users' perceptions of the transition to a static clinic system

In the cross-sectional survey, interviews were conducted with 1,128 women in Mirsarai and 1,185 women in Abhoynagar. Datasets with complete information for all key variables were used for analysis: 443 low SEG women and 616 others in Abhoynagar and 475 women of low SEG and 516 others in Mirsarai. Analysis of data confirmed that the households of the low SEG women (with no schooling or a labourer husband) tended to be poorer in terms of a significantly higher proportion with a per-capita monthly household expenditure of less than Tk 700 (<US$ 12): 48.6% for the low SEG women and 23.8% for others in Mirsarai, and 78.3% and 68.8% respectively in Abhoynagar. These differences were statistically significant based on 95% confidence intervals.

Table 6 shows the characteristics of the sub-sample of women interviewed in the cross-sectional survey who reported that there was a CC in their ward. Most women with an operational CC in their ward had used it at least once, particularly those with no schooling, 92.2% in Abhoynagar and 73.0% in Mirsarai. Younger women aged less than 30 years were more likely to have used the CC than others in Abhoynagar (82.3% vs 70.5%) and in Mirsarai (71.3% vs 67.8%), possibly because they have children aged less than 5 years requiring services. Women with a day labourer husband were also more likely to have used the CC, particularly in Mirsarai (78.3% vs 67.7%). There was an indirect relationship between per-capita household expenditure and use of the CC, with a marked difference between those reporting household expenditure per-capita of less than Tk 500 per month and those spending Tk 1000 or more, in Abhoynagar (79.3% vs 64.7%) and in Mirsarai (82.7% vs 59.3%). These differences were statistically significant based on 95% confidence intervals.

Table 6. Use of CC by selected characteristics of women who reported a CC in their ward

Women's characteristics	No. and percentage of women who used CC in their ward			
	Abhoynagar (n=636)		Mirsarai (n=569)	
	Number	%	Number	%
Age (years) group				
15-19	50	82.0	20	71.4
20-24	100	87.7	73	70.9
25-29	101	78.3	76	71.7
30-34	90	77.6	79	65.8
35-39	68	71.6	80	70.8
40-44	47	67.1	63	66.3
45-49	29	56.9	3	75.0
15-49	485	76.3	394	69.2
Religion				
Muslim	364	76.6	345	48
Hindu	121	75.2	48	64.9
Years of school				
None	118	92.2	187	73.0
1-5 years	228	69.1	111	71.2
6+ years	139	78.1	96	61.1
Husband's occupation				
Day labourer	150	79.4	65	78.3
Other	335	74.9	329	67.7
Per-capita monthly household expenditure (taka)				
<500	138	79.3	43	82.7
500-599	112	75.7	69	79.3
600-699	109	75.2	58	71.6
700-999	93	78.8	119	69.2
1000+	33	64.7	105	59.3

Of the Abhoynagar women who reported that there was a CC in their ward, only a few had experienced problems because the SC had closed (10.6%), or because the EPI site had closed (7.8%). Nearly all these women stated that they had to walk further to the CC. However, of the Mirsarai women who reported that there was a CC in their ward, even fewer had experienced a problem because the SC had closed (1.7%), or because the EPI site had closed (2.4%). The reasons given were that they had to walk further and leave their housework for a longer time.

Many women in the CC wards had changed their source of FP services in the last two years, mostly because of the changes in public sector service delivery. However, the shift to use of shops and pharmacies as a source of supply of contraceptives did not reflect a change in behaviour by the women themselves. Unlike the women who sought FP services outside the home in CCs, most of these women received their supply of

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contraceptives through their husbands who collected contraceptives for them. In Abhoynagar, husbands collected contraceptives for 92.9% of 141 women who obtained them from shops and pharmacies, while in Mirsarai the proportion was 88.6% of 166 women. There was little difference in the proportion among low SEG and other women in Abhoynagar (93.0% vs 92.9%), although it was slightly higher among women of low SEG in Mirsarai (97.4% vs 86.6%). The difference was statistically significant based on 95% confidence intervals.

In the 6 months prior to the survey in September-December 2003, many services were still available from the CCs. The following proportions of the women who attended a CC in Abhoynagar in the previous 6 months reported receiving the service they sought: 96.7% of those seeking FP services (242), 97.5% of those seeking EPI (81), 86.7% ANC (15), 73.3% child health services (15) and 66.7% general health services (81). In Mirsarai, the proportions were: 73.2% FP services (71), 91.5% EPI (59), 50.0% ANC (6), 66.7% child health services (6) and 43.9% general health services (44).

The majority of those attending a CC in the 6 months prior to the survey in 2003 were satisfied with the services: 74.1% of 422 attending in Abhoynagar and 55.1% of 185 attending in Mirsarai. The main reasons given for satisfaction in the two areas, respectively, were that the CC was near to their house (42.2%; 44.4%); the quality of services was good (38.2%; 5.8%); and many services were available in one place (13.7%; 2.6%). On the other hand, women were dissatisfied because: medicines were not available in the CC (64.8%; 26.5%); not all services were available (16.7%; 12.7%); the CC was located far away (10.2%; 1.0%); the quality of services was not good (8.3%; 4.3%); and the attitude of the providers was not good (8.3%; 1.1%).

Most women thought that home visits by FWAs were useful. Even in wards with a functional CC, the majority of women would still find home visits by the FWA useful as well (79.1% in Abhoynagar and 85.3% in Mirsarai). The main reasons given were that they received health information and could talk privately (64.8%), and they did not have to leave their housework (20.9%). On the other hand, some women thought that regular home visits were not useful because all the services were available in the CC (12.2%). There was little difference between low SEG women and others in the proportion reporting that they would still find home visits useful, in Abhoynagar (79.4% vs 79.8%) or in Mirsarai (85.4% vs 82.9%).

When women in the CC wards were asked whether it was better to have home visits by the FWA and SC/EPI sites, or CCs, opinion was more divided: 45.1% vs 54.9% in Abhoynagar and 46.7% v 52.9% in Mirsarai. There was little difference in the proportion favouring the CC system, between low SEG and other women in Abhoynagar (54.5% vs 54.5%) and in Mirsarai (53.7% vs 54.8%). When asked for suggestions for the service delivery system, many women mentioned the need to provide all services in one place (41.9%) and to have a regular supply of medicines (22.4%).

Service providers' perceptions of the status of CCs in 2003

By the end of 2003, most CCs were reportedly functioning only as EPI sites. Most FWA/HAs attributed this to the inadequate supply of medicines, although a few thought that the CCs had been closed by government order. Some FWAs and HAs reported that their clients had complained about the lack of medicines (e.g. "the doctors sell the medicines outside, so we don't get medicines at the clinic"), and many now had to go to the UHFWC and UHC for ANC, family planning and general health services, and in some cases, for EPI. Some service providers stated that this increased discontinuation among FP users, reduced the number of new users, and increased the number of EPI 'drop-outs'. Some also reported that women had experienced problems because of the closure of CCs, particularly because services were no longer available in one place and, in many cases, they had further to walk to the UHFWC or UHC.

Most FWAs and HAs suggested that the CCs that had been providing services and were now closed, or just EPI sites, should be made operational again, mainly because they enabled clients to get all the services in one place on any day of the week they chose. The providers also mentioned that the CCs had given them status and a base ("a place to sit"), which was important because they could not carry equipment around for measuring blood pressure and weight. For the improvement of quality of CC service provision, many suggested that they should receive refresher training, and supplies of medicines should be regular and adequate.

Discussion

The selected indicators of ESP coverage either improved or remained at about the same level over the period 1998-2002, indicating that there was no detrimental effect overall from the transition to static clinics. Clearly, the study areas cannot be considered as representative of Bangladesh as a whole, and they received some support from ICDDR,B for the process of introducing CCs using a set of guidelines. However, the areas had no special support for service delivery, and the data show what can be achieved with a partial transition to a static clinic system. The key trends in the use of the government facilities and ESP services in relation to the planned transition are the increase in the proportion of women using the CCs and the decline in reported visits by an FWA. The increase in reported visits to the CCs confirmed that the service providers had been providing at least some services for at least 12 months (Table 2a-2b). All, except two CCs, became operational in 2001, and the proportion of women in each quarter reporting visits to them increased consistently in the period 2001-2002 (Fig. 1a-1b).

The turning point and decline in reported visits to SCs in Abhoynagar in 2001-2002 was similar in wards with and without CCs (Fig. 3a). Clearly, the change in the non-CC

wards could not be attributed directly to the opening of CCs, and it probably reflects a decline in outreach activities, with FWVs holding SCs less regularly in anticipation of CCs becoming operational. The proportion of women using the UHC in Abhoynagar also declined in 2002 in the wards with and without CCs (Fig. 5a), which may have been a 'knock-on' effect of a decline in outreach activities.

The trends in the proportion of women reporting a visit by an FWA and HA were also similar for wards with and without CCs in the both areas (Figs. 6a and 6b). As the decline in reported visits occurred after April-June 2001 in both the types of ward in both the areas at the same time, it was clearly not just a direct response to the opening of CCs and the transfer of FWA/HAs to them. The local managers' explanation was that the outreach workers in the non-CC wards may have reduced the amount of home visiting they did when their colleagues in other wards were transferred to CCs, anticipating their own transfers. Other factors could also have contributed, such as lack of supervision and managerial support for the new system.

With the decline in household visits by the FWAs, there was a considerable decline in the proportion of women obtaining contraceptives at home in both the areas in the CC and non-CC wards and among both the socio-economic groups. In the wards of both the areas where CCs were operational they very quickly became a major source of contraceptives (Figs. 7a and 7c). In these CC wards, the proportion of women obtaining contraceptives from other government facilities declined at the same time in 2001-2002, whereas no such decline occurred in the non-CC wards (Figs. 7b and 7d). Women also switched to shops and pharmacies for the supply of contraceptives in the period 2001-2002 when CCs were operational. However, there was also an increase in use of shops and pharmacies for contraceptive supplies in wards where CCs were not available as an alternative, and domiciliary visits by FWAs also declined. For example, in Abhoynagar, the proportion of women obtaining supplies from shops and pharmacies increased from 5% to 15% in the CC wards and non-CC wards (Figs. 7a-7b). In Mirsarai, the proportion also increased from 5% to 15% in the CC wards, while it increased from 5% to 10% in the non-CC wards (Figs. 7c-7d). In both CC and non-CC wards, there was greater use of shops and pharmacies by the higher socio-economic group. Although the shift to this source is consistent with the strategy to encourage women to seek services outside the home, it does raise issues of quality of care. Women themselves would have little direct access to information about side-effects of pills and less access to follow-up advice and care, since in most cases (90%) it was their husbands who collected the supplies from shops and pharmacies.

Overall, in a period of major change in the service delivery system and in sources of contraceptive supplies, the coverage of family planning was maintained in Abhoynagar, but increased slightly in Mirsarai, albeit from a lower level. The CPR for all methods remained around 55-60% in Abhoynagar, which was considerably higher than in

Mirsarai where the CPR increased from about 42% to 45% between 1998 and 2002 (Figs. 8a-8b). The lower CPR in Mirsarai probably reflects the high proportion of women whose husbands are temporarily working away from home (about one-quarter). Not surprisingly, the contraceptive use was very low among these women and virtually non-existent among about 17% of women whose husbands were living abroad. Excluding 17% of women from the total number of women under surveillance in Mirsarai in October-December 2002, the estimated CPR would be 56.7% for the CC wards and 53.4% for the non-CC wards, i.e. similar to the rate for Abhoynagar.

Migration-affected families tend to be of higher socio-economic status in terms of having more schooling and more skilled occupations. This is reflected in the disaggregated trends in CPR for the two areas: the overall CPR among the low SEG women and others was about the same throughout the period 1998-2002 in Abhoynagar (Figs. 8c-8d), while it was consistently higher among the low SEG women than among others in Mirsarai. Despite the reduction in provision of family planning services through domiciliary visits by the FWAs, the overall CPR increased among the low SEG women in Mirsarai both in CC and non-CC wards (Figs. 8e-8f).

At the beginning of the study period, the FWAs had been a major source of contraceptives, distributing pills to women in the home. However, despite the decline in home visits, the proportion of women using pills actually increased in both the areas (Figs. 9a, 9c, 9e, and 9g). The increase from about 20% to 25% of women in the CC and non-CC wards of Abhoynagar was fairly consistent over the whole period, including the period 2001-2002 when CCs were operational. In Mirsarai, the increase was greater in the CC wards (15% to 25%) than in the non-CC wards (15% to 18%).

The second most popular method in both the areas was injectables. The proportion of women using this method was particularly high (around 20%) in Abhoynagar (Figs. 9a and 9c). The FWAs and FWVs in these unions had received considerable training, and the FWAs had promoted doorstep delivery of the method. This was done to a lesser extent in Mirsarai, and the use of injectables was much lower (10% of women). The proportion of women using injectables declined in the CC wards of Abhoynagar in 2000-2001, possibly because of the decline in household visits by FWAs, or shortage of supplies. However, it recovered to around 20% in 2002, and many women sought this service from the FWA at the CC. On the other hand, the trend in the CC wards of Mirsarai did not appear to have been affected by the decline in household visits by FWAs, and users may have been less dependent on home delivery of injectables.

There was no evidence that the trends for any of the less commonly used methods of contraception were affected by the transition to community clinic service provision (Figs. 9b, 9d, 9f, and 9h). The use of traditional methods did not increase in the CC wards or non-CC wards of either area and was relatively low (2-4%) compared with its use in rural Bangladesh as a whole in 1999-2000 (10.1%) (NIPORT, 2001), suggesting there may be better access to modern methods at the government facilities in the surveillance areas.

However, the clinics had not been established long enough to expect any impact on use of permanent methods, which are not commonly used in Bangladesh.

The other selected reproductive health indicators improved over the period 1998-2002. The proportion of annual deliveries conducted by a qualified attendant was generally higher in 2001-2002 than that in 1998-2000 among all subgroups (area, CC or non-CC ward, socioeconomic group). The coverage of ANC (at government facilities) was maintained in the CC wards of Abhoynagar at over 60% in the period of operational CCs (2001-2002), while it increased in both CC and non-CC wards of Mirsarai. In Abhoynagar in 2001-2002, there appears to have been a shift to receiving ANC at the CCs rather than at higher-level (more distant) facilities (UHFWC and UHC). By the end of 2002, 40-55% of women delivered in the previous three months reported receiving ANC services from a CC in the CC wards of Abhoynagar (Fig. 10c), a much higher proportion than in Mirsarai (5-15%) where the CCs generally became operational later (Fig. 10e). The coverage of ANC was relatively high compared with that in rural Bangladesh as a whole (NIPORT, 2001). However, women under surveillance were not specifically asked whether they received a physical check-up, so only information and advice could have been received in some cases.

Considering the trends in coverage of child immunization over the period 1998-2002, there was no evidence of any major difference between wards that had CCs and those that did not. There was a decline in the proportion of women using EPI sites when CCs were becoming operational in Abhoynagar in 2001 and in Mirsarai in 2002 (Figs. 2a and 2b). According to the service providers, some EPI sites were transferred to the CCs (Tables 2a and 2b). However, changes in location of EPI services and the decline in domiciliary visits did not affect the coverage of measles and BCG vaccinations for quarterly or annual birth cohorts in either area, type of ward, or socio-economic group. The coverage of BCG and measles vaccinations was much the same for the low SEG children and others in Abhoynagar, although it was generally lower for the low SEG children compared to others in Mirsarai. However, this was the case over most of the period 1998-2002, so the cause of lower coverage is unlikely to relate directly to the transition to the static clinic system of service delivery.

Conclusions

The surveillance data from Abhoynagar and Mirsarai show that the transition to a static clinic system was partially achieved in several wards of both the surveillance areas, albeit rather late in the five-year sectoral programme. The surveillance areas are not representative of rural Bangladesh, but the trends in the use of the government health facilities and coverage of ESP services illustrate what can be achieved during a partial transition to a static clinic system. An important finding is that despite the major changes in the service delivery system, with provision of services from different facilities, there

were no major differences in the trends in coverage of the selected ESP services between wards where CCs were operationalized and those where they were not. There were some differences in the level of coverage of some services, such as higher EPI coverage in the non-CC wards compared with the CC wards of Mirsarai. However, this difference existed throughout the period 1998-2002, indicating that it was not the result of the transition to a static clinic system. Furthermore, the differences in coverage between the CC and the non-CC wards do not suggest that the CCs were preferentially operationalized in the higher performing wards.

The surveillance data indicate that a considerable change in service-seeking behaviour occurred among married women of reproductive age in the period 2001-2002 when CCs were operational. Many changes were a response to supply-side changes, such as the transfer of domiciliary and SC/EPI services to the CCs. The change in behaviour allowed overall service coverage to be at least maintained. For example, the coverage of child immunization (BCG and measles) was maintained at a high level in the CC and non-CC wards of both the areas and among a low socio-economic group and others, despite the disruption of transferring EPI sites to CCs in 2001-2002 in the CC wards.

Overall, the changes in the use of the government health facilities and services were consistent with the strategy of encouraging women to seek services outside the home from one static site facility. The study has shown that women will rapidly switch to using static clinics for child and reproductive health services if they are functional, after which satellite clinic services can be withdrawn without compromising service coverage. In wards where CCs became operational, about one-quarter to one-third of women in each quarter of 2002 reported visiting a CC. Women in the low socio-economic group (no schooling or a day labourer husband) were more likely than other women to have visited a CC in any three-month period. Given the higher proportion of poor families in this group, this is consistent with the objective of poverty-focused ESP service-delivery.

Although there was uncertainty about the ANC services received, as the surveillance did not specifically ask whether a physical check-up was conducted, the trend for at least one ANC visit to a government facility was upward among the low SEG women and among others in the CC wards of both the areas. The low SEG women may also have benefited more from the opening of CCs in terms of use of the family planning services, particularly in Mirsarai where the CPR increased more among them than among other women in the period 2000-2002.

An important finding of the study is that when home-delivery of contraceptives was reduced, women switched to sources outside the home. Where CCs were operational, most women had used them. They rapidly became the main source of contraceptives, and a large proportion of FP users sought services and obtained supplies from them. Whether or not there was an operational CC in the ward, an increasing proportion of women used shops and pharmacies as a source of contraceptives over the period 1998-2002. Although this trend coincided with a reduction in the proportion of women receiving home visits

from an FWA, in both CC and non-CC wards, other factors could also have contributed. A major concern is the quality of reproductive health services that women receive, which was beyond the scope of this study to investigate. Women need direct access themselves to advice, information, and follow-up services, particularly for contraceptive-related side-effects, and these are unlikely to be available to women supplied through shops and pharmacies as in most cases it is the husband who collects the contraceptive supplies. Clearly, this is more of a problem when access to domiciliary supply is reduced, and static clinic services are not yet available as an alternative, which occurred in the non-CC wards. The policy implication is that the major changes in the service delivery system should be implemented according to a schedule that allows for continuity of provision of a full range of integrated reproductive health services.

This study has shown that the transition to static clinic services can be achieved while maintaining or even improving coverage of basic reproductive and child health services. Low SEG women will make similar changes in service-seeking behaviour to other women in response to the supply-side changes and use a static clinic if it is functioning. Under the current sectoral programme (HNPSP), further changes in the service delivery system are planned with a renewed focus on domiciliary services rather than static clinic provision. The service delivery system needs to be properly evaluated with user-reported data in a prospective study in selected areas where it is fully implemented. For comparison, static clinic service provision should be fully implemented in selected areas, possibly by NGOs whose fieldworkers also conduct regular household visits to mobilize women to use ESP services. Such a comparative evaluation would enable evidence-based decisions to be taken about the development of ESP service delivery in Bangladesh.

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Fig. 1a. Percentage of women who visited a CC in CC wards of Abhoynagar (low SEG and others)

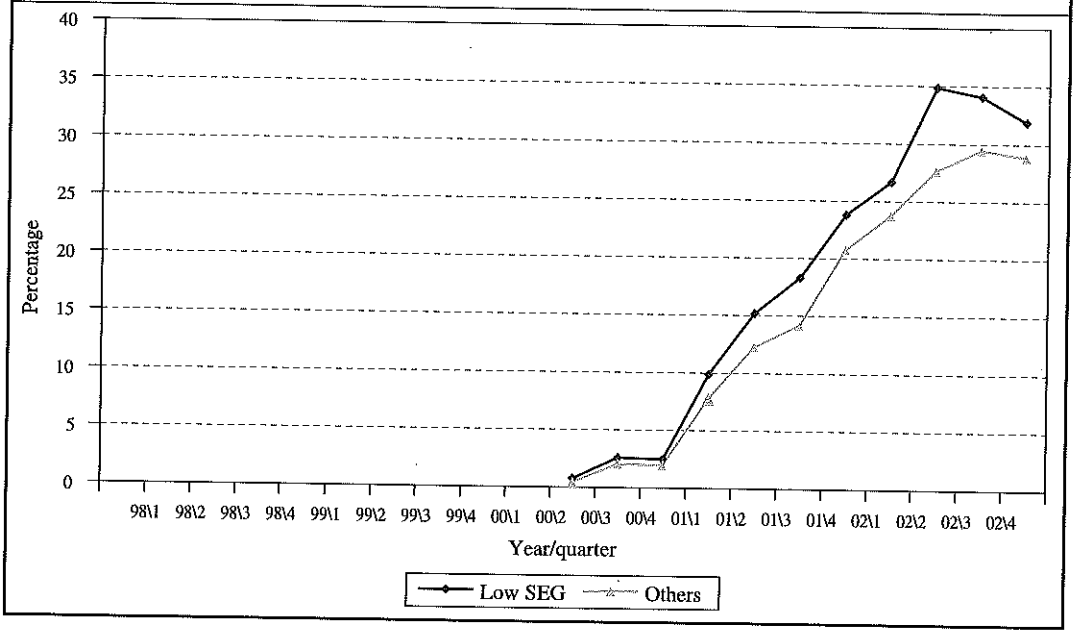
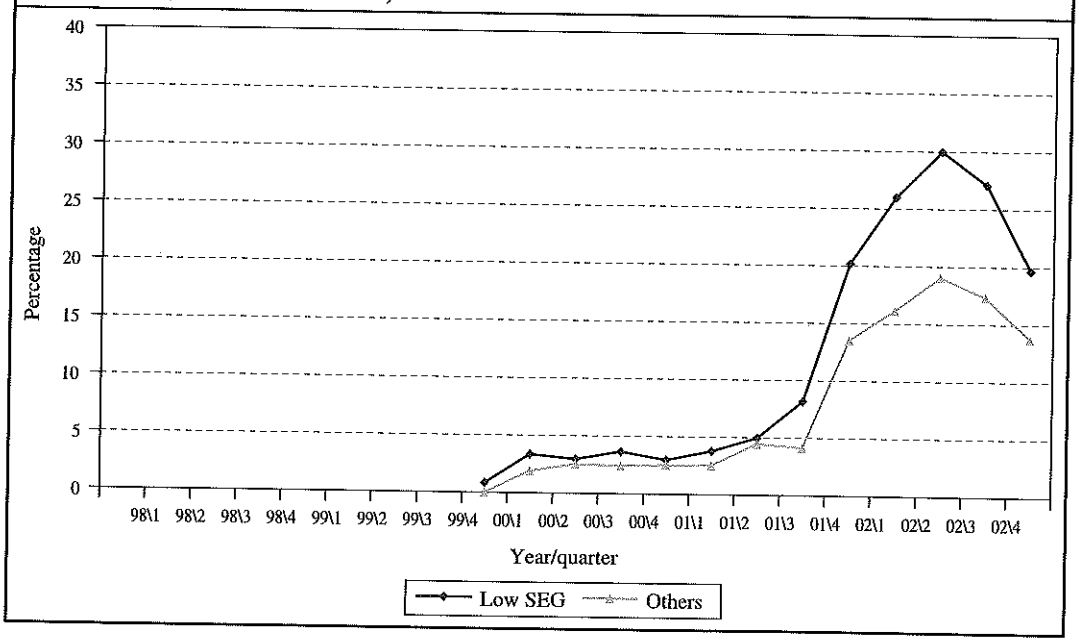


Fig. 1b. Percentage of women who visited a CC in CC wards of Mirsarai (low SEG and others)



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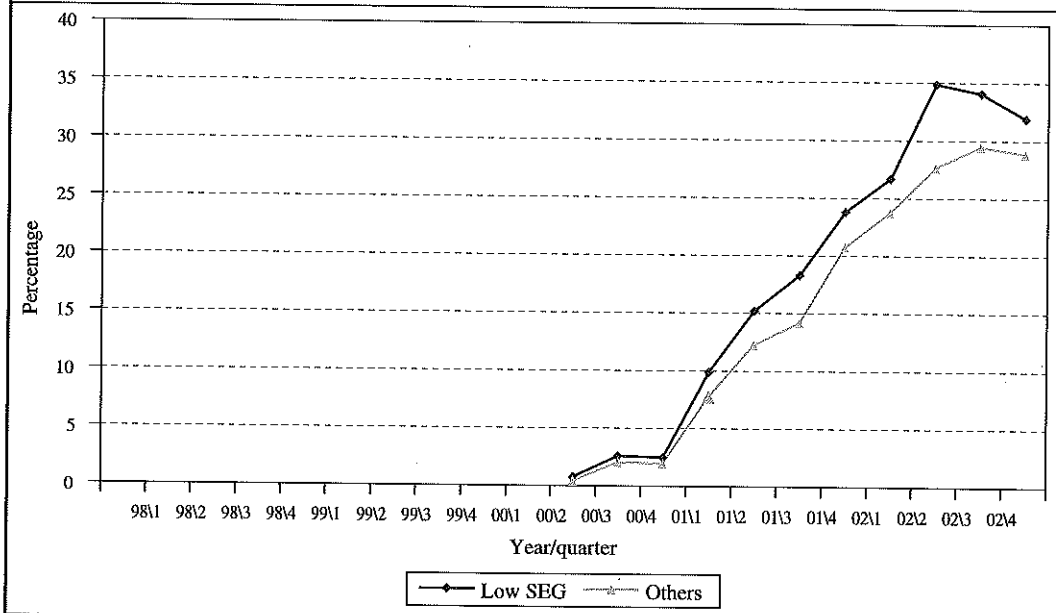

Fig. 1b. Percentage of women who visited a CC in CC wards of Mirsarai (low SEG and others)

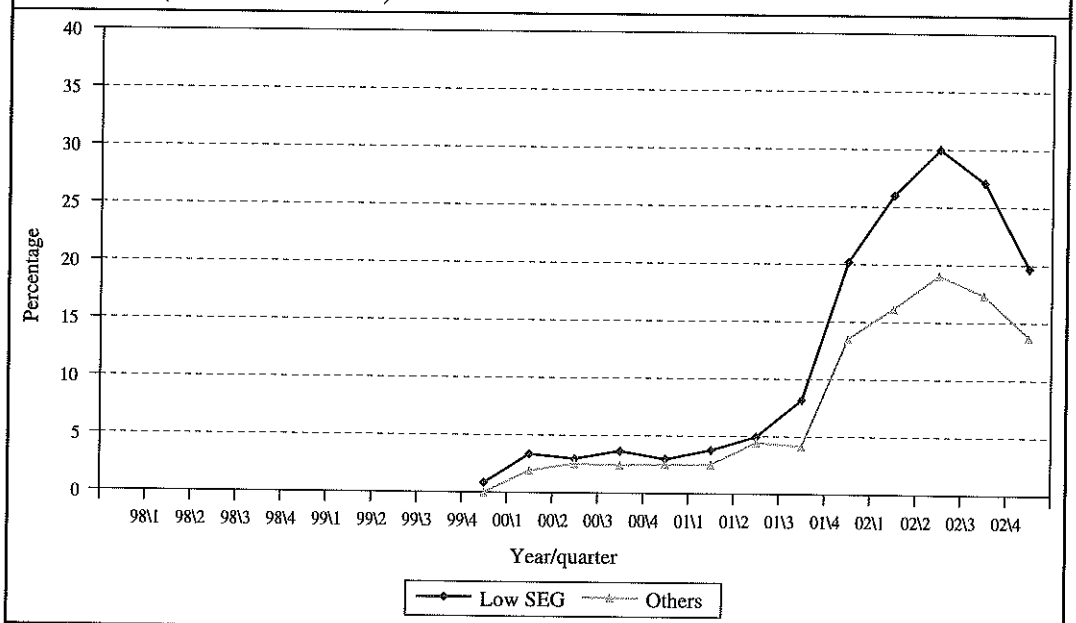

Fig. 2a. Percentage of women who visited an EPI site in Abhoynagar (CC and non-CC wards)

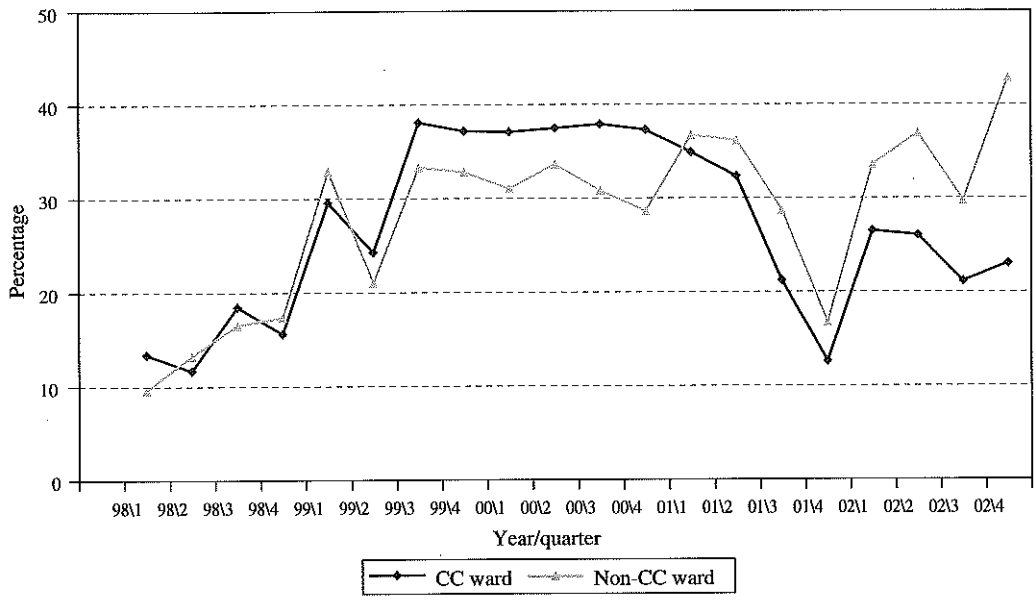

Fig. 2b. Percentage of women who visited an EPI site in Mirsarai (CC and non-CC wards)

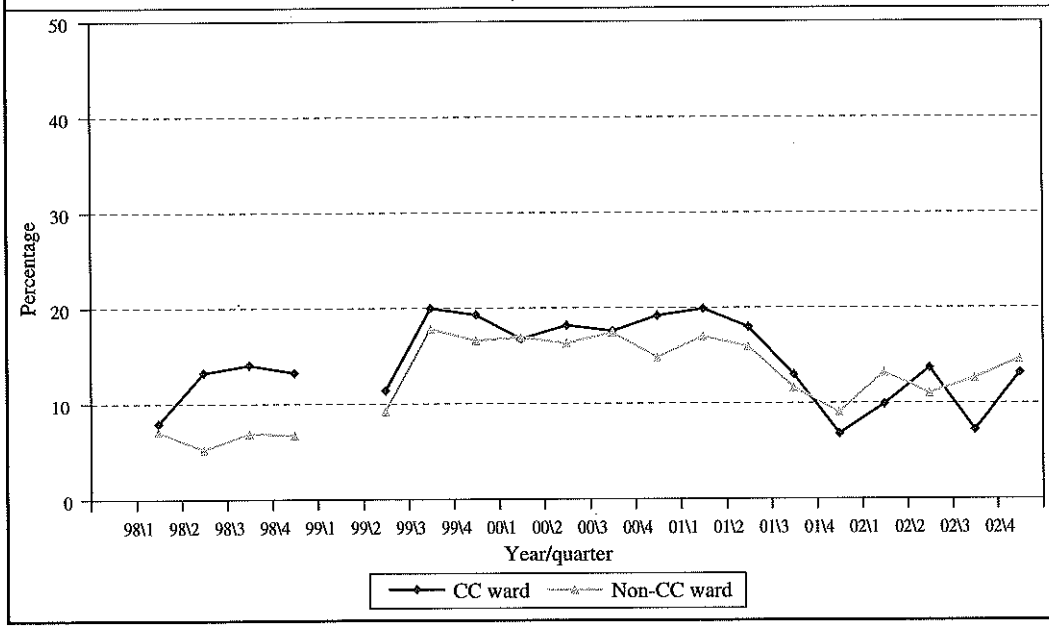

Fig. 3a. Percentage of women who visited a SC in Abhoynagar (CC and non-CC wards)

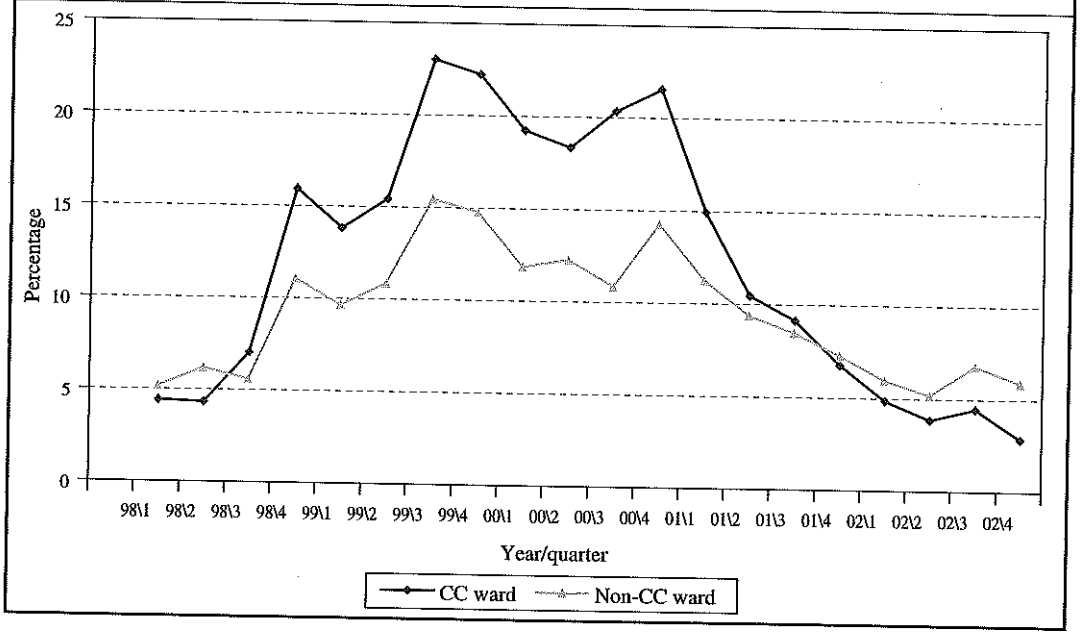

Fig. 3b. Percentage of women who visited a SC in Mirsarai (CC and non-CC wards)

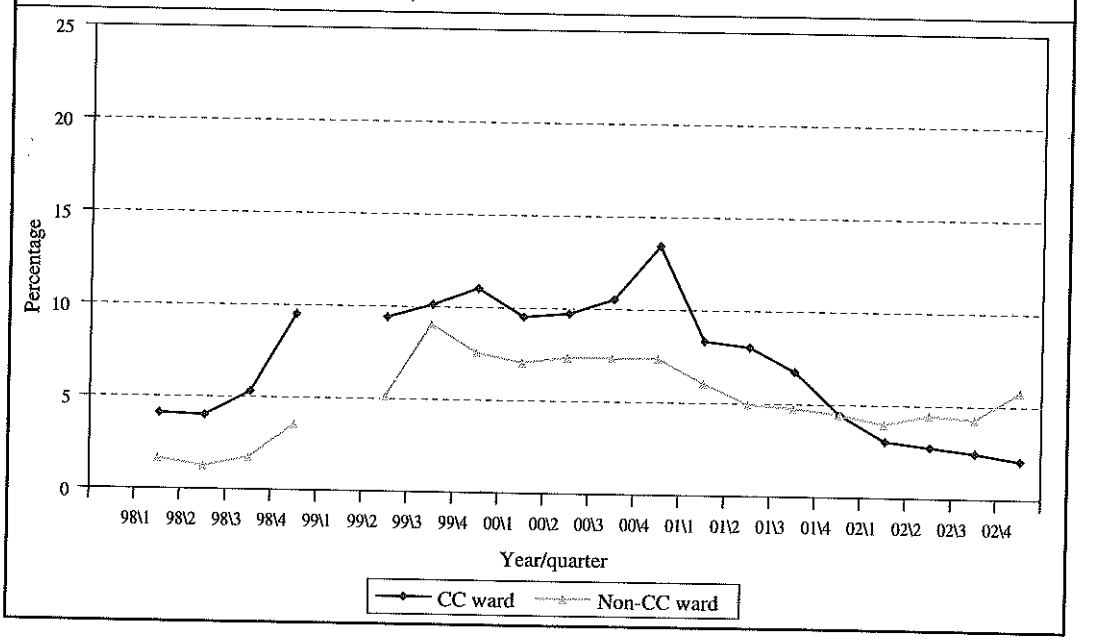

Fig. 4a. Percentage of women who visited a UHFWC in Abhoynagar (CC and non-CC wards)

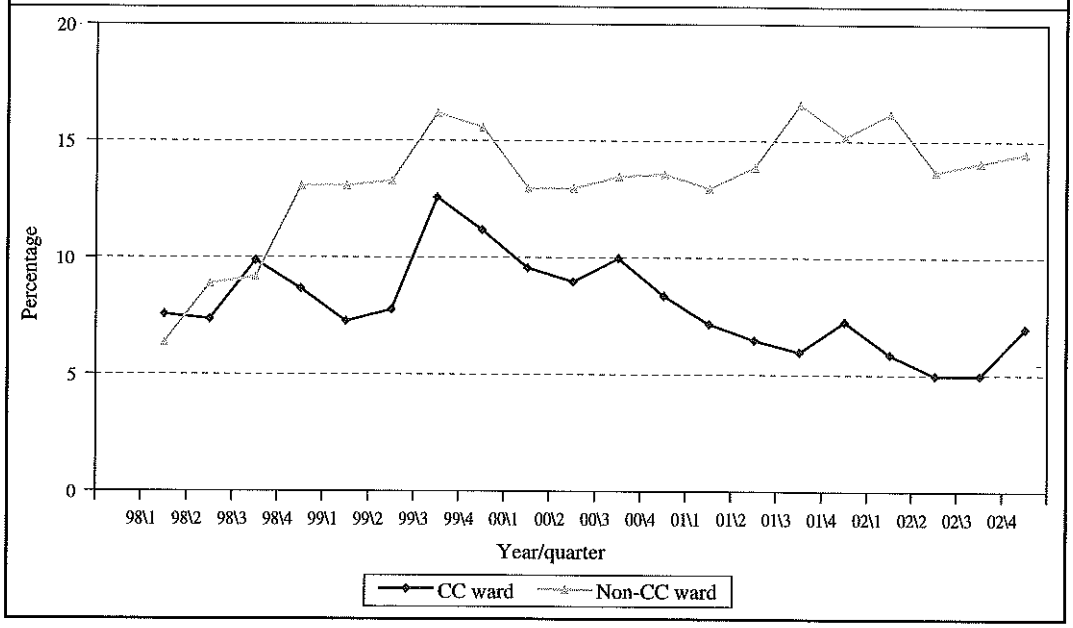

Fig. 4b. Percentage of women who visited a UHFWC in Mirsarai (CC and non-CC wards)

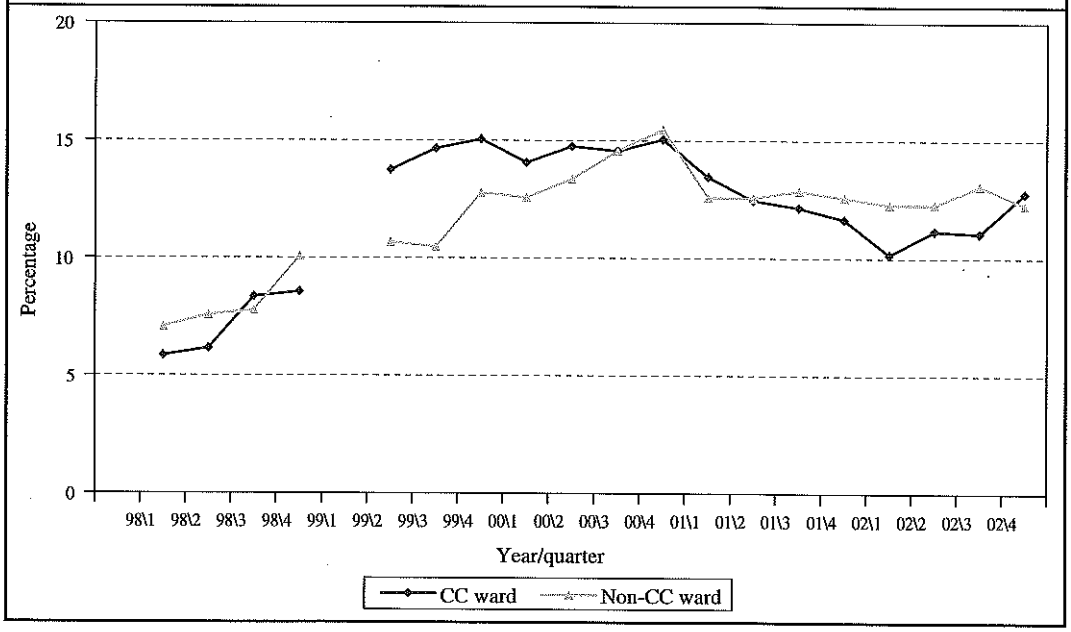

Fig. 5a. Percentage of women who visited a UHC in Abhoynagar (CC and non-CC wards)

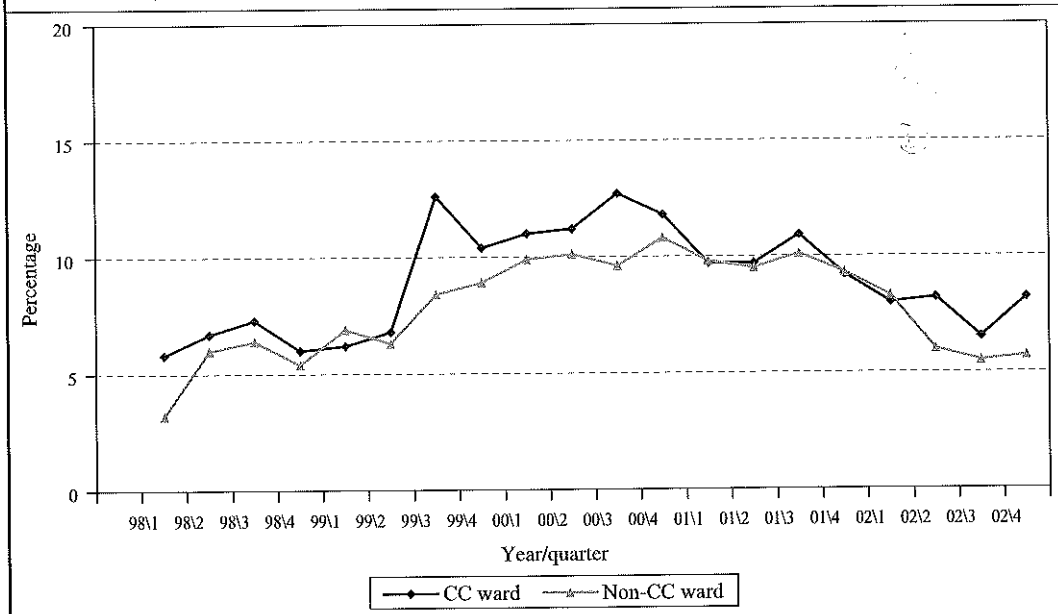

Fig. 5b. Percentage of women who visited a UHC in Mirsarai (CC and non-CC wards)

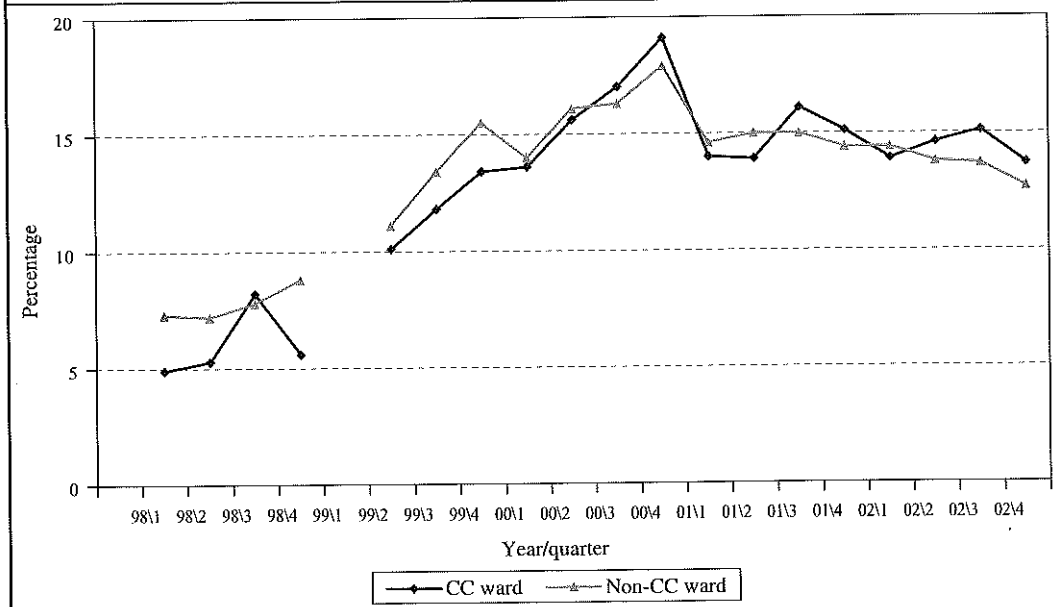

Fig. 6a. Percentage of women visited at home by an FWA and HA in Abhoynagar (all wards)

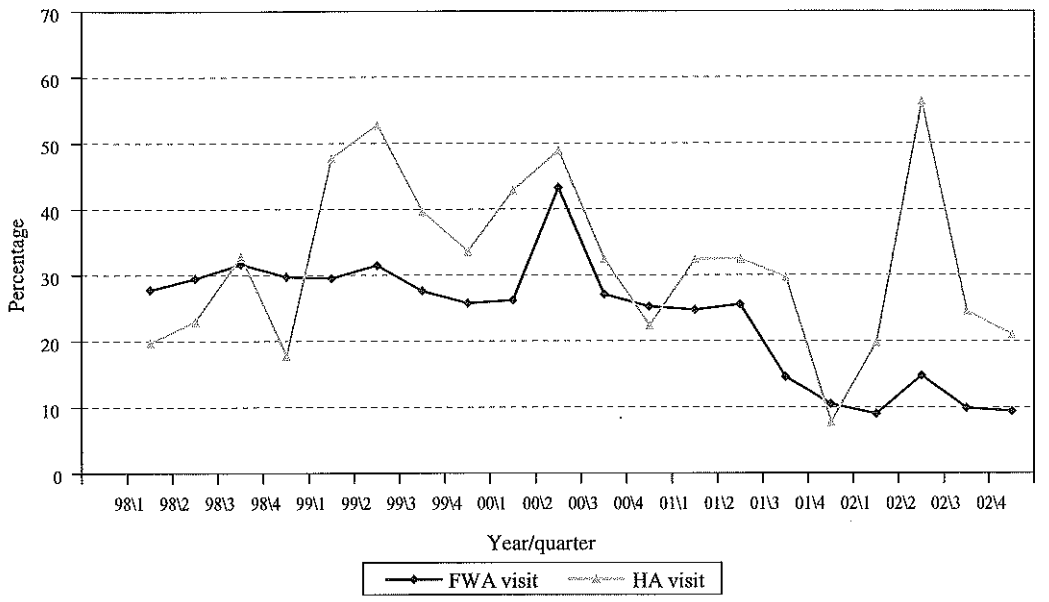

Fig. 6b. Percentage of women visited at home by an FWA and HA in Mirsarai (all wards)

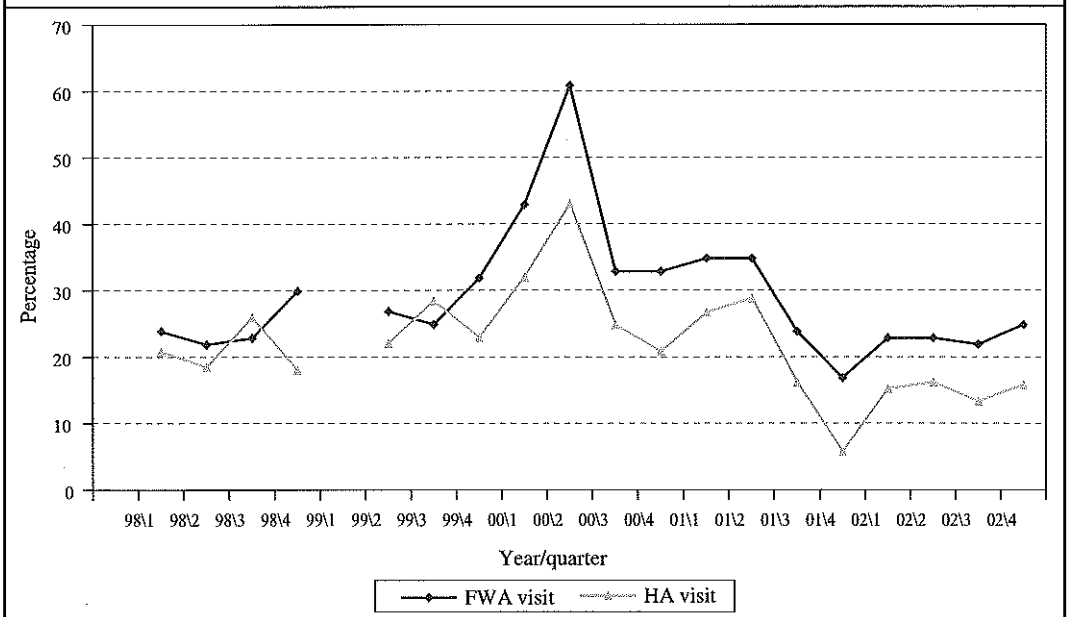

Fig. 6c. Percentage of women visited at home by an FWA in Abhoynagar (CC and non-CC wards)

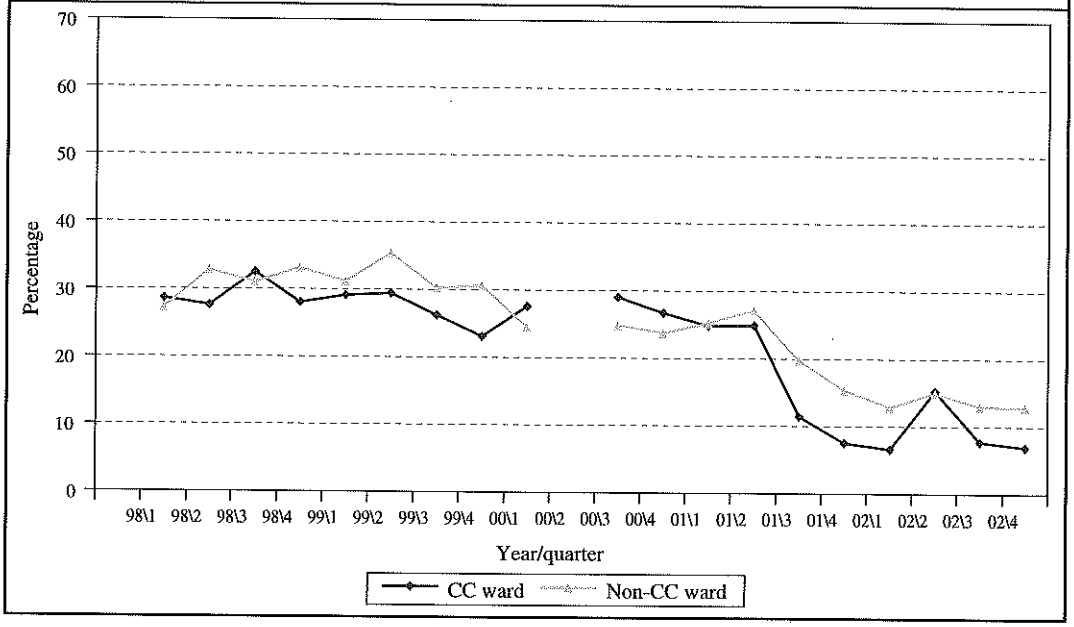

Fig. 6d. Percentage of women visited at home by an FWA in Mirsarai (CC and non-CC wards)

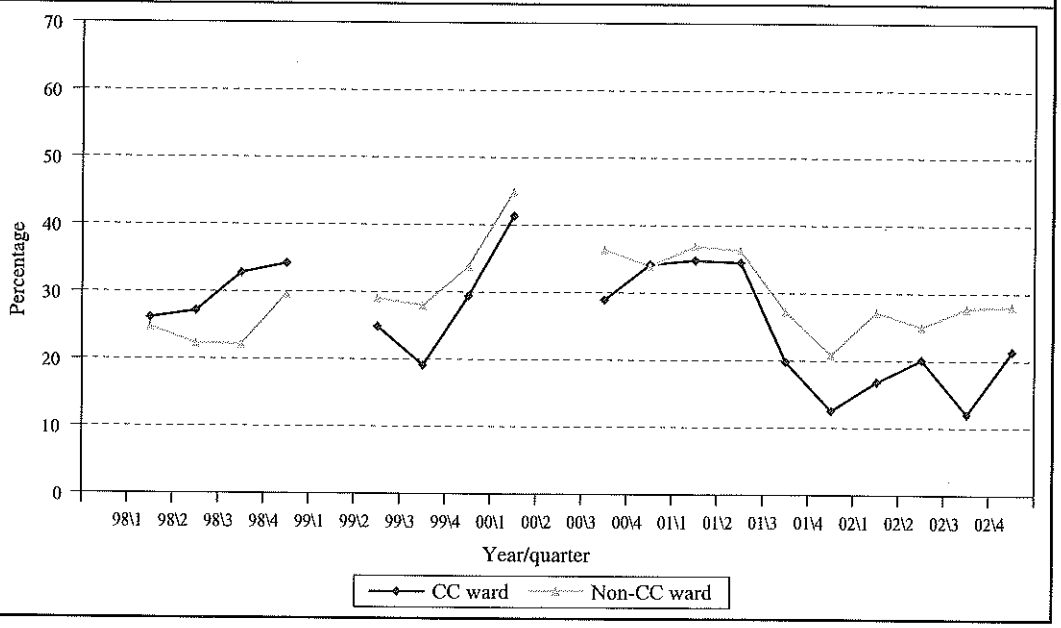

Fig. 7a. Percentage of women using contraceptives, by source, Abhoynagar (CC wards)

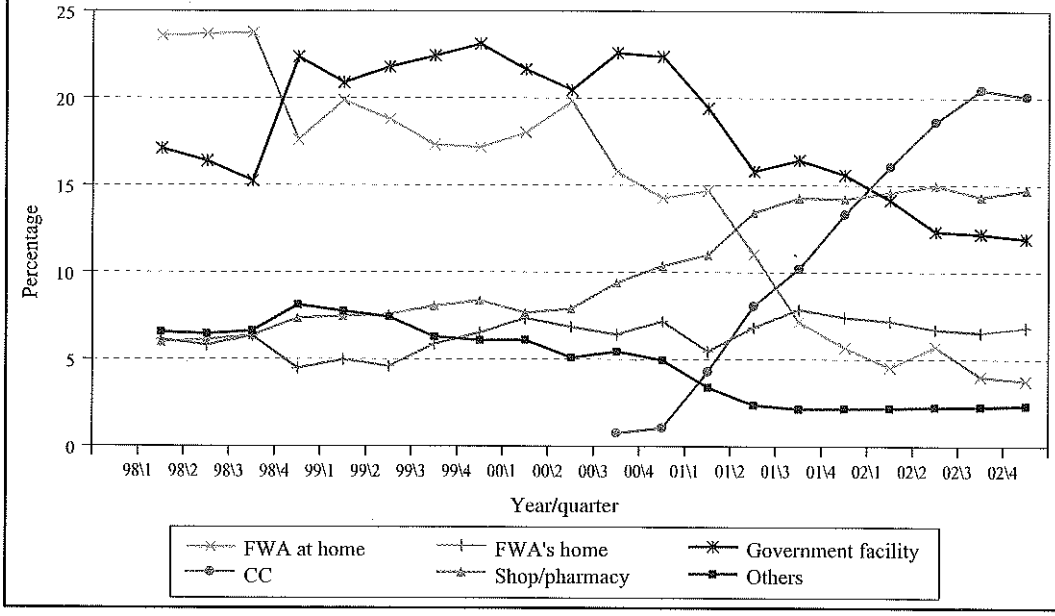

Fig. 7b. Percentage of women using contraceptives, by source, Abhoynagar (non-CC wards)

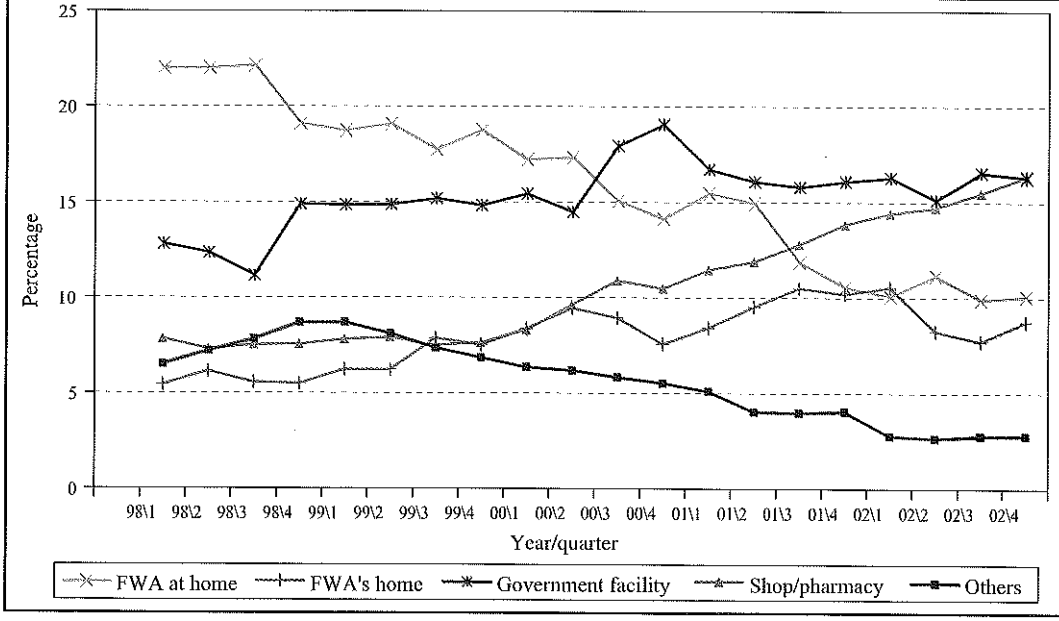

Fig. 7c. Percentage of women obtaining contraceptives, by source, Mirsarai (CC wards)

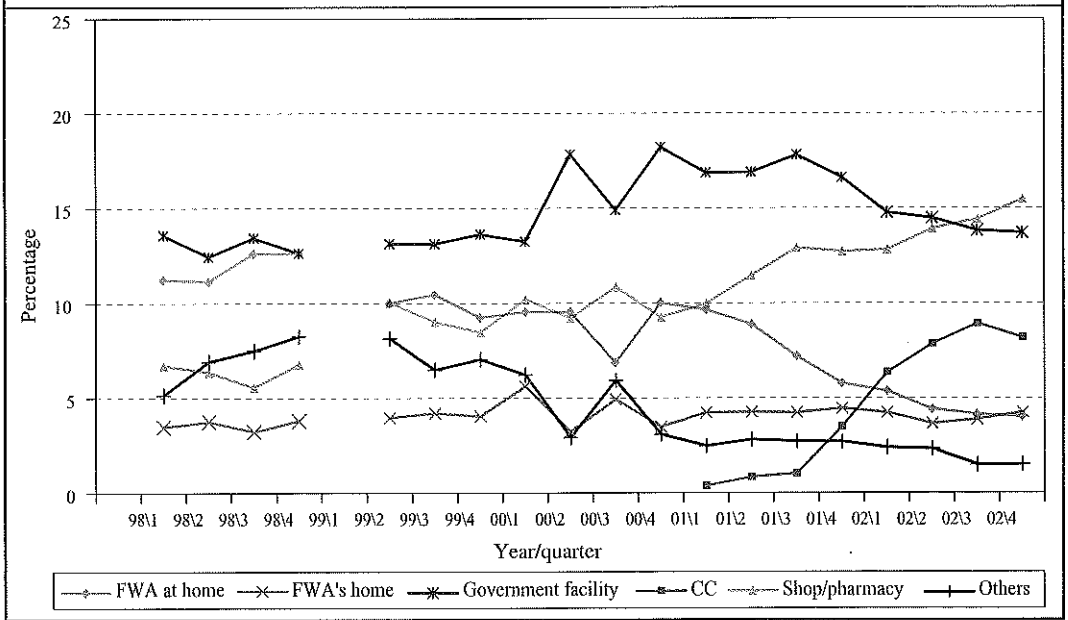

Fig. 7d. Percentage of women obtaining contraceptives, by source, Mirsarai (non-CC wards)

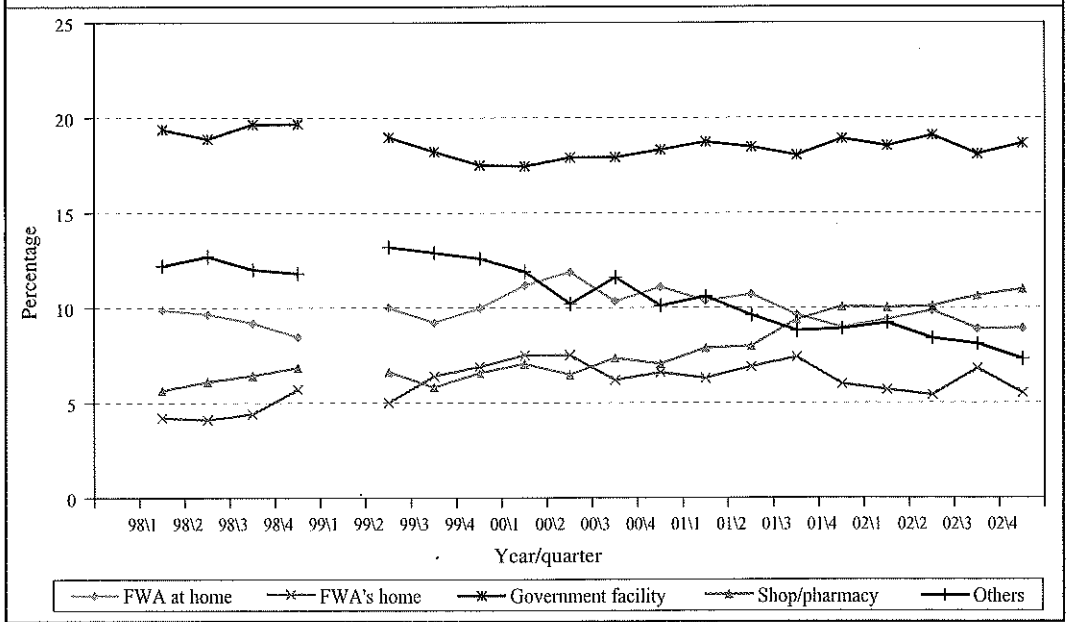

Fig. 8a. CPR in Abhoynagar (CC and non-CC wards)

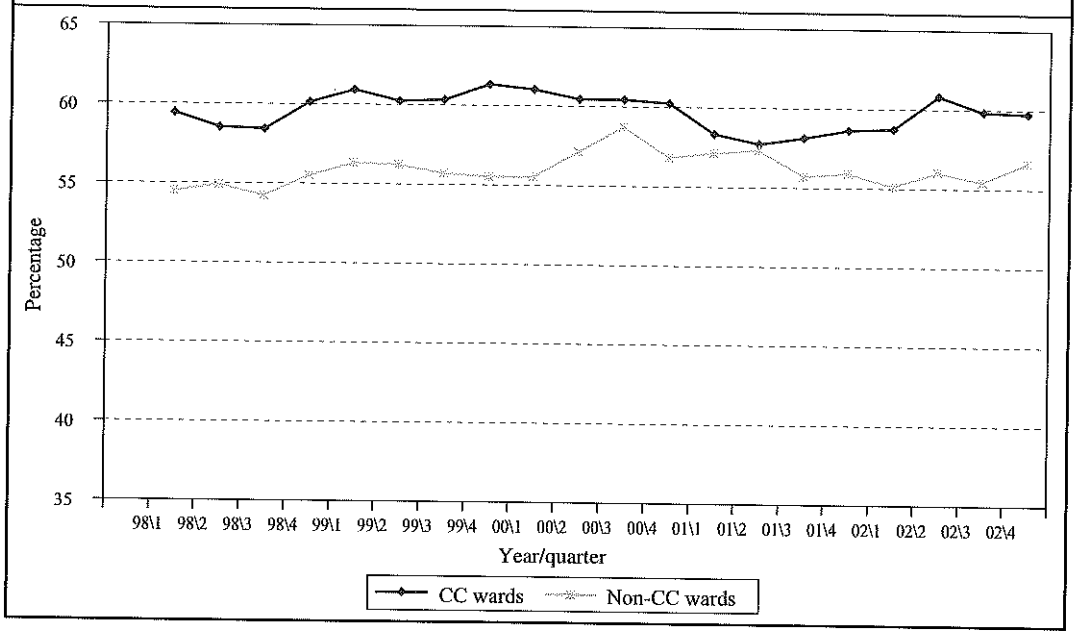

Fig. 8b. CPR in Mirsarai (CC and non-CC wards)

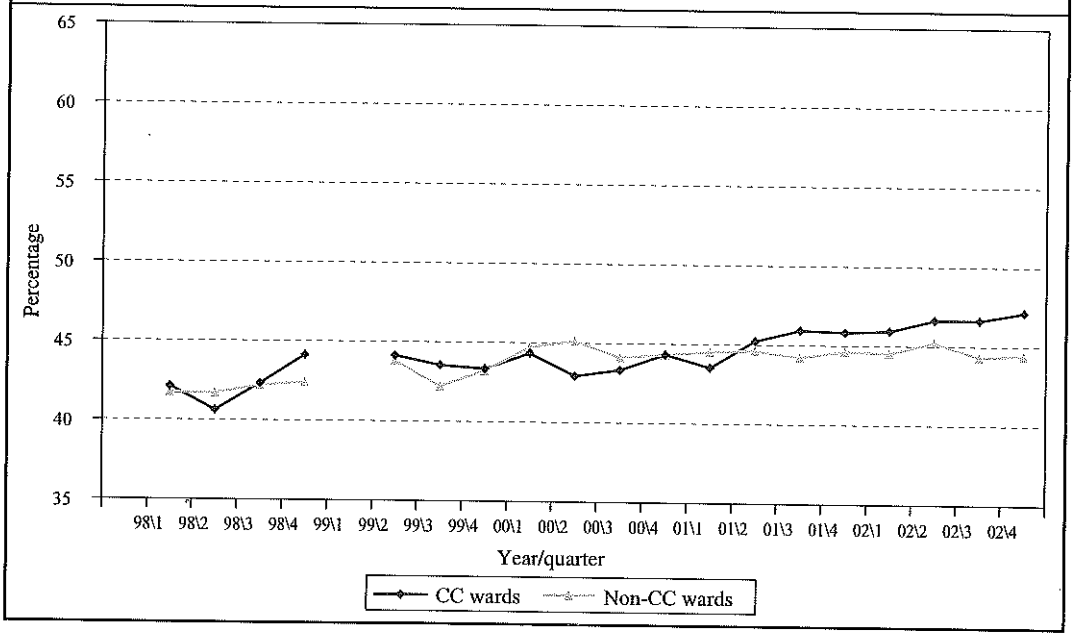

Fig. 8c. CPR in CC wards of Abhoynagar (low SEG and others)

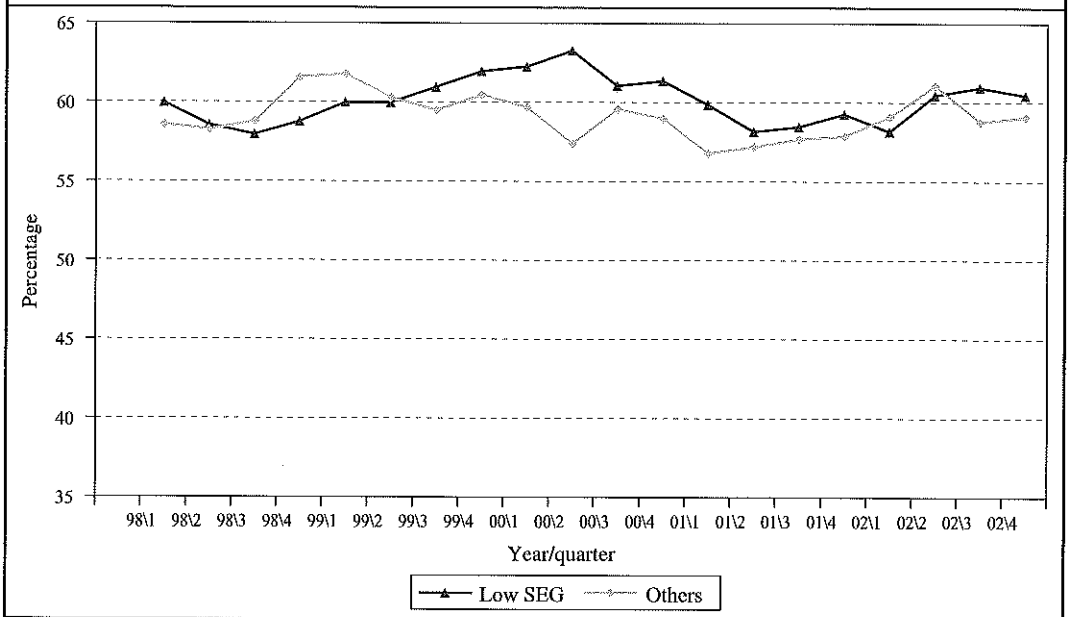

Fig. 8d. CPR in non-CC wards of Abhoynagar (low SEG and others)

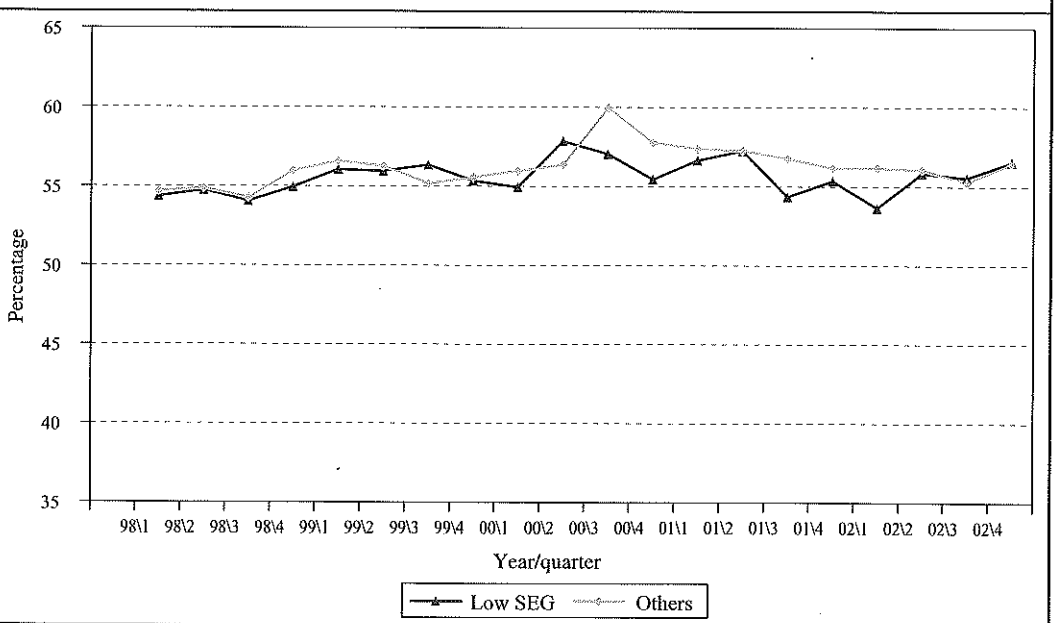

Fig. 8e. CPR in CC wards of Mirsarai (low SEG and others)

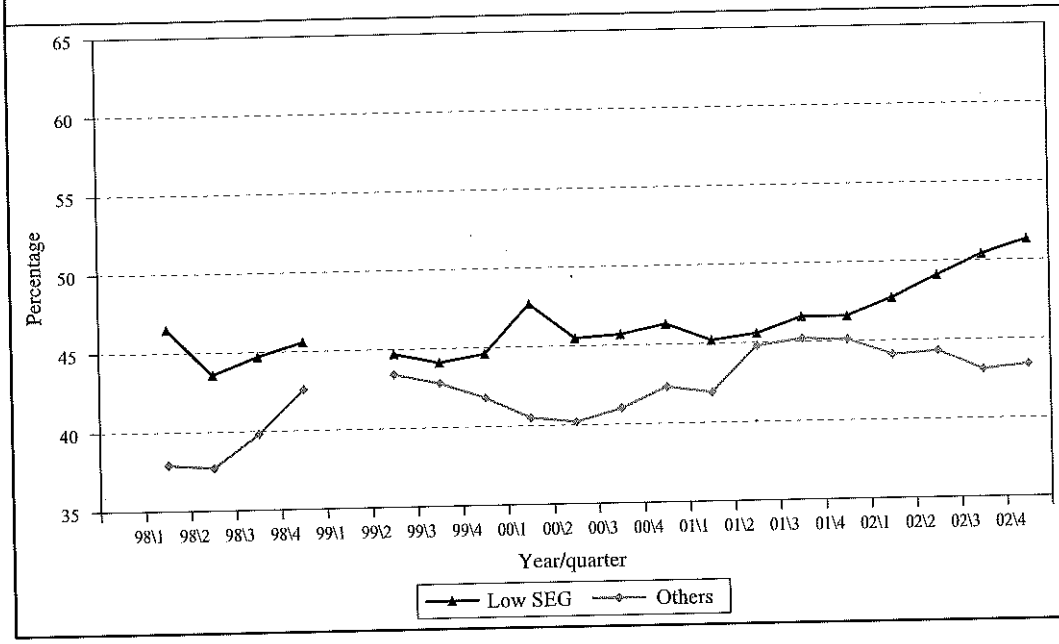

Fig. 8f. CPR in non-CC wards of Mirsarai (low SEG and others)

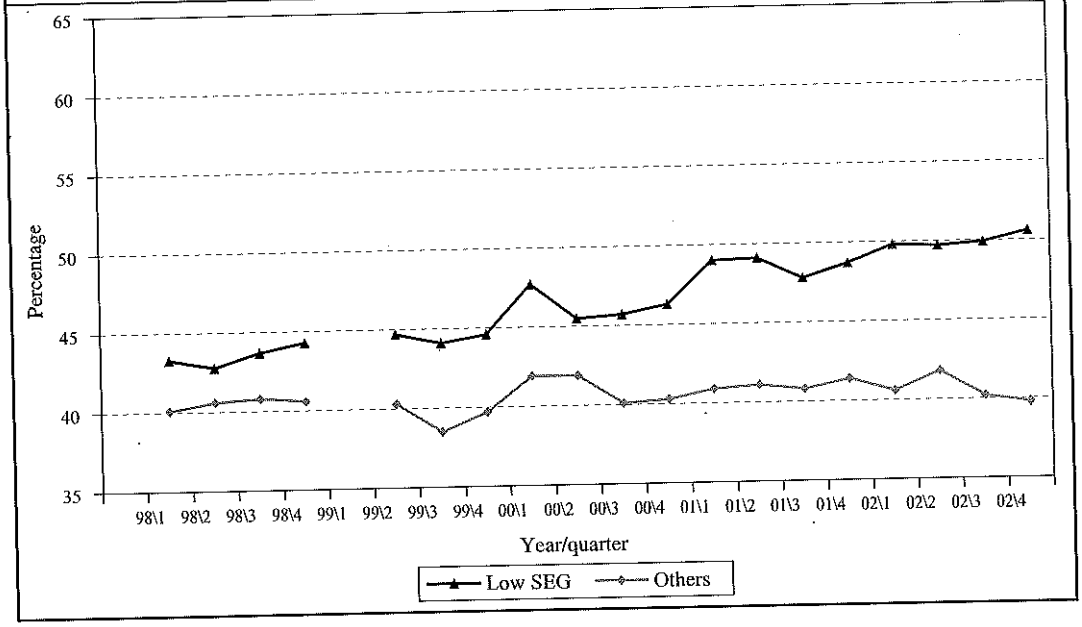

Fig. 9a. Percentage of women using pills and injectables in Abhoynagar (CC wards)

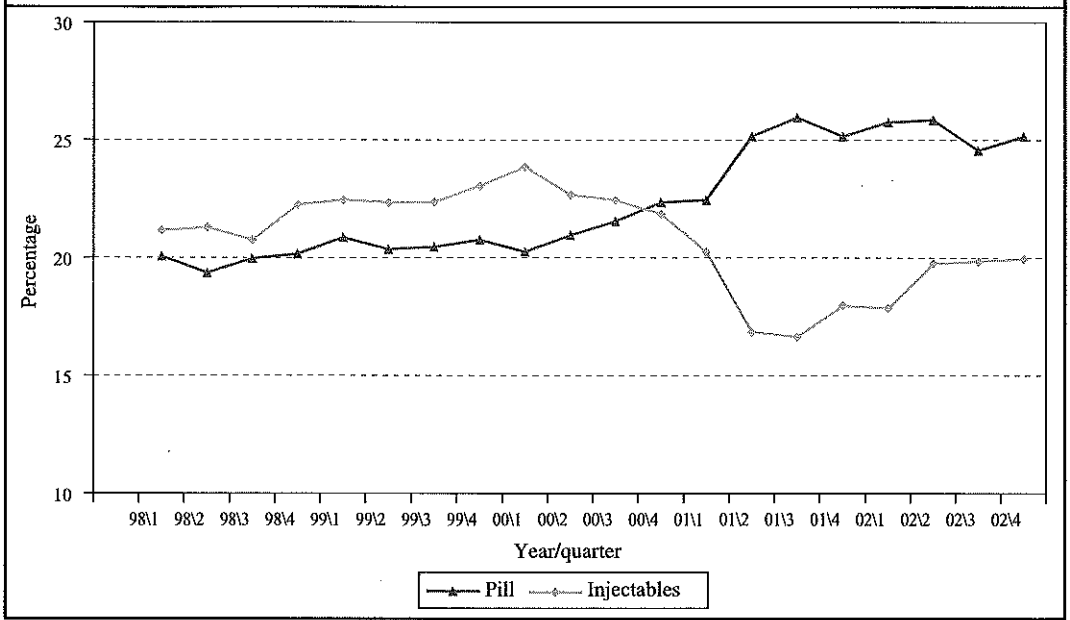

Fig. 9b. Percentage of women using other methods of contraception in Abhoynagar (CC wards)

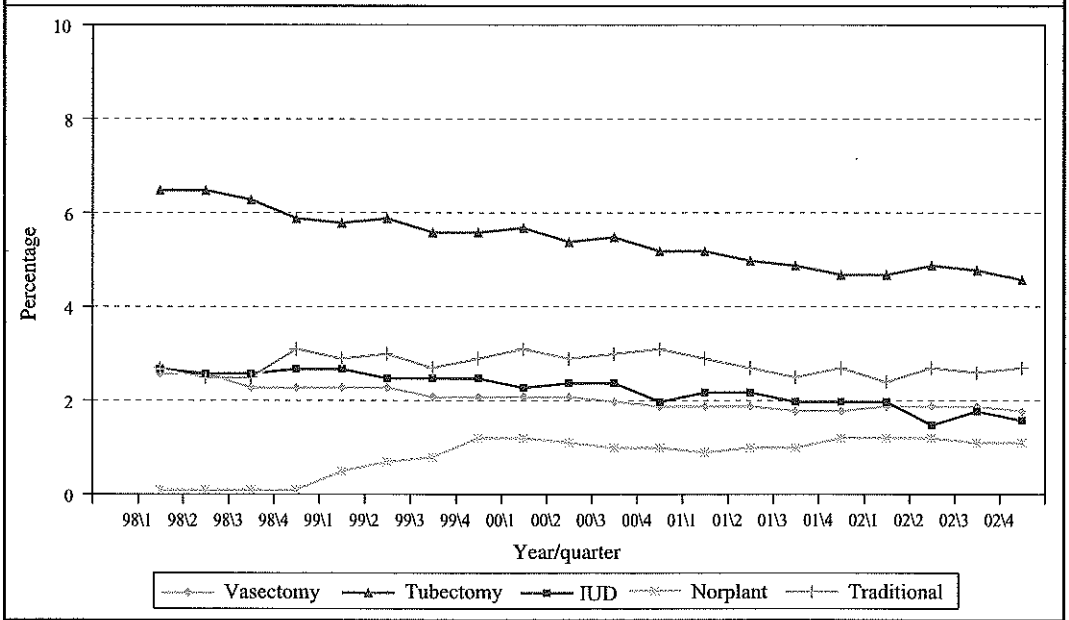

Fig. 9c. Percentage of women using pills and injectables in Abhoynagar (non-CC wards)

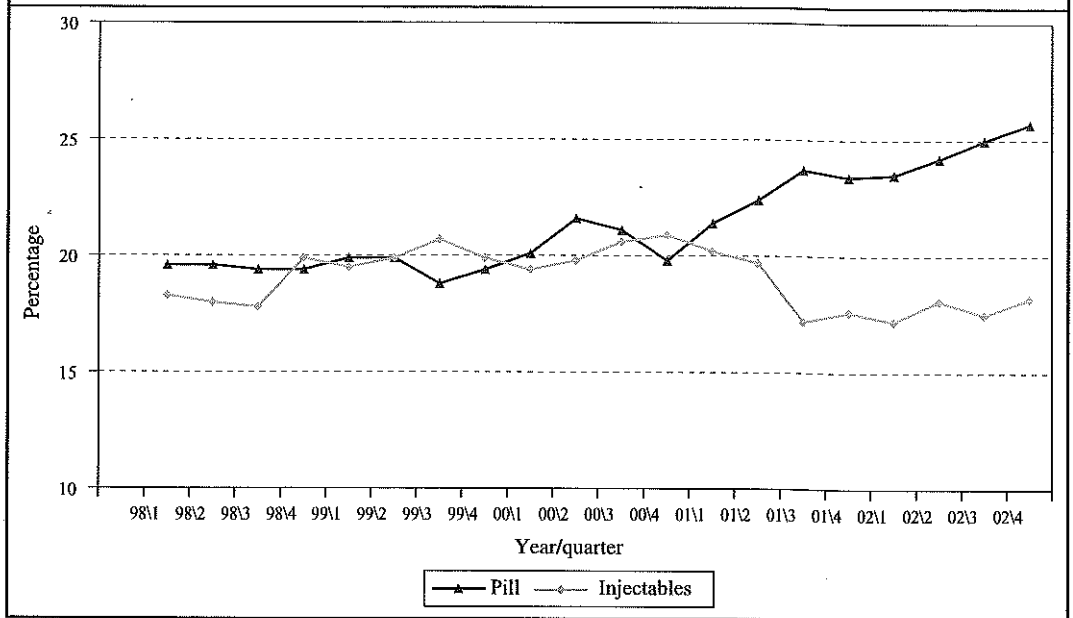

Fig. 9d. Percentage of women using other methods of contraception in Abhoynagar (non-CC wards)

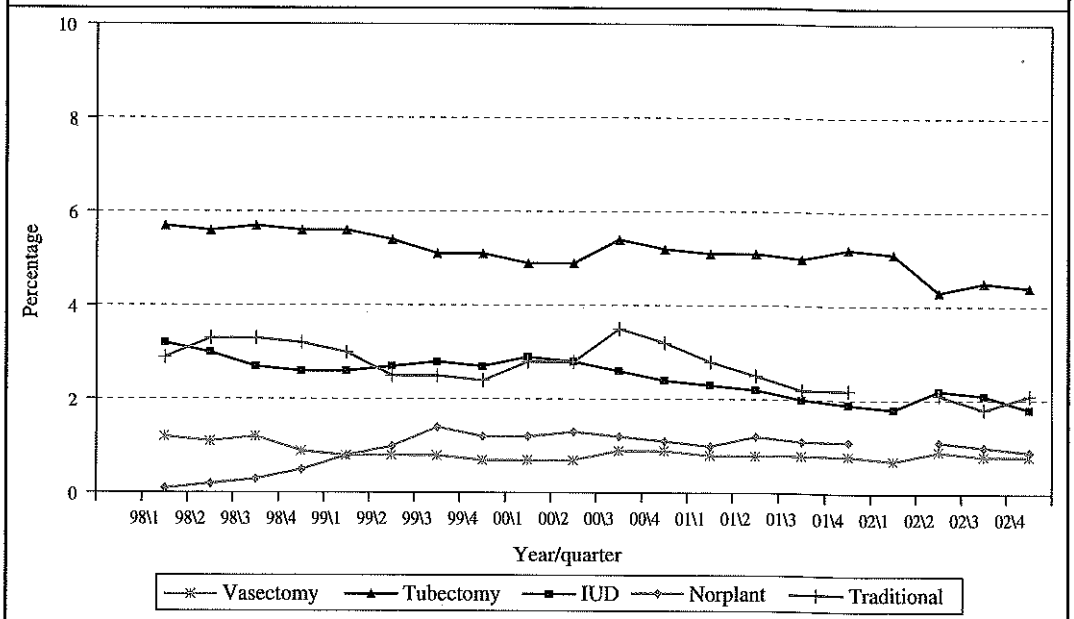

Fig. 9e. Percentage of women using pills and injectables in Mirsarai (CC wards)

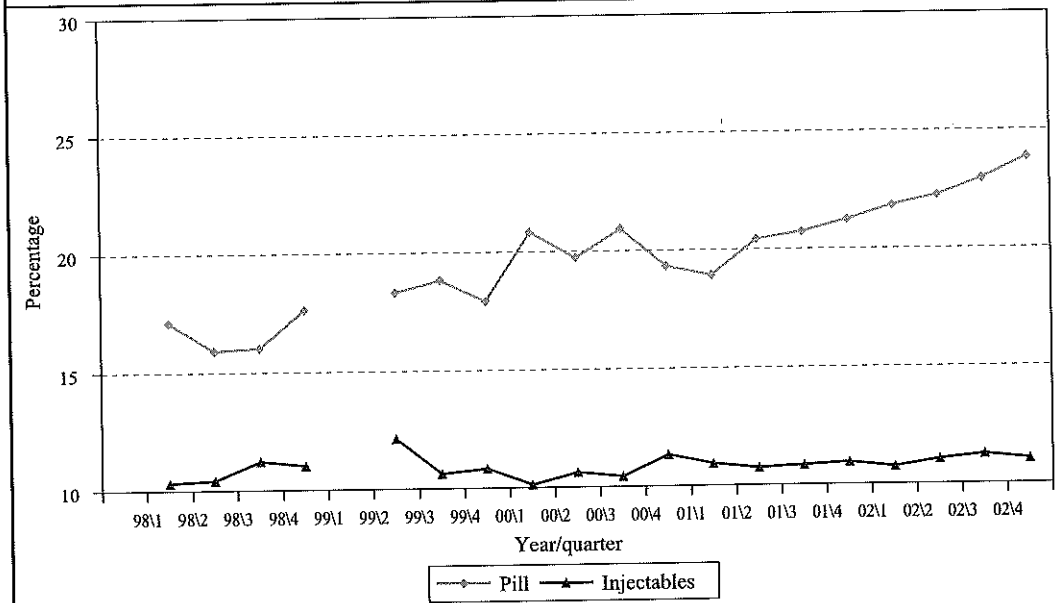

Fig. 9f. Percentage of women using other methods of contraception in Mirsarai (CC wards)

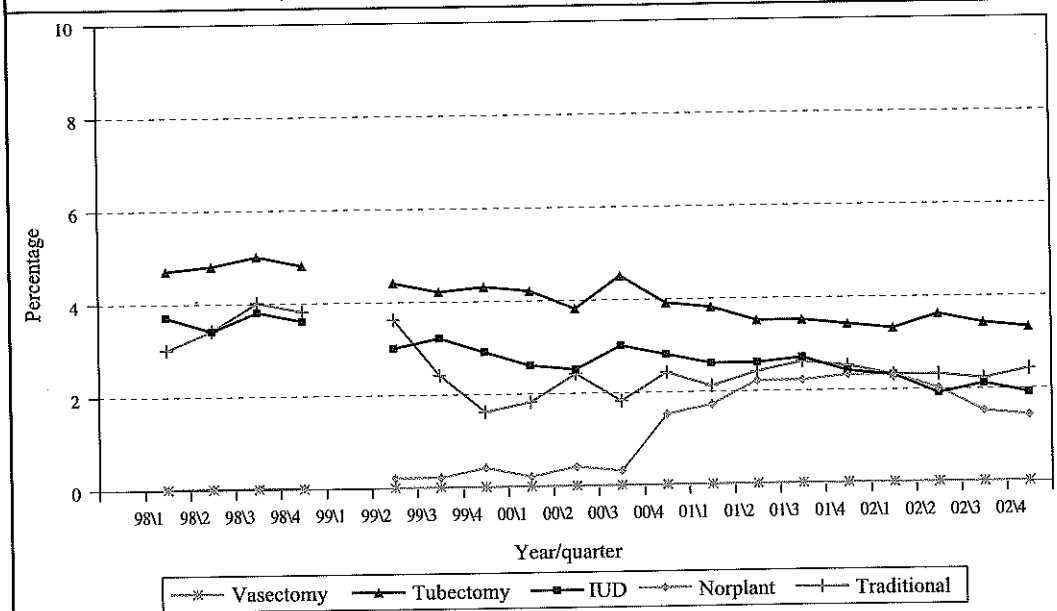

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Fig. 9g. Percentage of women using pills and injectables in Mirsarai (non-CC wards)

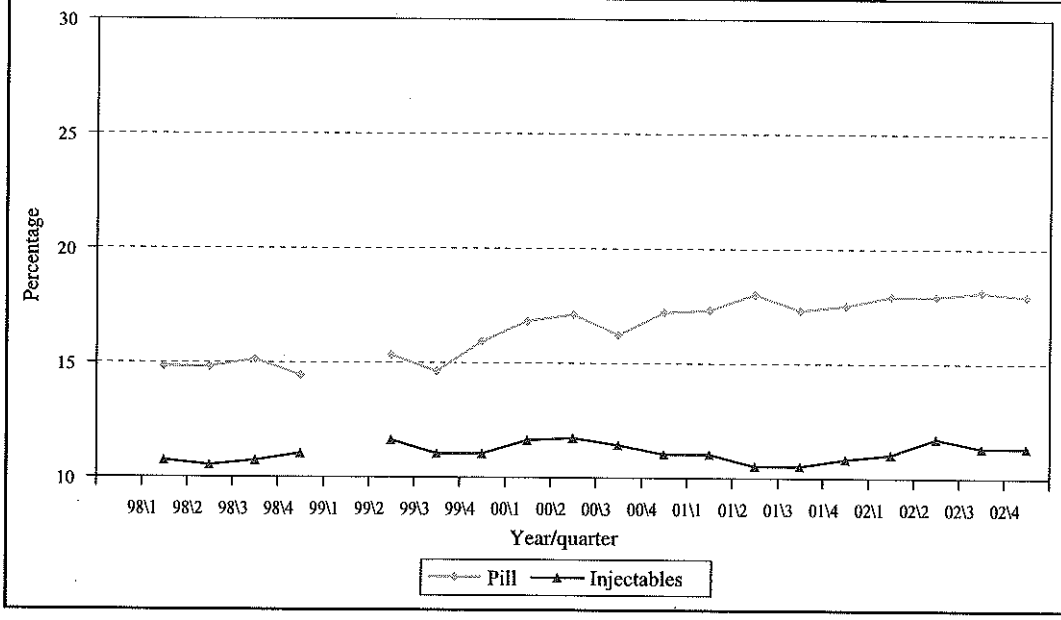


Fig. 9h. Percentage of women using other methods of contraception in Mirsarai (non-CC wards)

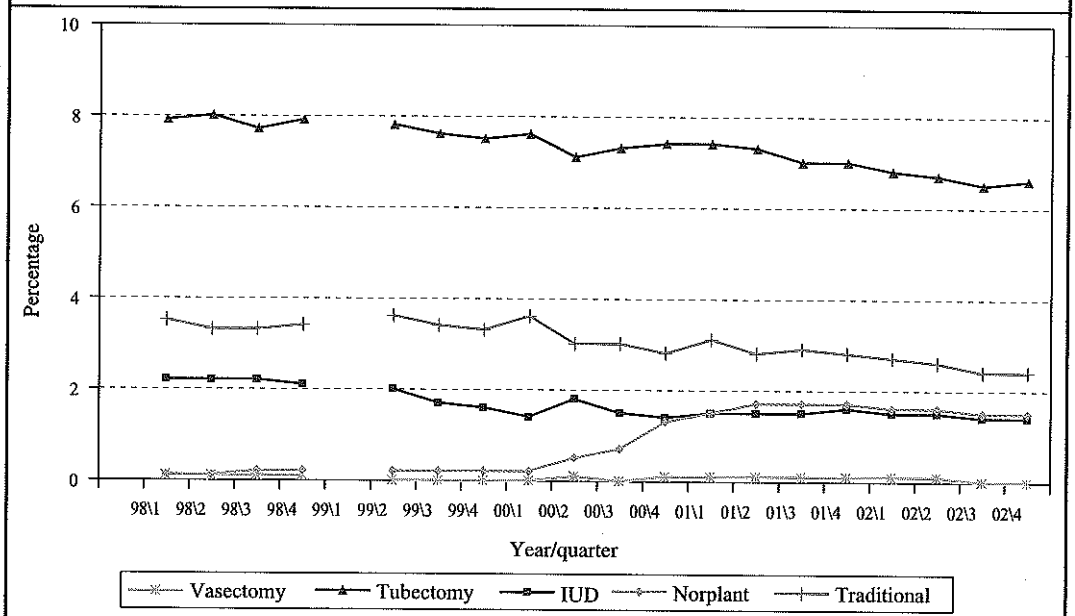


Fig. 10a. Percentage of women giving birth who received ANC from government facilities in Abhoynagar (CC and non-CC wards)

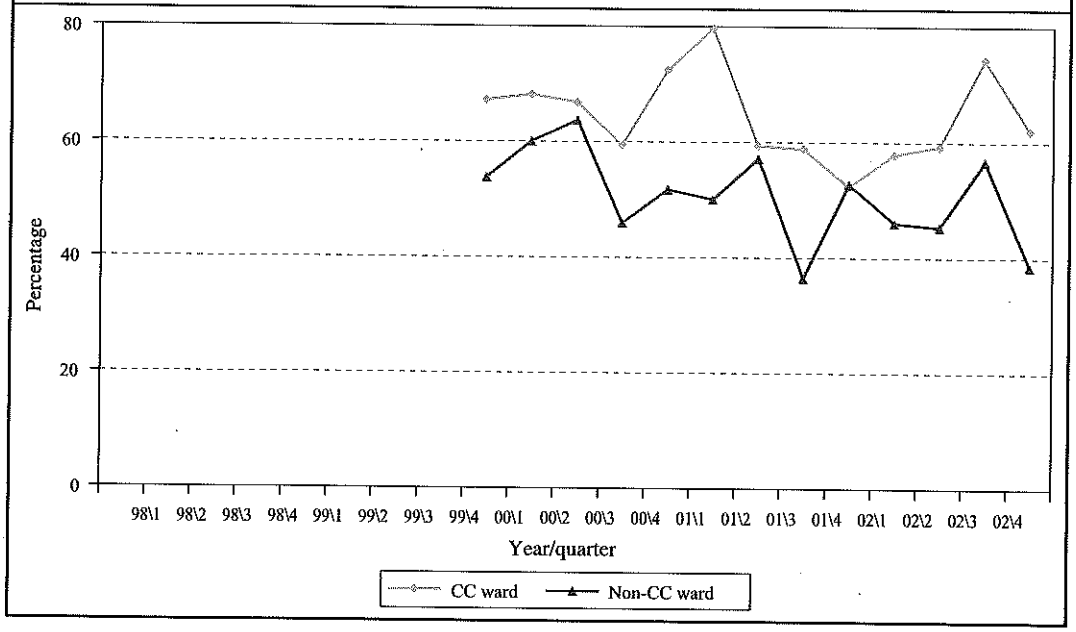


Fig. 10b. Percentage of women giving birth who received ANC from government facilities in Mirsari (CC and non-CC wards)

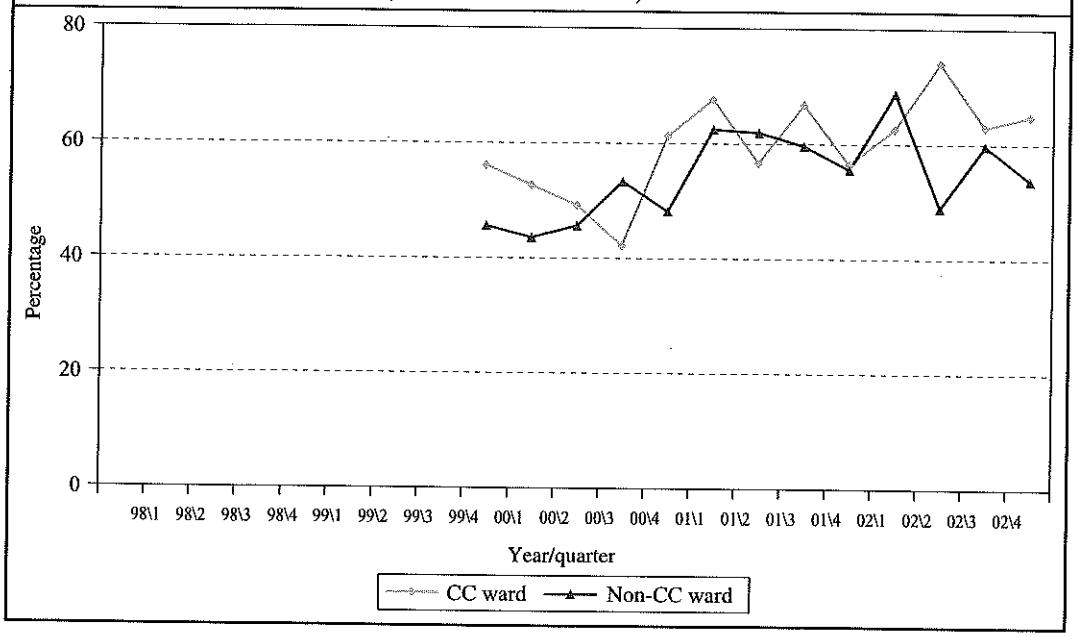


Fig. 10c. Percentage of women giving birth who received ANC, by source, Abhoynagar (CC wards)

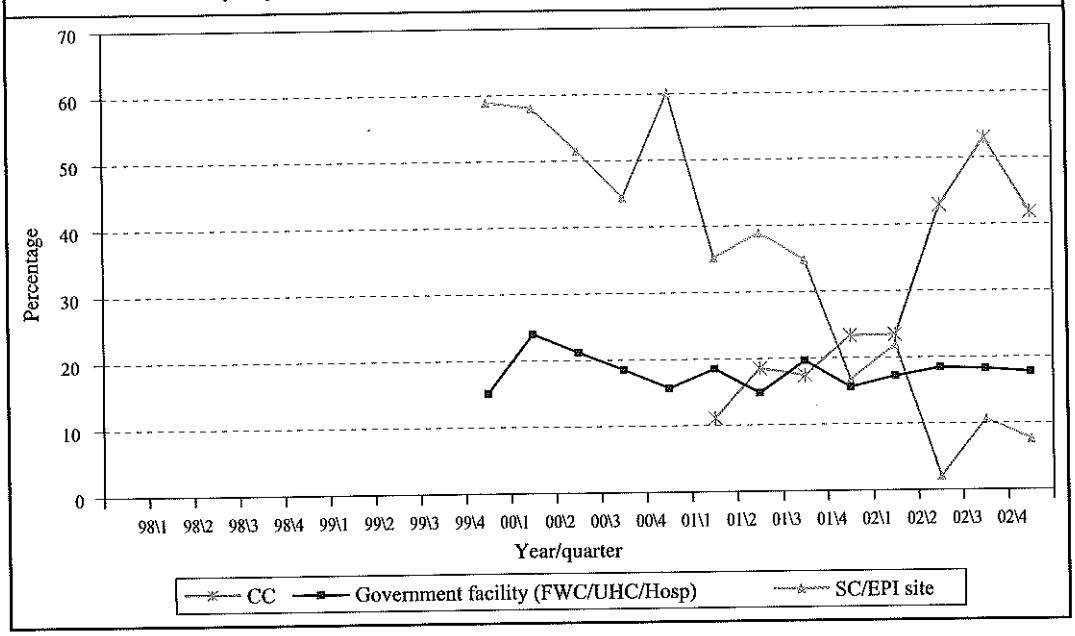


Fig. 10d. Percentage of women giving birth who received ANC, by source, Abhoynagar (non-CC wards)

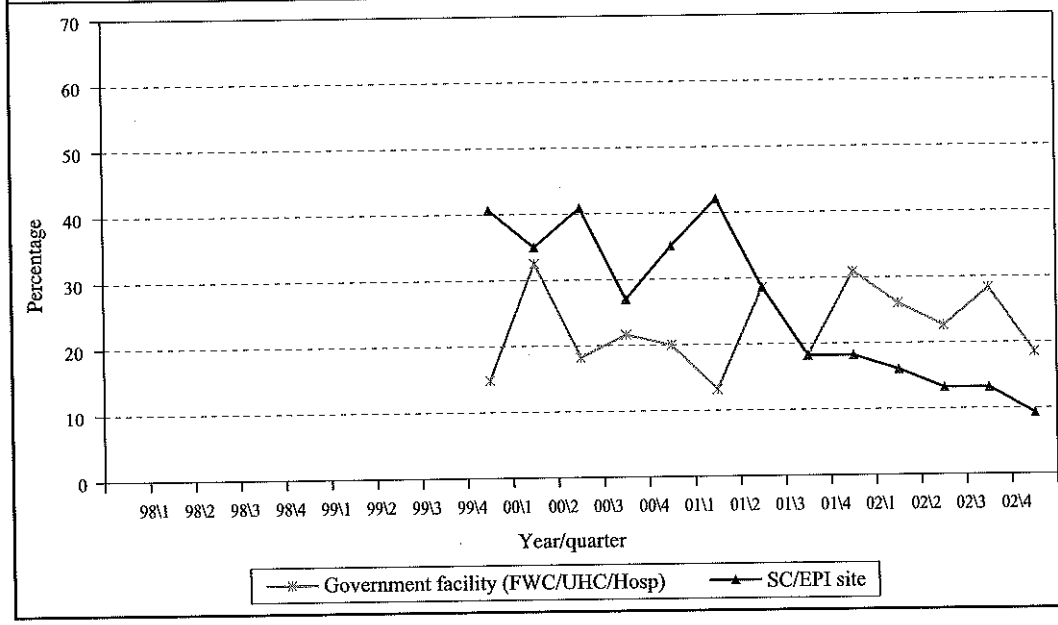


Fig. 10e. Percentage of women giving birth who received ANC, by source, Mirsarai (CC wards)

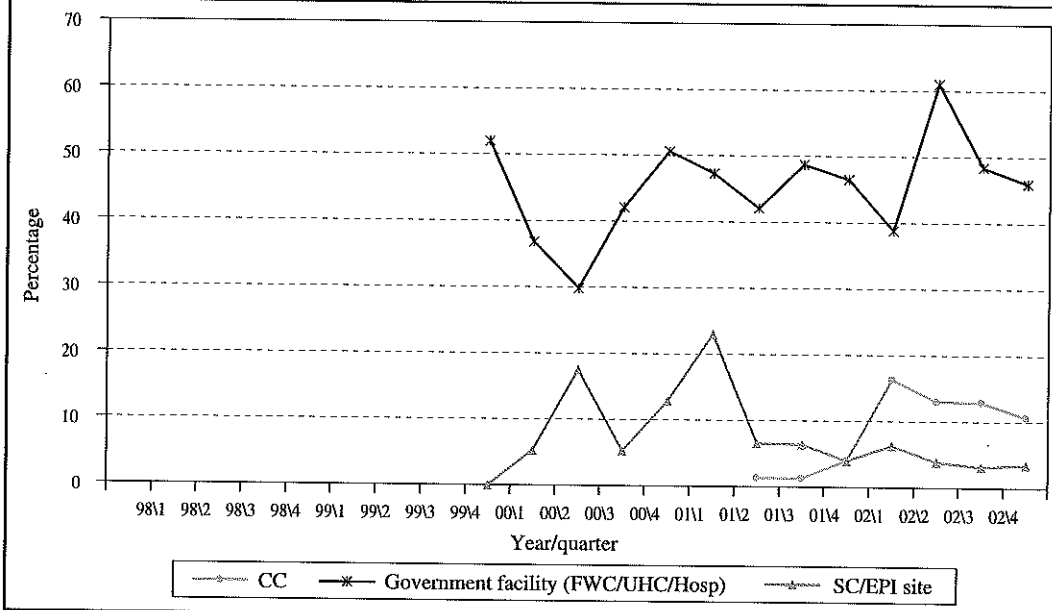


Fig. 10f. Percentage of women giving birth who received ANC, by source, Mirsarai (non-CC wards)

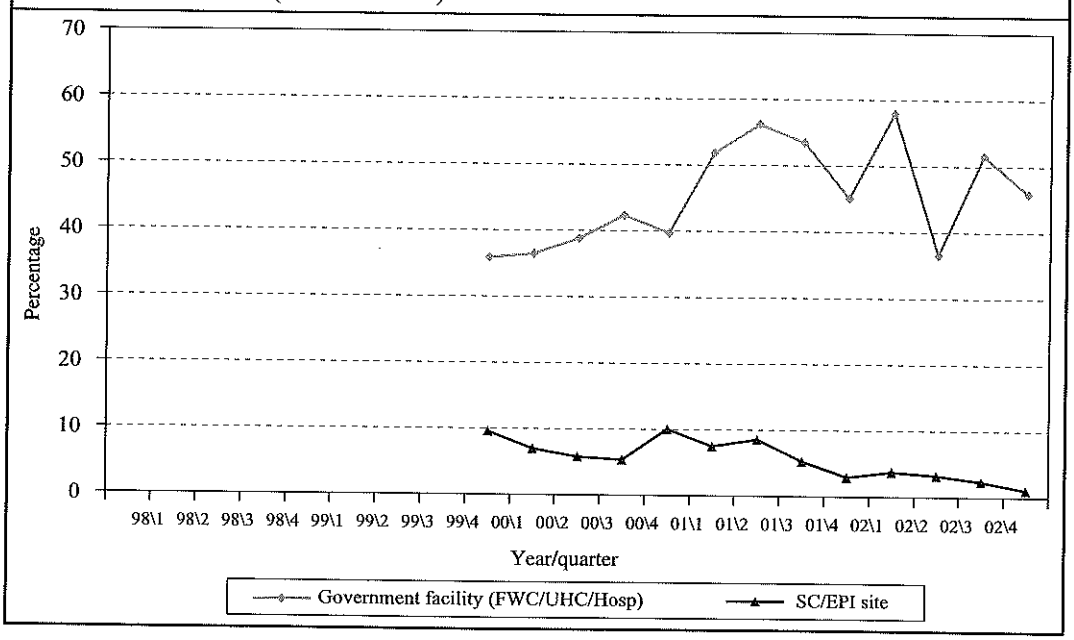


Fig. 11a. Percentage of children, born in a quarter, who received BCG vaccination by age 12 months in Abhoynagar (CC and non-CC wards)

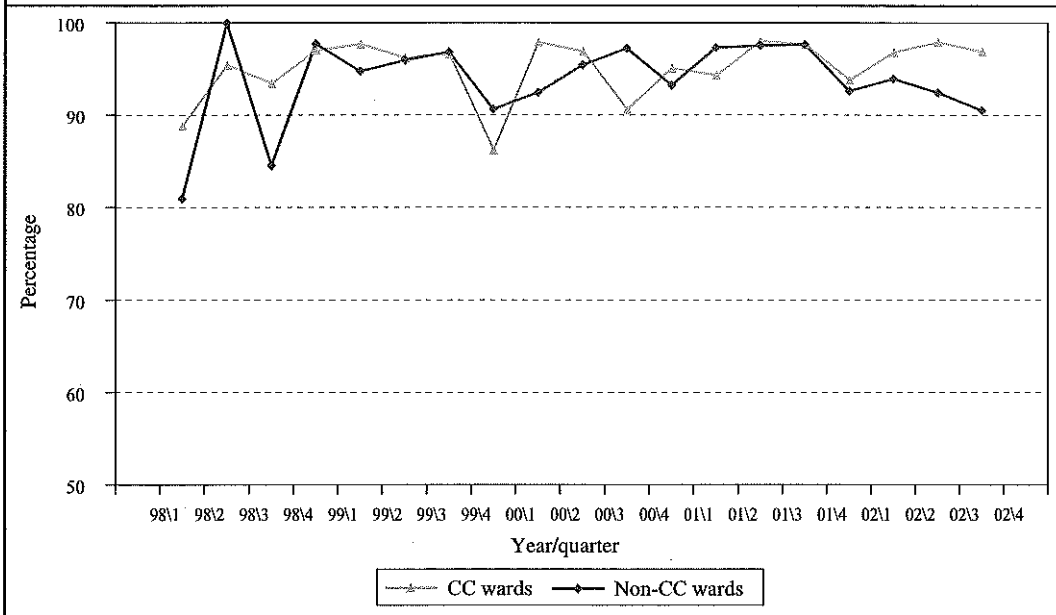
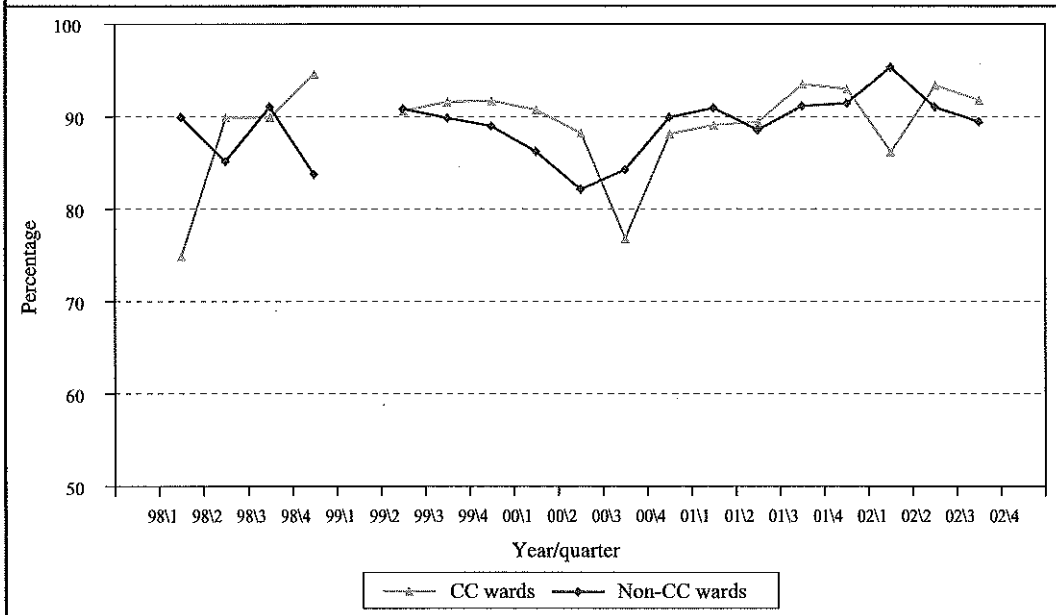


Fig. 11b. Percentage of children, born in a quarter, who received BCG vaccination by age 12 months in Mirsarai (CC and non-CC wards)



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