An Evidence-Based Policy Brief

Optimizing the Use of Antenatal Care Services in Cameroon

This Evidence-Based Policy Brief was prepared by the Centre for Development of Best Practices in Health (CDBPH) a research unit established at the Yaoundé Central Hospital as partners of the Evidence Informed Policy Networks (EVIPNet) Initiative of the World Health Organization.

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Key messages

The problem

- Close to one million pregnant women expected every year in Cameroon should attend at least four antenatal care (ANC) visits to reduce the suffering endured by the families of those 4500 women dying every year from childbirth. Skilled attended delivery rate is only 61.8%. In 2010, 85% of pregnant women attended at least one ANC visit on average; they were 60% attending at least four and 35% attended the critical first quarter visit. A hallmark of inequity in this context is the strong link between optimal use of ANC services and household purchasing power illustrated by the perfect matching of poverty and ANC services utilization maps.
- This situation greatly reduces the impact of priority interventions within the framework of the Campaign for Accelerated Reduction of Maternal Mortality in Africa (CARMMA). User fees constitute one strong barrier to access heavily subsidized services and commodities to eliminate mother to child HIV transmission, prevent and treat malaria, reduce the prevalence of anaemia and malnutrition, increase the use of appropriate obstetrical and neonatal emergency care. The failure to timely initiate the ANC continuum is jeopardizing the prospects for reducing maternal and infant rocketing death tolls in Cameroon.
- Globally, underlying factors to non-optimal use of ANC services are individual, familial, organizational and systemic (e.g., woman and spouse educational level, marital status, incomes, age and parity, obstetrical history, religion). Interference of individual characteristics with predominant beliefs, perceptions and socio-cultural practices usually determine how effectively ANC services are used. In turn, the availability, quality and physical, cultural and financial accessibility of ANC services influence its utilization. In Cameroon, the under-utilization is primarily consequential to: (i) user fees converging with the rampant poverty in rural areas; (ii) the limited provision of quality ANC services emanating from the understaffing of rural health centres and; (iii) few socio-cultural constraints.

Options

- Option 1: Remove user fees for accessing ANC services;
- Option 2: Revive ANC mobile units in rural health areas in order to reduce cultural and physical barriers;
- Option 3: Support community engagement in favour of the ANC continuum (e.g., ANC services, Emergency Obstetrical Care and Emergency Neonatal Care).

Considerations for implementation

- Option 1: Foreseen decrease in revenues for health facilities and staff incomes will require a financial compensation based on their actual performance using indicators such as the number of women completing optimal four prenatal visits and the skilled birth attendance rate; the ignorance about ANC continuum can be curtailed by sensitization campaigns.
- Option 2: Allocating ear-marked resources for ANC mobile units and introducing pay for performance for public health tasks can counter reasonably predictable barriers such as health professional resisting the change, the absence of transportation means in health centres and the low motivation amongst care providers.
- Option 3: Timely and purposeful campaigns of information, education and communication through women’s associations, media and worshiping places can reduce ignorance and sustain community engagement.
The problem

Background

This brief is a contribution to deliberations aiming at fostering the use of antenatal care (ANC) services by pregnant women in order to reach the optimum recommended by WHO (e.g., four prenatal visits, one per quarter including one just before delivery) within the framework of the Campaign for the Accelerated Reduction of Maternal Mortality in Africa (CARMMA) in order to guarantee the critical ANC continuum that creates the environment conducive for reducing maternal and infant mortality. After the magnitude of the problem, its consequences and underlying factors, we describe three contextualized evidence-based options drawn from systematic reviews and considerations for their implementation. The specific aspects related to the quality of ANC services are to be addressed in a different brief.

The optimal use of ANC services alone (Villar et al., 2001; Carroli et al. 2001; Prual et al. 2002) far from guaranteeing a fortunate progress of the pregnancy, constitutes the critical node for initiating the ANC continuum and one of four pillars for safe motherhood enterprise (Bhutta et al., 2005) geared at reducing maternal and neonatal mortality whose rates reach as high as 1000 per 100 000 live births and 31‰ respectively (Ministry of Health, 2011). As a matter of fact, ANC visits are opportunities to sensitize pregnant women and their spouses on warning and danger signs, to early detect and treat at-risk conditions and to increase skilled delivery attendance (Prual et al., 2002; Ndiaye et al., 2005; Mbuagbaw & Gofin, 2010). Optimal and quality ANC services offer several interventions beyond the pregnancy context to include the adoption of a healthy lifestyle and the fight against malnutrition in addition to initiating the care continuum that reduces maternal and neonatal morbidity and mortality (Bhutta et al., 2005). Ideally, the planned visits at the 12th, 26th and 36th week of amenorrhea aim at: (i) screening three major risks: uterine scar, breach presentation and premature rupture of membranes; (ii) preventing, screening and treating complications such as pre eclampsia, infections (e.g., malaria, venereal diseases, HIV, tetanus, urinary tract infection), anaemia, micronutrient deficiency, gestational diabetes; and (iii) providing counselling, support and information to pregnant women and family members including the spouse on warning and danger signs and the preparation of delivery (Prual et al., 2002). ANC services are critical to the success and impact of government subsidies in the fight against HIV/Aids, malaria, sexually transmitted infections including syphilis, anaemia in particular sickle-cell anaemia, the reduction of perinatal mortality and the improvement of child survival. If geographical access to health centres providing comprehensive and quality care package has improved as a consequence of being a priority for the government, increasing the financial accessibility is still a huge challenge given the high level of financial poverty (55% in rural areas), the required user fees and the rising privatization of ANC services, notably in the informal sector. Supporting the demand-side to improve the utilization of health services has now become a priority for the government (Ministry of Health, 2010; World Bank, 2008).

Extent of ANC services underutilization

The situation concerns 970 306 pregnant women expected every year in Cameroon, their spouses, the families and friends of the 4500 women and girls who die every year from childbirth. The national average is estimated at one single ANC visit per pregnancy for 83.3 to 85% of parturient women, among who only 60% have attended at least four visits (INS, 2011; World Bank, 2011). In 2009 and 2010, only 35% of pregnant women have attended the first quarter ANC visit, i.e. before the end of twelve weeks of amenorrhea. Missing this first visit increases maternal morbidity and mortality and mortgages a whole ANC process (Ministry of Health, 2011; Bhutta et al., 2005).
The government has subscribed to many pledges and initiatives in order to reach the Millennium Development Goals 4 and 5, among which the increase and improvement of geographical coverage of ANC services and the launching in 2010 of the Campaign for Accelerated Reduction of Maternal Mortality in Africa (CARMMA) within the framework of the reproductive health programme of the 2001-2015 health sector strategy. Among other measures are : subsidies and gratuities of many ANC components such as HIV testing, provision of antiretroviral therapy, tetanus vaccination, provision of vitamin A supplements, intermittent preventive treatment of malaria, insecticide-treated nets, strengthening of emergency obstetrical and neonatal care including caesarean kits etc. (Ministry of Health, 2010).

The national average of ANC services utilization rate hides a blatant regional disparity, an urban/rural gradient of 96%/76% for a visit during pregnancy with a more favourable gradient for households that are economically better off. The estimates of unmet ANC needs are higher than 40% in the East, North West, West and South Regions. In all the Regions, there are a significant proportion of women who don’t attend any ANC visits with higher concentration in the Centre, Far-North, Littoral, Adamawa, North-East, West and South-West Regions. Half of the women attend ANC visits in an informal health facility or through traditional birth attendants (Ministry of Health, 2009; 2011). The underutilization is mainly observed amongst young, poor and rural households (World Bank, 2011).

**Consequences of non optimal ANC services utilization**

An optimal ANC services utilization rate estimated at 60% strongly reduces the anticipated impact of all the measures for safer motherhood within the framework of the CARMMA. The financial efforts to eliminate the mother to child HIV transmission, to control malaria, to fight against anaemia and malnutrition are compromised for a high proportion of costly inputs purchased with public funds become outdated in health facilities. HIV differential prevalence among parturient women screened during ANC visits and those screened in labour room is estimated at 7.4% and 16.6% respectively (Ministry of Health, 2009; 2011); this means thousands of missed opportunities to prevent mother to child HIV transmission. 40% of Cameroonian women of childbearing age are anaemic (INS, 2011) and 51% of pregnant women are anaemic too (World Bank, 2011); anaemia increases and aggravates bleeding during childbirth – one of the main causes of maternal mortality which is preventable through effective interventions such as nutritional monitoring, proper iron and folates supplementation during pregnancy. Only 26% of women completed their intermittent preventive treatment (IPT) for malaria, i.e. at least two doses of Sulfadoxin Pyrimethamin during pregnancy while stocks lapse at the National Centre for the Supply of Essential Drugs and consumables (CENAME) and its regional centres (Ministry of Health, 2010).

The non optimal use of ANC services impacts pregnancy outcomes in several ways including: (i) obstructing the initiation of ANC continuum which is one essential link for reducing maternal and perinatal morbidity and mortality (Bhutta et al., 2005); (ii) lowering skilled attended delivery rates (averaging 61.8% nationwide with a lowest 29% in the North Region). The four poorest regions financially speaking and with the highest rate of understaffed health facilities contribute to more than ¾ to the 4500 maternal deaths recorded every year. Thus, while 1.5% of women die of pregnancy complications in the Littoral, they are 5.9% and 6.7% in the North and Far North respectively. The utilization rate of mosquito nets among pregnant women is 15.4% in urban areas and 10.2% in rural areas, the lowest rate being observed in the North Region. The skilled attended delivery rate is 29.3% on average in the three northern Regions against 71.9% in the Centre Region (INS, 2010).
The underlying factors to ANC services underutilization

The underutilization of ANC services in developing countries has been the object of contextual analysis (Bloom et al., 1999) and systematic reviews clarifying the underlying factors (Bhutta et al., 2005; Say & Raine, 2007; Simkhada et al., 2008). At the individual and family level, the crucial factors are: (i) education of the woman and spouse, (ii) marital status, (iii) household income, (iv) employment of the woman, (v) exposure to media, (vi) obstetrical complications history, (vii) parity, (viii) age, (xi) religion, (x) cultural beliefs and (xii) perceptions of the pregnancy.

The availability, the physical, financial and cultural accessibility as well as the perceived quality of health care services determine the effective and optimal utilization of ANC services. Young age, low incomes, low educational level and direct payments at the point of care to access services constitute barriers whose relative influence varies according to context. Critical environmental elements are poverty, health care organization and socio-cultural norms governing the status of women in the society, especially the status of the pregnant woman. One systematic review concludes that it is imperative “to assess the contextual causes of the use of maternal health care if we want to reach the objective of safe motherhood in developing countries”.

In Cameroon, the predominant underlying factors include: (i) the income poverty (55% in rural areas) contrasting with the requirement of direct payments to access ANC services (World Bank, 2008); (ii) limited supply of quality ANC services especially in rural areas abandoned by caregivers for several reasons (Mba et al., 2011) and; (iii) the socio-cultural barriers that hinder the woman autonomy to decide for herself (Africa Progress Panel, 2010; Ministry of Health, 2011).

Financial barriers

ANC services are preventative care for which pregnant women are charged user fees according to the cost recovery scheme meanwhile the State heavily subsidizes the majority of ANC components. User fees for accessing prenatal visits vary from XAF 600 to 20,000 (Ministry of Health, 2011), even though 39.9% of the national population and 55% in rural areas live below the poverty line (INS, 2010). The economic affluence has therefore become a predictor of the optimal use of ANC services (World Bank, 2011). Household poverty profile perfectly matches with the non optimal ANC services underutilization. A recurrent popular complaint during the preparatory phase of the Growth and Employment Strategic Paper (GESP) and during the second Public Expenditures Tracking Survey (PETS2) relates to user fees to access health care services for women and children (Commeyras et al., 2006; MINEPAT, 2010; INS, 2010). Moreover, the intensity of poverty is higher among women in regions with lowest utilization rates (INS, 2010). Despite the “modest” fees requested for antenatal consultation, there remain too high for rural women usually excluded from the “cash” economy for several reasons (INS, 2010). In contrast, public investment in grants and positioning of inputs is costing billions for it is planned assuming an optimal utilization of ANC services. Disparities in service use are related to poverty in the Adamawa, Far North, East and North regions where extreme poverty index reaches 31% in the North and 41% in the Far North. ANC costs are added to those of transport in rural areas because of the low geographical coverage (Mbuagbaw & Gofin, 2010). There are serious ethical and equity concerns, herewith a national health system where hundreds of thousands of pregnant women who contribute to the expansion of the Nation are deprived of preventive services because they cannot afford the user fees to access services and medicines already subsidized by the State.

Insufficient supply of quality ANC services
Efforts to improve geographic access to health centres within an hour’s walk are contrived because of the misdistribution of human resources in rural health centres and the poor technological infrastructure in these health centres. The population to caregiver ratios (e.g., 9,245 per doctor and 1,806 inhabitants per nurse) actually mask an uneven regional distribution (e.g., 3,647/doctor in the Centre - 61, 873/doctor in the Far North; 2,036/nurse in the West - 7,700/nurse in the Far North). The economically richer regions (Centre, Littoral and West) concentrate 59.75% of the personnel to serve 42.14% of the total population thus leading to an unequal access of citizens to the minimum package of priority interventions whose quality ANC is compromised (e.g., 25% of doctors and 38% of nurses are practicing in rural areas to serve 46% of the population; tens of integrated health centres are closed or operate with a caregiver and a pharmacy clerk) (Mba and al., 2011). Overall, in Cameroon there are 18 health providers/10,000 inhabitants which are below the minimal 23 health providers/ 10,000 recommended by WHO.

Anthropological studies emphasize the inhospitality of the hospital (Jaffré & Olivier de Sardan, 2003), its characteristic way of amplifying social inequalities and the importance of social networks in access to care (Socpa & Djouda, 2011). The anonymous patient is subjected to long waits, unofficial additional expenses and he ends up with a lower quality consultation. This also applies to ANC services, thus justifying the frustration and dissatisfaction of women (Mburano, 2007) in particular because of: (i) lack of confidentiality, the consultation taking place in a ward; (ii) lack of courtesy from the staff, some women being humiliated and ridiculed; (iii) long waits and sometimes, botched consultations. Some women do not tolerate the presence of male caregivers, especially when harassed for failing to comply with the schedule of visits (Beninguisse et al., 2005). The quality of ANC services is different from a health facility to the other, from a health district to the other and from the public to the private sector (Mburano, 2007). ANC services are offered in public health facilities where the user satisfaction level is far from optimal according to the PETS2 survey: 14% undecided and 19% dissatisfied (INS, 2010) or in informal health facilities where profit-seeking takes precedence over ability and quality.

If the direct relationship between the frustration of users and the utilization of ANC services remains insufficiently elucidated, the reduction to a strict minimum of the number of prenatal visits per woman and its association with parity reflect an environment that inflicts "Stations of the Cross" to women (Socpa & Djouda, 2011). It can be distressing to a pregnant woman to stand the maximum one hour walk to reach a health centre; in certain health areas, they have to trek 15 km because of the absence or scarcity of means of transport without the guarantee of finding the nursing staff in place. Therefore, attending an ANC visit can sometimes mean a day away from home, whereas there are pressing family duties to feed siblings and spouse.

**Socio-cultural barriers**

It is difficult for women with low education to understand why they have to pay when the pregnancy is not considered as a disease. Illiteracy rate and the socio-cultural representations of pregnancy are obstacles to attending health facilities (Say & Raine, 2007). In Cameroon, as elsewhere in Africa, the educational level of women is associated with optimal utilization of ANC services (Ministry of Health, 2011). The EDS-MICS4 survey reveals that in 2010-11, 60% of women with no education received antenatal care during the pregnancy of their youngest child. On the other hand, this proportion reaches 89% among women with primary education and at least 98% when the mother has secondary or higher education. Regions most affected are the North, Far North, East, South, South-West and North-West; in those regions, the age of the first pregnancy is lower than the national average. Teenagers, rural women, refugees, nomads and the pygmies are the most marginalized from access to ANC services (INS, 2011). The age of the first
pregnancy is associated with poverty, 65% of poor women aged 20 to 24 have had their first child before the age 18 as against 21% for those wealthier (World Bank, 2011).

The social image of the pregnancy and the issues surrounding the status of women in the function of perpetuating the family or the ethnic group generate various dynamics which place the hospital at the bottom of the concerns of a family which is poor or uneducated. If pregnancy in Africa is seen as a "delicate" state, the risks are generally of an ontological register unknown to the conventional medicine; on the other hand, little is known of the biomedical risks whereas warning and danger signs are ignored. Pregnancy is neither an illness, nor a condition favourable for the development of diseases, but a natural reality (WFPHA, 1984). Representations of the origin of children give pregnancy a spiritual essence and the initiation of a preventive therapy, constituted of various precautions and rituals, divinatory consultations, prohibitions and dietetic and behavioural prescriptions. The beginning of the pregnancy should be managed in the absolute discretion to protect the outcome of evil forces, which undermines the use of ANC during the first quarter (Beninguisse, 2003 ; Beninguisse et al., 2005). To these constraints is added the requirement for the pregnant woman to be “strong”, i.e. “to manage her pregnancy without complaint”. In this environment, the decision of seeking care, for many women capable or not to measure the risks associated with pregnancy and to pay for care, often requires negotiation with the spouse, the mother or the in-laws etc.; the pregnant woman is rarely the person deciding to use the ANC services. In fact, attending prenatal visits strongly depends on social institutions - customs, social networks, symbolic representations of pregnancy and childbirth, and openness to modernity (Beninguisse, 2003).

Options

The reduction of maternal mortality in Africa lies in the optimal implementation of the continuum of interventions geared at improving the quality and accessibility of health care services (Bhutta et al., 2005 ; De Brouwere, 2008). The CARMMA strategic plan fully addresses issues related to the quality of obstetrical and neonatal care, whereas the user friendly aspects of supply and its affordability for optimal use of prenatal services deserve more attention.

Option 1: Remove user fees for accessing ANC services

This option is based on arguments of equity, ethics and economic efficiency. The justification to charging user fees for accessing ANC services (preventive services similar to child immunization) is very thin, especially if it obstructs access to services and commodities otherwise heavily subsidized by the State in an attempt to eliminate mother to child HIV transmission, reduce the burden of malaria, to fight against malnutrition and anaemia etc. whose coverage rates remain below the set targets (Witter et al., 2008). A World Bank study concluded that user fees, despite their marginal contribution (5-10%) to the financial needs of African health systems, were so detrimental to services utilization (Ridde & Morestin, 2008).

The evidence on mechanisms to improve the financial equity in health services confirm that user fees at the point-of-care prevent the poorest to access health services. Gratuity for the users and mandatory insurance mechanisms are the most effective alternatives; conditional cash transfers and performance contracting have not proven effective in sub-Saharan mainly because barriers are primarily financial not attitudinal as in Latin America (Lagarde & Palmer, 2006). Targeted exemption policies are contrived by coping and petty corruption and the users ignoring their rights (Ensor & Ronoh, 2005).
**Expected impacts:** Free HIV voluntary counselling and testing services have increased the use of prevention and treatment services despite the burden of stigma associated with HIV/AIDS (Eboko et al., 2010; Desclaux et al., 2011). The efficiency might be higher with the use of ANC services since pregnancy is socially more appreciated and valued than HIV/AIDS. Gratuity would simplify the therapeutic choices by making ANC services less attractive for the informal sector which has turned it into a gainful activity (Commeyras et al., 2006; World Bank, 2008). Gratuity improves the use of health services by the poor (De Brouwere, 2008; Ridde & Morestin, 2008). Removing user fees may increase the use of services by 17% to 80% for all social strata, in particular amongst pregnant teenagers and women. Countries that have made ANC services free of charges have witnessed an increased number of deliveries in health facilities and the use of traditional birth attendants’ services has declined drastically (Lagarde & Palmer, 2006).

**Acceptability of the option:** The improved attendance may be accompanied by an increased workload (Lagarde & Palmer, 2006) which the staff might disapprove in the absence of compensatory measures. In South Africa, nurses interviewed after the decision to make ANC services free of charge revealed their satisfaction to accomplish their duty honestly, but 70 to 80% felt exploited, overworked and were planning to resign (Walker & Gilson, 2004). This option could lower the staff motivation for promotional and preventive services due to overwork. This option also means a reduction of revenue for health facilities, which the members of management committees and the managers of mutual health insurance related to public health facilities may find objectionable. In Cameroon, there already exist an effective model for immunization services, HIV/AIDS clinics (UPEC) and tuberculosis treatment centres that could be extended to ANC services to make up for the "financial losses".

**Option 2: Revive ANC mobile units in rural health areas in order to reduce cultural and physical barriers between supply and demand.**

In order to meet the difficulties of transport in rural areas and promote cultural conviviality, it is possible to come back to periodic mobile ANC interventions; that strategy has resulted in increased immunization coverage (Partapuri et al., 2012). Kenya and some developed countries have successfully tested the home visit approach for pregnant women by health professionals or community health workers (Edgerley et al., 2007; Oakley et al., 2009). Home visits have for example allowed an increased access to ANC services during the first quarter; they also offer an opportunity for cultural adaptation of ANC services and can promote community involvement and interaction with traditional birth attendants whose are still very much present (Sibley et al., 2007). This option suggests ANC services stripped of hospital bureaucracy and culturally integrated (Wallace et al., 2012). Community-based interventions are effective against maternal morbidity with a reduction of around 25%, a 40% increase in referrals to health facilities, a 24% reduction in neonatal mortality with 16% reduction in mortality at birth and 20% of perinatal mortality (Lassi et al., 2010; Lee et al., 2009).

**Acceptability of the option:** outreach and mobile strategies are already implemented for vaccination and other health interventions, it is accepted by mothers who bring their children and the health workers are accustomed to it. The only constraint would be the means of mobility and the potential restrictions related to the performance of biological diagnostics.
**Option 3: Promote community involvement for ANC, EMOC and ENNC**

Community involvement is an effective strategy to counter the cultural and social barriers identified in the use of ANC services and the initiation of ANC continuum (Lee et al., 2009). The use of media for social and collective mobilization and the commitment of the women’s associative and political leadership should help restore confidence between the biomedical ANC and the traditional care for pregnant women. Excluding the ANC services of the market sector, the collaboration between midwives, traditional birth attendants and health officials will make possible the cultural adjustments in supply of ANC services especially in the northern regions, the East and the North-West regions (Lassi et al., 2010). The women’s associative network could become a leading partner in sensitizing members and mobilize solidarity in favour of pregnant women in order to publicize the advantages and benefits of ANC in reducing maternal morbidity and mortality and the recognition of warning and danger signs. Ignorance of the risks associated with pregnancy by the people calls for an intervention focused on information, awareness and education of the populations. For a large segment of the population, the major risks of pregnancy are related to non-biomedical diseases (Bhutta et al., 2005; Jaffré & Olivier de Sardan, 2003). This situation imposes an appropriate awareness campaign using all available means - including the radio which is very present in rural areas with programs in local languages, television, mobile phones, billpostings and brochures - to disseminate culturally appropriate messages about the benefits of an optimal ANC (Grilli et al., 2009).

**Considerations for implementation**

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<td>Integrate ANC, EMOC and EMNNC as priorities during micro-planning exercises at the level of health areas and districts</td>
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