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Integration of the Extension of Coverage Program (PEC): effects on Project outcomes and lessons learned

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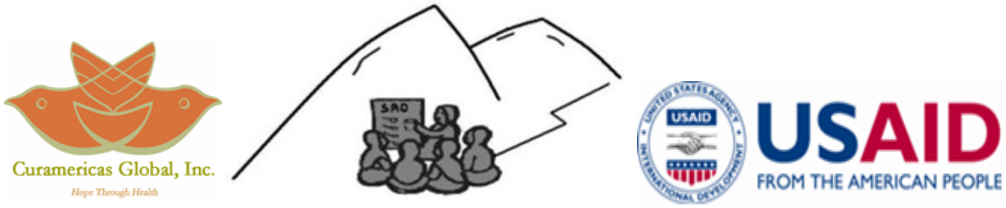

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Integration of the Extension of Coverage Program (PEC): effects on Project outcomes and lessons learned

Background. Article No. 93 of Guatemala's Constitution states that access to health care is a basic right of all Guatemalans[1]. In practice, however, it has been challenging for the Government of Guatemala to guarantee this right through publically-funded health services. In 1997, the MSPAS established a program that aimed to expand health coverage, motivated by the need to rapidly demonstrate results to meet the health provision goals of the 1996 Peace Accords. This was the *Sistema Integral de Atención en Salud* (Integrated Health Services System), or SIAS. The key service arm of SIAS was the *Programa de extensión de cobertura* (Extension of Coverage Program), or PEC, which, as its name implies, sought to extend the provision of health services in rural areas beyond the walls of the MSPAS clinics and hospitals by bringing preventative and curative health services directly into rural villages through mobile health personnel, primarily Ambulatory Nurses who make regular (usually monthly) visits to MSPAS Health Posts located in the rural communities.[2] An important feature of SIAS was decentralization: since there were already a number of NGOs providing rural health services in the country (such as Curamericas Guatemala), the Government of Guatemala decided to enter into formal agreements with them to provide a basic package of health and nutrition services, focusing mainly on children and women in rural areas that do not have access to MSPAS services. These agreements set a limit of 10% for administrative fees/overhead and included an agreed payment for services provided ranging from US$6 to US$9 per capita. The population covered by each agreement was grouped into jurisdictions, each with approximately 10,000 people. Every service provider (NGO) had to hire a basic health team consisting of a doctor or nurse (in practice, nearly always a nurse) who worked in coordination with Community Facilitators in the communities who are responsible for assisting the doctor or nurse during his or her monthly visits to communities. (Thus, Communities Facilitators pre-date the CSP, which adapted them to its methodology by engaging them in the CBIO+Care Group service platform as trainers of Care Group Volunteers and collectors of vital events data).

The PEC's basic benefits package was initially defined by a team of international experts working jointly with Guatemalan consultants. The package is oriented toward basic primary health care services and basic curative care for women and young children (Table 1)[3]:

Table 1. Four Main Services Covered by the PEC's Basic Health Package

1. Comprehensive health care for women (during pregnancy, birth, and postpartum; nutritional supplements; family planning; and cervical and breast cancer detection).
2. Infant and pre-school care (immunizations, control of common illnesses such as diarrhea and respiratory infections, nutritional deficiencies and growth monitoring for children less than two years of age).
3. Illnesses and emergency care, including cholera, malaria, dengue, TB, rabies, sexually transmitted diseases, and other diseases based on the local epidemiological profile; accidents such as fractures, burns, hemorrhages, and animal bites.
4. Environmental care covering vector control, promotion of proper waste disposal, water quality, and food and home hygiene.

[1] Constitución Política de la República de Guatemala. (Reformada por Acuerdo legislativo No. 18-93 del 17 de Noviembre de 1993)

[2] A Health Post is generally a small two-room edifice with a waiting room/meeting room and a private exam room. It is meant to be minimally stocked with a small pharmacy, child anthropometry equipment, and basic primary care supplies and equipment.

[3] Castillo, Teresa, A. Ramirez, R. Flores, J. Arrevis, M. T. Lopez, y E. Caballeros. 2012. *PEC: Informe Situacional, Periodo 1997–2012*. Guatemala

Since 1997, the PEC has expanded from three departments to 20 of the country's 22 departments, and to 206 of its 334 municipalities, increasing its coverage from 0.46 million in 1997 to 4.3 million people in 2012. The MSPAS estimated that by 2012 PEC served the health and nutrition needs of 54% of the rural population in Guatemala[4]. Aside from increasing coverage of health and nutrition services to poor rural areas, the PEC was recognized for strengthening the national primary health care system in various ways: putting emphasis in promotion and prevention rather than only curative aspects; developing private and public alliances through its *contracting-out model* and promoting strong community support by including community health actors as formal part of the health care system.

There have been few evaluations and limited evidence on the results and impact of the PEC. Among these assessments there is one carried out by the Inter-American Development Bank that estimated the impact of the program, using two waves of living standard measurement surveys which collected data before and after the expansion of the program (2000 and 2006 Guatemalan Living Standards Measurement Surveys - LSMS) to estimate program impacts. Results indicated large program impacts on immunization rates for children and prenatal care provider choices. PEC was particularly effective in re-directing pre-natal care towards trained professionals and at increasing immunization rates. Results indicate that the fraction of women receiving three or more prenatal care visits from a health profession (doctor or nurse) increased by 31 percentage points from a baseline of only 19 percent ($p-<0.05$). These changes indicate a substantial reduction in pregnancies cared for only by traditional midwives (*Comadronas*). In terms of immunization, results point to large positive impacts in coverage of BCG, Measles, Polio and DPT on the order of 13 to 21 percentage points. Taken together these results suggested the effectiveness of the PEC and a potential effective role of contracting-out in the provision of primary health care in Guatemala[5].

The CSP was implemented with the explicit aim of integrating PEC to create a new, even more powerful model of an integrated rural health system that the Project staff likened to a table with four legs, namely CBIO, Care Groups, the *Casas Maternas,* and PEC. Based on the findings of the CSP's Operational Research and Final KPC survey, the Care Groups were very successful in changing key health behaviors and generating demand for health services, and PEC contributed to fulfill this demand for services at the community level, bringing basic health services such as antenatal care, treatment of diarrhea and ARI, and immunizations for pregnant women and young children into the villages through Ambulatory Nurses. In the Project service area, Curamericas Guatemala implemented PEC in the municipalities of San Sebastián Coatán and San Miguel Acatán, and the Guatemalan NGO *Asociación de Desarollo Integral de Vida y Esperanza* (The Association for Integrated Development of Life and Hope), or ADIVES, provided PEC in the municipality of Santa Eulalia. The *Casas Maternas,* like PEC, also fulfilled demand, primarily for maternal/newborn services; and the CBIO methodology ensured equitable coverage and tracking of impacts.

The PEC was shut down by MSPAS in late 2014 for reasons that are still not clear and which likely related to the general breakdown of governmental services in 2014 and 2015 under the weight of exposures of extensive mismanagement and corruption in high levels of government, including MSPAS. Other local manifestations of MSPAS dysfunction included periodic closures of local MSPAS clinics when staff had not been paid and lengthy stock-outs of commodities, particularly oxytocin and vaccines. In November 2014 the MSPAS terminated its contract with Curamericas Global, who was compelled to lay off its PEC staff. ADIVES experienced the same termination of contract and PEC ended throughout the Project service area, depriving the integrated service platform of one of its "legs." Consequently, our investigation sought to understand 1) how PEC contributed to Project success; 2) how its termination affected Project outcomes; and 3) what were the lessons to be learned from these experiences and how PEC can be improved.

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[4] Castillo, et. al.

[5] Cristia, J., W. Evans, and B. Kim. 2011. "Does Contracting-out Primary Care Services Work? The Case of Rural Guatemala." Inter-American Development Bank

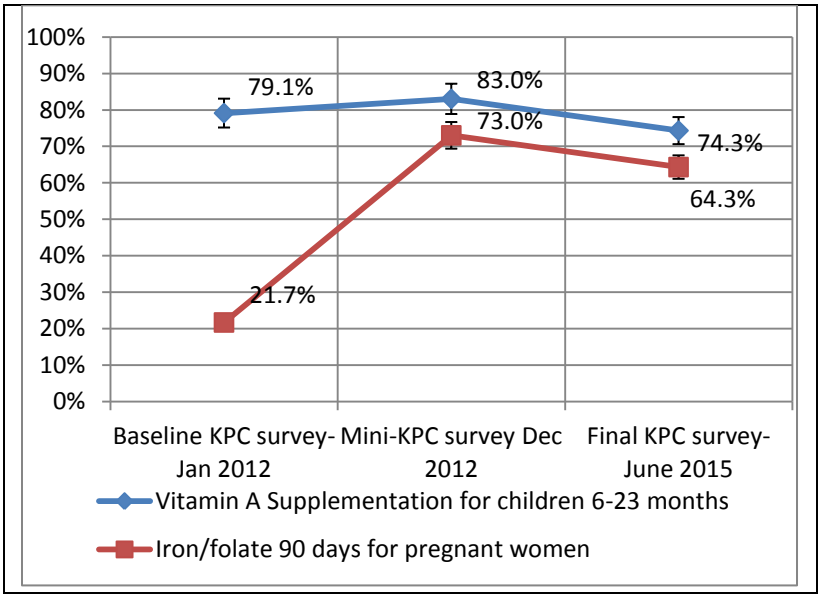
Methods. The quantitative analysis of the effects of PEC on Project outcomes utilized data from the Project's Knowledge Practice and Coverage (KPC) surveys: 1) the Baseline KPC survey conducted in January 2012 both Phase Areas (1 and 2) utilizing 30-cluster stratified cluster sampling in each Phase Area (n=300 mothers of under-2 children in each Phase Area); 2) the Final KPC Survey conducted in June 2015 in both Phase Areas utilizing the same stratified cluster sampling and same sample sizes; and 3) Mini-KPC Surveys conducted between December 2012 and February 2014 in the Phase 1 Area only. The Mini-KPC's each focused on only two or three indicators and utilized the CBIO Community Registers to randomly select the interviewees (also mothers of under-2 children) and achieve simple random sampling (SRS) with n=100 mothers of under-2 children for each survey. The indicators covered by the Mini-KPCs examined for this study included iron/folate for pregnant women and Vitamin A supplementation for children 6-23 months of age (December 2012); tetanus toxoid immunization for pregnant women and Active Management of the Third State of Labor (AMTSL) (June 2013); and treatment of children with symptoms of ARI (February 2014).

The qualitative investigation included 1) interviews with Curamericas Guatemala and MSPAS staff familiar with the work of the PEC conducted in August 2015; and 2) a review of the literature pertaining to the origin, implementation, and accomplishments of PEC.

Quantitative Findings. Monitoring of project outputs and the results of the Mini-KPC surveys administered in the Phase 1 Area between December 2012 and February 2014 revealed substantial and often statistically significant interim increases in the coverage of indicators for PEC-provided services around Project mid-term. For example, treatment of children with symptoms of ARI by a health professional had increased from 26.0% at baseline to 40.4% in February 2014 (p=0.00); iron/folate for pregnant women from 21.7% at baseline to 73.0% in December 2012 (p=0.00); and Vitamin A supplementation for children 6-23 months from 79.1% at baseline to 83.0% in December 2012 (change not significant).

But when PEC was terminated, the CSP lost the Ambulatory Nurses who provided essential health services, limiting the project's coverage of ANC, family planning, treatment for diarrhea and ARI, and immunizations. As a result, the data from the Final KPC survey revealed 1) drops in coverage (from baseline and/or from Mini-KPCs) for key PEC-provided services, some of these changes statistically significant; and 2) failure to reach expected end-of project goals for many PEC-provided services (Figures 1 and 2).

Figure 1 . Changes in coverage of Vitamin A supplementation for children 6-23 months of age and iron/folate for pregnant women, Phase 1 Area. 95% confidence intervals shown.

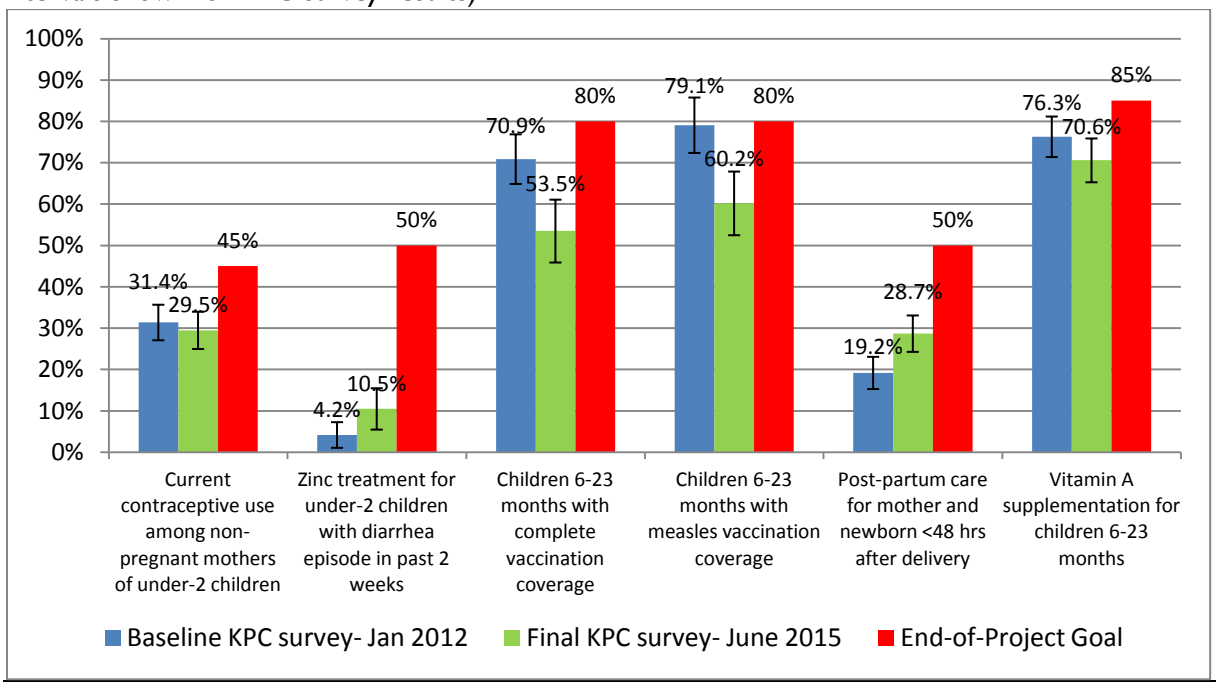


The December 2012 Mini-KPC survey showed an increase to 83.0% of the coverage of Vitamin A for children 6-23 months in the Phase 1 Area (up from baseline KPC of 79.1%) but the Final KPC survey showed coverage dropping almost 10% to 74.3% (change from December 2012 to endline significant at p=0.01) (Figure 1). The December 2012 mini-KPC also showed 73.0% coverage for iron/folate for 90 days for pregnant women in the Phase 1 Area, up from 21.7% at baseline; but the

Final KPC survey showed that it had subsequently dropped almost 10% to 64.3%, this drop from December 2012 to endline significant at p=0.02.

Loss of PEC services apparently contributed to less than expected coverage of post-partum care; no improvement in coverage of Vitamin A supplementation for children 6-23 months or contraceptive use among non-pregnant women; poor final coverage of zinc treatment of diarrhea episodes in children; statistically significant declines in coverage of child immunizations; and the failure to reach expected end-of-project levels of coverage for all of these indicators (Figure 2).

Figure 2: Coverage of indicators negatively influenced by closure of PEC, both Phase Areas combined, comparison of results of KPC Baseline and Final Surveys and end-of-project goals (95% confidence intervals shown for KPC survey results)



With MSPAS cutting off both the supply of oxytocin for the *Casas Maternas* and the Ambulatory Nurses who provided antenatal and post-partum care in the villages, some other maternal/newborn service indicators seem to have been negatively affected in coverage and/or in quality. The percentage of mothers in the Phase I Area reporting at least three elements of Active Management of Third Stage of Labor (ATMSL) during their most recent delivery showed a statistically significant improvement from 9.4% at baseline to 20.0% at endline. But at endline, 28.7% of deliveries in the Phase I Area had occurred in a health facility, revealing a gap of 8.7% that represents the percentage of all deliveries that were health facility deliveries lacking all three elements of AMTSL due to the unavailability of oxytocin. What is interesting is that, in contrast, coverage of prompt treatment for children with symptoms of ARI continued to increase in the Phase I Area, from 40.4% as detected by the February 2014 Mini-KPC survey to an endline coverage of 51.6%. This time period coincided with the addition of small pharmacies (*boutiquines*) equipped with antibiotics to the *Casas Maternas* and the treatment of infections in children by *Casa Materna* Auxiliary Nurses.

Quantitative Findings. The following findings are from the interviews with Curamericas and MSPAS staff and the literature review.

- PEC remained highly dependent on each Government of Guatemala administration's priorities and the prevailing political-economic climate. The first phase of the program (1997–99) had strong government support because the PEC was considered essential to help the country achieve the Peace Accord targets, and this contributed to its rapid expansion. While some subsequent administrations have seen the PEC as key to achieving universal access to basic health and nutrition services, other administrations have not considered it a priority, including the administration concluding its term of office at the end of 2015. Since almost all of the funds used to finance the PEC came from government revenues, and only 15% from sources external to the Government of Guatemala (e.g., foreign donors, multi- and bi-lateral organizations), the PEC was highly dependent on the whims of the current administration. The PEC's impact has thus been constrained by chronic under-financing due to variable political support. [6]

- Staff related that the program was plagued in recent years by erratic funding and cash flow, characterized by delayed payments by the MSPAS to the contracted NGO service providers, such as Curamericas Guatemala, with delays sometimes taking six to 12 months. This often impeded services and created organizational cash flow challenges. Some informants stated due to under-financing and delayed payments, some NGOs (including Curamericas Guatemala) had to cut back on services provided.

- Staff related that targets for expected services, specified in the contracts with MSPAS, were not coordinated with NGOs nor adjusted to reflect each jurisdiction's context. MSPAS dictated service targets through a top-down approach that were often unrealistic and that set up the providers for failure.

- Staff stated that the health workers union (*sindicato*) representing MSPAS employees were claiming that the resources given to NGO's were not reaching the beneficiaries.

- Staff also related that the MSPAS seemed more concerned with paperwork and reporting than actual improvements in the health of beneficiaries. "If it looked good on paper, MSPAS was satisfied." While the meeting or exceeding of service targets was rarely rewarded or recognized, the NGO contractors including Curamericas Guatemala, were regularly fined by MSPAS for minor irregularities in the voluminous reporting paperwork required through the national HMIS, SIGSA. These fines presented a serious organizational funding challenge as they could not be paid with available grant funds.

- A key factor the project staff mentioned as fundamental to the integrated rural health system model is the teamwork required to accomplish this. This model integrating the CBIO+CG methodology, the PEC program of MSPAS, and the *Casa Maternas* requires intensive teamwork between the staff of the four "legs" of the service platform, requiring clear and regular communication and investing the time necessary to rationalize services to avoid duplication and wasted effort.

[6] Castillo, Teresa, A. Ramirez, R. Flores, J. Arrevis, M. T. Lopez, y E. Caballeros. 2012. *PEC: Informe Situacional, Periodo 1997–2012*. Guatemala

Discussion. The quantitative data support the conclusion that while initially PEC helped the Project increase coverage of key health services, as was intended by the integrated service model, its termination clearly negatively impacted final results in many crucial indicators, especially childhood immunizations. The earlier success of PEC in increasing immunization coverage was revealed by the already-high baseline coverages detected by the January 2012 KPC survey, 79.1% in the Phase 1 Area and 70.9% in the Phase 2 Area, both very close to the 80% minimum coverage considered necessary to achieve the so-called "herd immunity" effect whereby there are sufficient immunized persons to protect the non-immunized from contagion. At end of project those coverages had dropped dangerously to 60.2% in the Phase 1 Area and 53.5% in the Phase 2 Area: a new generation of children was going un-immunized.

Quality of service was affected as well as coverage, revealed by the loss of oxytocin from PEC for the *Casas Maternas,* hindering their capacity to do high quality deliveries characterized by AMTSL and the use of uteronic drugs. Given that post-partum hemorrhage was the cause of 82% of maternal deaths in the Project area between October 2011 and May 2015, this loss of oxytocin was a serious blow. Fortunately, the Project was able to secure an alternative supply in early 2015 from Medicines for Humanity.

That said, it appears that the *Casas Maternas* played a vital role by fulfilling demand for services that PEC could no longer fulfill, particularly maternal/newborn care services. In addition, the equipping of the *Casa Maternas* during this time with small pharmacies (*boutiquines*) – also funded by Medicines for Humanity - enabled the staff of the 3 operating *Casas Maternas* to treat 988 children during Project Year 4 (Oct 2014- Sept 2015), many for ARI, apparently at least partially filling the gap created by the loss of PEC.

There are other findings in the Operational Research from this post-PEC period that suggest broader impacts of the loss of PEC. Neonatal and post-neonatal mortality appear to have increased dramatically from PY3 to PY4 in the Phase 1 Area. While the reasons for this are uncertain, and the apparent increase may be merely a result of better capture of neonatal deaths, this spike in mortality coincided exactly with the loss of the curative and preventive services of the PEC.

Lastly, the differing organizational cultures of Curamericas Guatemala and MSPAS appear to affect the smooth implementation of PEC, with MSPAS' top-down bureaucracy, characterized by inefficiencies, poor management and obsession with paperwork contrasting starkly with Curamericas Guatemala's focus on community engagement and achieving demonstrable impacts on community health.

Limitations. The Curamericas Guatemala PEC staff had been laid off in November 2014 when the funding ended and were not available to be interviewed to obtain their first-hand perspectives of the PEC program.

Conclusions. A key lesson learned was that where the CSP was most successful in achieving significant improvements in coverage of health services from health professionals – maternal/newborn care and treatment of children with symptoms of ARI – was where it could fulfill the demand it created through the *Casas Maternas* and their *boutiquines*. That said, it is not clear if the *Casas Maternas* alone can fill the service gap created by the loss of PEC. The integration of PEC and the *Casa Maternas* into CBIO+Care Groups is meant to provide critical *fulfillment of the demand* for ACCESSIBLE and culturally ACEPTABLE services. The initial contributions of PEC to Project outcomes and the effects of its loss indicate that PEC (or its equivalent) is still needed to fulfill this demand.

IF PEC is reinstated by the new administration of the Government of Guatemala – as appears may well happen – the problems staff cited in its administration by MSPAS must be resolved and coordination and communication between Curamericas Guatemala and MSPAS – and within Curamericas Guatemala as well – will need to be further strengthened to optimize the service model.

Appendix- Study Informants

No.	Person	Position	Key quotes
1	Augusto Asunción Lopez	Ex Representante legal de la NGO Eb' Yajaw (PEC service provider)	*PEC was one of key links of the chain to decrease maternal mortality During last year, before the PEC's termination, the governmet delayed payments sometimes taking even a year. We used our overhead to continue working*
2	Alfonso Tello	Coordinador Técnico Tetz Qatan NGO (PEC service provider)	*The PEC was born as part of the Peace Accords to enhance acces to health care services* *Health care workers wer not enough to cover rural areas.*
3	Dr. Fernando Gomez	Gerente Provision de servicios / Direccion de área Huhuetenango	*The program had several weaknesses, one of them was that targets were not coordinated with NGOs and were not adjusted to reflect each jurisdiction's context.*
4	Maria Esperaza Toledo	Enfermera Profesional Santa Eulalia	*ADIVES covered 41 communities and used to help us to reach communities even with cars. During the last months before PEC termination the NGOs cut back on their services provided*
5	Jose Castillo	Enfermero San Miguel	*PEC used to Support us providing attention to pregnant mother in ANC with micronutrients. Now we do only check ups with no vitamins*
6	Dr. Marroquin	Director Distrito San Miguel	*The sindicatos did not want the PEC would continue due they think the overhead for NGO were so high that most of the money did not reach the beneficiaries.*
7	Dr. Mario Valdez	Director de Proyecto	*Some administrations have seen the PEC as key to achieving universal access to basic health and nutrition services, other administrations have not considered it a priority.* *The health workers union (sindicatos) were claiming that the resources given to NGO's were not reaching the beneficiaries.*
8	Señora Alma Lopez	Coordinadora de Campo	*It was necessary to build team work due PEC and Casas maternas were key aspects of the comprehensive programa.*
9	Dr. Danilo Rodriguez	Coordinador de Distrito	*The current Ministry of health is Enterprises manager, maybe that is why he did not give priority to the PEC*
10	Mothers during field visits		*Many mother mentioned they use to have more medicines coming to communities during PEC, and now they do not receive medicines, vaccines or micro-nutrientes*