Process of Implementing the PCIMA Surge Approach in Health Centers Kayes Experience

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Abstract
The PCIMA Surge approach has been applied in Mali since 2017. It was implemented in the Kayes health district between September 2018 and January 2019 in 30 health centers and the csréf ureni. The objective of the study was to describe the process of setting up PCIMA Surge in the 30 health centers by characterizing the different activities (what has been done, lessons learned, what has happened). The whole process (the orientation workshops, training of service providers, setting up in health centers, formalization of commitments) was described with very instructive feedback. The success and sustainability of the PCIMA Surge depends on the success of the implementation process, which is why no effort should be spared for this objective.

Keywords: PCIMA Surge, implementation process, Kayes.

1. Introduction

In Mali, malnutrition is a public health problem as in most countries of the Sahel strip. It is one of the major causes of morbidity and mortality in children under the age of five. The various studies carried out since 2010 have made it possible to describe the nutritional situation in the country and to show the extent of malnutrition. The 2010 MICS survey reported a national prevalence of 9% global acute malnutrition and 2% severe acute malnutrition (SAM), stunting and underweight were 28% and 19% respectively. Furthermore, the SMART surveys conducted in 2014, 2015 and 2016 have shown the same extent of the situation [1].
Community-based management of acute malnutrition (CMCP) was approved by the United Nations in 2007. More than 60 countries are currently implementing it, and many have incorporated the management of acute malnutrition into government policies. This represents a significant change from the previous "emergency-focused" intervention, often offered with intermittent support and funding ("stop-start") [2].
In Mali, the management of acute malnutrition has been carried out for several years in public health establishments on the basis of the national protocol of the PCIMA (Integrated Management of Acute Malnutrition).
In 2018, certain health districts of the country were trained on a new approach applied to the management of peaks of malnutrition called PCIMA Surge in the Malian context.
PCIMA Surge is an approach that increases the resilience of the health system so that it is able to provide quality services for the management of acute malnutrition at all times, especially during

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periods of high asks when the capacity to save lives should be greatest and without compromising the capacity and responsibility of government health actors [2].
The Kayes health district implemented it between September 2018 and January 2019. This work aims to save on the activities carried out with a view to sharing experience on the process of implementing the approach to basal level of the health pyramid.

1.1. History of the PCIMA Surge in Kenya and Africa

In May 2011, the President of Kenya described the 2010-2011 droughts as a national disaster. It is estimated to have affected around 3.75 million Kenyans with 500,000 refugees in need of food aid, while more than 300,000 children have been affected by acute malnutrition.
Concern Worldwide (Concern), an international NGO was part of the humanitarian response in Marsabit County, one of the areas affected by the drought.
A post-response analysis by Concern and county health management teams revealed that there was a lack of advance emergency planning (despite the slow onset of the emergency and early warning); limited use of available data, contextual analysis; and a limited understanding of how, when and at what scale of interventions. These lessons, as well as the publication of an article "Suggested framework for a new design for CMAM programming (Management of acute malnutrition)" [3] led Concern to develop the CMAM Surge model [4,5].
Under the coordination of Concern, a pilot project was launched in Kenya in collaboration with the health management teams of the sub-counties and the staff of health establishments (HE), from May 2012 to the end of 2014, in 14 establishments of Marsabit County Health. These efforts were extended to Kenya in 2014, and then in 2015 to three other counties (Wajir, Baringo and East Pokot) in 24 more health facilities, with support from Save the Children, Islamic Relief and World Vision. Concern also implemented the surge approach in the Karamoja region of Uganda in 2009 and 2012, in addition to carrying out preparatory work in Niger [2].
In 2016:
- Kenya has adopted the surge approach as a national policy in the PCIMA and has deployed it in priority areas.
- A toolbox and an operational guide have been developed with the participation of practitioners from 9 countries.
- The workshop to adapt the tools to the French-speaking context was organized (May 2016).

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1.2. History of the PCIMA Surge in Mali

According to a presentation by the NGO Save The Children at the first multisectoral review of nutrition activities in Bamako, the surge approach was implemented in Mali for the first time in Mopti between June and August 2017.

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In November 2017, it was presented to the nutrition thematic group (GTN) at the Directorate General of Health and Public Hygiene (DGSHP) in Bamako.
In 2018, national trainers were trained on the approach in Bamako with the participation of the DGSHP, regional nutrition focal points from certain regional health directorates (DRS), representatives from certain health districts and NGOs in charge of implementing the approach.
From the end of 2018 to December 2019, the PCIMA Surge approach was implemented in 15 health districts across the country.

1.3. History of the PCIMA Surge in the Kayes health district

In August 2018, training of trainers on the approach took place in Bamako. The Kayes District Nutrition Manager (RND) participated in this training. Then followed a series of activities which are:
- September 2018: organization of the orientation workshop for administrative, health authorities and district partners on the approach in the presence of the Prefect;
- From September 27 to 30, 2018: organization of the training workshop for DTCs (Technical Director of the Center) and asaco presidents (Community Health Association) / management committees on the approach in which 30 DTCs took part, 30 presidents or members of asaco/ management committees, 2 agents of the ureni (recovery and intensive nutritional education unit) of the CSRéf (referral health center);
- From 6 to 8 November 2018: organization of the training workshop for district facilitators (12 participants);
- January 2018: the establishment of the PCIMA Surge coordination committee (CCPCIMA Surge) for the coordination of the implementation of the approach in the district;
- From 21 to 22 January 2019: organization of the workshop to formalize commitments in favor of surge actions in which 122 participants took part;
- September 24 and 25, 2019: the district participated in the national workshop to validate the tools of the PCIMA Surge approach in the Malian context.
- January 29 and 30, 2020: organization of the workshop to capitalize on the implementation of the PCIMA Surge approach in the Kayes health district.
- From February 25 to 28, 2020: presentation of the results of the implementation of the approach in the Kayes health district at the multisectoral review of nutrition activities in Bamako.

In addition, the Kayes district participated in the training workshop on techniques for mobilizing local and communal resources in order to support health actions; in this case CMAM Surge response plans (PCIMA Surge in the Malian context). At this workshop, it was agreed to give the name "PCIMA Surge" to the approach in the Malian context. This is why the approach is called as such in this article.

1.4. Overview of the pcima surge

The PCIMA Surge approach underpins a mechanism that aims to strengthen the resilience of the health system through a process of analysis and participatory planning without compromising the normal functioning of the system. The basic principles are: government leadership, effectiveness/efficiency, strengthening and resilience of the health system, adaptation/flexibility,

innovation, participatory and transparent, promotion of partnerships, strengthening of the health system, sustainability [2].
The approach includes 2 stages and 8 stages which are [2]:

Stage 1: Implementation, analysis and Planning

This stage comprises five stages according to the Concern operational guide and four stages according to the document adapted from Mali.

Step 1: Analysis of trends and risks

At this stage, we identify the different factors that have a low, medium or high impact in the occurrence of malnutrition as a function of time. We also analyze the curves of certain morbidities over two or three years. The step allows you to take stock of the risks and see the evolution of the morbidity trends envisaged in order to plan appropriate actions.

Step 2: Capacity analysis

It assesses the supply of services by identifying the gaps in the minimum activity package (PMA), the centre's normal capacity to cope with curative consultations. Thus the normal load within the framework of the management of SAM is determined.

Step 3: Establishment of thresholds

Once the normal workload has been determined; we proceed to the determination of the phases which depend on the establishment of the thresholds. The thresholds provide information on the capacity of the staff (phase) to cope with the workload. We distinguish the normal phase (the workload is normal, the staff is not overwhelmed), alert phase (the workload overflows, but can be managed by the staff requiring little or no external input), serious phase (the workload is overwhelming, requiring significant external support), and emergency phase (the workload is even greater, the staff is severely overwhelmed, requiring a larger external contribution). Under the PCIMA, the thresholds are established according to the number of new SAM admissions.

Step 4: Define the surge actions and quantify their costs

Depending on the phases, relevant and achievable actions will be identified and budgeted for; also the actors supposed to bear their costs are identified.

Step 5: Formalization of commitments

The formalization of commitments in favor of surge actions amounts to bringing together the actors to act on commitments in relation to the various surge actions to be implemented. It is materialized through the signing of an agreement between the stakeholders.

Stage 2: Monitoring and action in real time

It includes three stages which are:

Step 6: Monitoring of thresholds

After implementation, follow-up is carried out at the health center using three tools which are: the calendar of seasonal events, the MAS admission curve and the long-term planning table.
The calendar of seasonal events in this stage is filled in a contemporary manner on a monthly basis. The same is true for the MAS admissions curve on which the admissions and thresholds stand out. The long-term planning table collects the activities planned by quarter, allowing the situation to be assessed monthly.

Step 7: Scaling
This step provides information on the initiation procedure for the actions planned in the event of the threshold being exceeded or the threshold being reduced.
Step 8: Review and follow-up of the surge activities
It serves as a framework for evaluating the approach after a peak or after a certain period of implementation, judging the adequacy of the thresholds, phases and actions. The same goes for the whole process.

1.5. The different levels of implementation of the surge approach

The PCIMA Surge approach can be implemented at different levels of the health pyramid:
Operational level:
- **Community health centers (cscom) / Secondary health center (CSS):** at this level, the workload which determines the different phase thresholds is linked to the number of new cases of SAM admitted into the care program.
- **Health district:** it is an entity that supports and supervises the activities of the cscom. At this level the phases are a function of the number of cscom found in different phases (normal, alert, serious or emergency).

Intermediate level:
- **Regional level:** the regional health department in turn supports the health districts that make up its area of intervention. Its surge phases are also linked to the number of health districts in the different phases.

Central level:
- **National level:** its phases will depend on the number of regions in the different phases.

The same could be true for the sub-regional, continental, etc.

2. General objective: Describe the process for implementing the PCIMA Surge approach in health centers in the Kayes health district.

3. Specific objectives:

3.1. Characterize the orientation workshop of health and administrative authorities on the surge approach (what has been done, lessons learned, what has been lacking);
3.2. Characterize the training workshop for DTCs and members of asaco / management committees on the surge approach (what has been done, lessons learned, what has been lacking);
3.3. Characterize the activities for implementing the surge approach in health centers (what has been done, lessons learned, what has been lacking).

4. Methodology

4.1. Study framework: Kaye's health district
The Kayes health district is located between 14 ° and 17 ° North latitude and between 11 ° and 27 ° West latitude. It stretches 140 km from East to West and 221 km from North to South. Covering an area of 22,190 km², dependent on the Sahelian and Sudanian climates, its population was estimated at 704,686 inhabitants (source DNSI 2009 updated in 2012) with a density of 31 inhabitants per km2 in 2019 representing 24% of that of the region.

On the same date, it had 50 functional cscom and one ureni which offer services for the management of acute malnutrition. In 2019, the district admitted 5,071 MAS (5,015 discharged) to its urenas (recovery and severe ambulatory nutritional education unit). The number of children cured was 4,824 against 168 dropouts and 23 deaths.

4.2. Type of study: it is a descriptive, transversal and retrospective study.

4.3. Study period: September 2018 to January 2019.

4.4. Sample size: The study involved 30 health centers including 27 cscom and 3 secondary health centers (CSS).

The cscom (community health center) are health establishments created and managed by community health associations (asaco) fulfilling the operating criteria of a cscom and having received approval from the competent authorities for this purpose.

The CSS are health establishments that can carry out cscom activities but without having the status. The health orientation law makes no mention of CSS. They are created and managed by management committees generally in the pay of the village or a village association.

In 2018, the Kayes health district had 49 health centers, including 46 cscom and 3 CSS. The criterion for choosing health centers to implement the approach was population-based, that is to say that only those centers which covered a population of 10,000 or more were taken into account. Twenty health centers that met this criterion were listed. Also, at the request of the local partner, 10 other cscom who did not meet the criterion were included in the implementation, bringing the number of centers to 30. The said health centers benefited from a project that was already underway.

4.5. Inclusion and non-inclusion criteria

- **Inclusion criteria:** all health centers that have implemented the surge approach have been included
- **Criterion of non-inclusion:** health centers which have not implemented the surge approach and the ureni of csref.

4.6. Data entry and analysis

The data were collected through a framework developed for this purpose. They were entered into Words 2007 software.

5. Results

5.1. Orientation of nutrition stakeholders on the surge approach

- **What has been done**

After training the trainers, the orientation workshop was planned. Participants were invited: DTC (technical director of the center), the regional health directorate, the local social development and solidarity economy service (SLDSES), local nutrition partners. The session was chaired by the prefect of the circle.

At the start, a skit highlighting the consequences of unpreparedness in the face of the unexpected occurrence of a large-scale health event; Have been realised.

Summary of the sketch: a landlocked health area subject to flooding through the onset of torrential rain is presented. The health situation in children under the age of 5 was characterized by an outbreak of acute diarrhea which, within a few weeks, led to a peak of malnutrition in these children. The DTC being overwhelmed by customers, torn on one side between the MCD (chief doctor, his line manager) who required information to report to his leaders and on the other side by the asaco, the village chief, mothers of children, staff (for directions); was over his head.
Decisions were made: a partner decided to transport nutrition inputs in a tow truck that got bogged down halfway. Another partner decides to support the population through the distribution of cash causing suspicion between the DTC, the asaco and the population.
Three weeks later, there was a drop in cases of diarrhea and manutrition. The nutrition inputs deployed arrive late, some partners decide to reduce or stop their support because the peak has passed.
The sketch described a situation of chaos generated by the brutal occurrence of a health event facing unpreparedness. This has resulted in inappropriate decisions that have missed their targets or have created harmful effects. Also, poor coordination of activities in the field was also noted.
Participants were called upon to express their observations regarding the skit at different stages (sudden occurrence of health events, event management, lessons learned).
Subsequently, the facilitator educated the participants on the PCIMA Surge approach which was presented as an alternative to deal with the situation described. Mention was made of its various aspects (history, context of application, what is safe and what is not, the underlying principles, stages, stages).

- **Lessons learned**

The skit: produced in the local language, it enabled participants to understand the consequences and challenges of preparation in the face of a possible health event. It has been an effective communication tool for raising awareness among decision-makers in order to identify appropriate actions in the event of an emergency.
The orientation workshop: served as a springboard to draw the attention of participants to the consequences of the sudden occurrence of a health event, in this case an outbreak of malnutrition. In the absence of participatory planning identifying the problems with feasible solutions and their costs with the obtaining of a commitment from the various stakeholders; it is unlikely to face a critical morbidity situation. From this first orientation; decision-makers, technical players and partners felt challenged in the context of collegial management of challenges, especially those of nutrition.

The commitment of the administrative authorities (prefect, sub-prefect, mayor) remains decisive in the continuation and the success of the activities: indeed, the district of Kayes benefited from the support of the prefect of the circle of Kayes in the implementation of The approach. He made his experiences available to the district and encouraged the sub-prefects to get more involved in nutrition activities. This incentive was a major contribution because the presence of the sub-prefects during the establishment in the health centers made it possible to gather the maximum of actors and to raise the solemnity of the framework.

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- **What was missing?**

Some decision-makers could have been invited to the orientation workshop, such as the mayors of the municipalities concerned, the presidents of asaco/health center management committees included. Thus all the essential stakeholders would have been involved from the start.

5.2. Training of asaco members/management committees and DTCs

- **What has been done**

The orientation on the approach was followed by the training of asaco presidents/management committees or their representatives and DTC. A total of thirty members of asaco/management committees, thirty DTCs, two agents from the ureni (recovery and intensive nutritional education unit) and a facilitator from the partner NGO took part in this training. Although the content of the training is much more technical for the understanding of most members of asaco/management committees; their participation was intended to involve them from the start in the process so that they would feel more concerned by the implementation at the health center level. Participants were trained in two two-day sessions.

It involved training them on how to implement the surge approach at the level of the various health centers. Beforehand, data on certain morbidities in children under 5 years of age over two years (Malaria, Acute respiratory infection, diarrhea, severe acute malnutrition) had been collected at each health center.

In this training, after the inaugural sketch on the occurrence of an emergency situation, each step was explained on the basis of the operational guide of the NGO Concern. During this training, the DTCs participated more than the representatives of the asaco/management committees.

From the facilitator's point of view, the understanding of the surge tool was average for DTCs and below average for members of asaco/management committees.

- **Lessons learned**

The criterion for choosing health centers: the population criterion made it possible to minimize frustration because questions about the choice of health centers came up repeatedly during surge activities. Also, it has helped cover more than 75% of the district's population.

DTC training is essential for the implementation of the approach at the health center level. The participation of members of asaco/management committees in the training made it possible to have their implications at the level of the cscom during the implementation.

Collecting data before the workshop was useful for carrying out practical exercises during the training.

- **What was missing?**

The number of training days (2) was insufficient to go through the stages of setting up at the health center level, to deepen the setting up at the district level and to go around the surge indicators.

5.3. Training of district surge facilitators

- **What has been done**

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Given the high number of health centers included (30), and to speed up the implementation process, the district opted to train facilitators whose task was to assist the RND (district nutrition manager) in the implementation place at the level of health centers.

Thus, a training workshop for facilitators was organized with the aim of strengthening the district with sufficient and competent human resources in the area of PCIMA Surge to set up in the 30 health structures on time.

Fourteen people were trained, including two doctors from the csref, twelve agents from partner NGOs. These trained facilitators supported the RND in the implementation of the approach in the surge centers, during the formalization of commitments workshop, supervision of the surge centers, as well as during the activities of the PCIMA Surge coordination committee (CCPCIMA Surge).

The theoretical training was followed by a practical phase in a cscom.

- **Lessons learned**

The training of other facilitators in addition to the RND was decisive in the implementation. It has accelerated the establishment of surge centers, and increased the number of district staff capable of facilitating the surge approach.

- What was missing?

Not all trained NGO facilitators were able to participate in the practical phase in a health center due to service requirements.

5.4. Establishment of a PCIMA Surge coordination committee

- **What has been done**

The creation of this committee responded to the need to integrate the elements of analysis through a participatory approach. This committee was designed to bring together the different program managers to arrive at a holisque analysis of data from the different programs in the district. He joined the RND who is the head of the committee, the focal point of reproductive health (RH), the malaria focal point, the head of epidemiological surveillance, the SEC focal point (Commutary Essential Care), the focal point EPI (Expanded Program on Immunization), an SIS agent (health information system), agents from partner nutrition organizations in the district. This configuration of the committee enabled an in-depth analysis of the data from the different programs, sharing of the planning of activities (district or partners) as well as the pooling of efforts. The committee was to meet monthly, discuss the different phases of the cscom, analyze the indicators of nutrition, RH, malaria, EPI, SEC; floor on the activity schedules for the coming months.

A decision by the chief medical officer formalized the existence of the committee. Also a document entitled "Guidelines for the PCIMA Surge Approach" which determines the district's objectives in this area, the composition and functioning of the committee, its resource needs has been prepared.

- **Lessons learned**

As the approach is applied to the PCIMA, it can also be applied within the framework of other programs (SR, malaria, Vaccination, etc.).

- What was missing?

Although this committee is ideal for integrating the different activities of the district, it did not function as hoped because of the lack of training of its members on the approach, the absence of regular meeting.

5.5. Establishment in health centers

- **What has been done**

The approach was implemented in 30 health centers comprising 27 cscom and 3 CSS.
First, an implementation schedule was developed and adapted according to the availability of the actors of the health centers. These centers were distributed among the facilitators. And the morbidity curves had been printed on hard supports placed beforehand.
The implementation brought together at the level of the various health centers the actors of nutrition (community level and health district) and lasted one to two days depending on the case. Indeed, it lasted two days in some centers at the start of the set-up before the district facilitators got used to the exercise. Towards the end, some setups were done in one day. The participants were among others: members of the asaco/management committees, DTC, other staff of the center, village chief, community relays, ASC (community health worker), leaders of women's groups, members of GSAN (group of support for nutrition activities), members of associations of expatriates from the locality, sub-prefect, mayors or municipal councilor or secretary general of the town hall, the district facilitator.
During implementation, only steps 1, 2, 3, 4, 6 and 7 were developed.
For facilitation, flipcharts were taped to the wall in front of the audience and facilitation was led by the district representative.
At the start, the facilitators made a reminder on malnutrition, its consequences (impact on the development of children who remain the future of the commune, of the country; financial loss caused by the scourge at the national level which could have served to build schools, build roads, build health centers, recruit teachers or health workers, etc.). They also highlighted the need for everyone to be involved in tackling malnutrition.

Step 1: analysis of trends and risks

The facilitators asked the audience to cite local events (illnesses, seasonal events, availability of food, population mobility) capable of influencing the occurrence of high, medium or low impact malnutrition. To simplify the identification of events, progress has been made from month to month (January, then February, etc.). The events in the form of a drawing were plotted on a benchmark whose abscess was time and the ordinate represented the different levels of impact of the events (weak, medium, strong). A legend next to the marker explained the figures mentioned.
Once the curve of seasonal events was established, that of morbidities (diarrhea, ARI, malaria, SAM) over the two previous years was displayed, analyzed. Thus, the SAM curve of the seasonal calendar of events (fruit of the experience of the participants) is compared to that of the SAM of the morbidity curves (which is the result of objective data collected). The participants looked at their assortments, their phase shifts, the unexpected peak occurrences.
This step allowed the audience to identify the events that influenced the occurrence of malnutrition in the locality, to take cognizance of the data on the main morbidities of children, to identify the appropriate actions to take according to the cases (reinforce the awareness of the

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population to sleep under mosquito nets during the peak malaria period, cover food and wash their hands during peak periods of diarrhea; etc.).
During this stage of the implementation, it was noted that the participants mastered the various events that occurred during the year; however, no preventive action was generally undertaken.

Step 2: capacity assessment
A framework was used to assess gaps in the services of the PMA. Although it is a national framework for assessing the integration of the PCIMA in the PMA; it was chosen to modify the framework proposed in Concern's operational guide because the latter is more exhaustive in exploring the PMA. The use of the modified canvas helped identify gaps in various services offered other than the management of malnutrition.
After identifying the shortcomings, a theoretical assessment was made of the number of consultations that could be carried out in 24 hours. Then, the normal workload was determined by the participants. Thus, the load considered to be normal has been determined. It is the latter that was used to determine the thresholds.

Step 3: establishment of thresholds
For the determination of the thresholds in the health centers, the directives of the operational guide were used. According to the pilot study, the health centers were divided into two groups: health centers with low admissions and health centers with high admissions. The former admitted 10 MAS per month; the latter were at 100 per month. For this purpose, the centers in the district were considered as centers with low admission because of the fact that none of them had reached 100 admissions during the last five years.
Still, with reference to the operational guide, a center is in the normal phase when it admits 0 to 3 times its normal workload. "From more than 3 to 5 times the normal workload", the staff is considered overwhelmed. However, the solution would be at its level. This section corresponds to the alert phase. "More than 5 to 7 times the normal workload" corresponds to the excess capacity of the staff so as to require external intervention (the district and its partners). It is said that the center is in serious phase. "More than 7 times the normal workload" corresponds to the emergency phase and signifies a significant overflow of the centre's capacities so as to require significant support from the outside.
The determination of the thresholds for the different phases in the health centers was modeled on this prototype of the operational guide.

Step 4: define and cost the costs of the surge actions
Once the thresholds were determined, the appropriate actions by phase were identified and validated by the participants.
The actions of the normal phase were determined based on:
- **Identified gaps:** staff shortage, training needs, tools needs or
materials (protocol, mother-child balance, blood pressure monitor, speculum, chairs, table), deficit in the use of RH services (low rate of prenatal consultation (CPN), assisted delivery, postnatal consultation (CPON)), preventive surveillance of children (PES), vaccination, low

indirect coverage of MAM (moderate acute malnutrition) and SAM, low use of curative consultation;

- Routine activities to ensure continuity of care for SAM:

Supply of nutrition inputs, regularity of care, quarterly active screening, construction of hangar or storage store;

- **carrying out monitoring of the centre's activities** (semi-annual monitoring).

The actions of the alert, serious and emergency phases have generally turned around:

- The adjustment of nutrition input needs, their orders and transport;
- The mobilization of community relays to support care;
- The increase in the number of days of SAM care;
- The information of local surge actors and the csref:
- The revision of holiday schedules;
- The organization of active screening of the malnourished;
- recruiting or requesting additional staff to support care;
- The opening of a temporary ureni;
- taking charge of agents sent by the csréf to support the center (catering, rent);
- The adjustment of the DV controls to adapt it to high demand in the event of a health emergency.

At the time of the identification of the surge actions, the execution managers were also chosen.

It should be noted that the bugisation part of the actions in step 4 did not take place during the implementation. It was during the preparation of the implementation report that the actions adopted were budgeted and presented to the representatives of the centers during the formalization of commitments workshop.

Step 6: monitoring of thresholds

Participants were informed of how the thresholds were monitored. Indeed, monitoring is done through three tools which are: the calendar of seasonal events which is populated in a contemporary way, the MAS admission curve, and the long-term planning table. It has been agreed with the centers to fill in the monitoring materials monthly.

Step 7: scaling surge actions

This stage made it possible to inform the participants of the process for triggering the actions planned during the different phases. In other words, if the threshold is exceeded, the DTC informs the asaco / management committees, which informs the town hall and the sub-prefect. The DTC also informs the CCPCIMA Surge of the exceeding of the thresholds and of the actions undertaken. The latter rather meets, reviews the planned surge actions, decides on the initiaves and has them validated by the chief doctor. Conversely, in the event of a decrease in workload (decrease in admissions) after a threshold is exceeded, the DTC informs asaco/management committees and they decide together on the reduction of actions and the reduction schedule. This schedule is brought to the attention of the mayor, sub-prefect and the CCPCIMA Surge.

For the centers which have exceeded the threshold, three out of four have respected the process of initiating actions. The center that did not respect it had its DTC on the move. As for the action reduction process, no center has respected it.

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During facilitation, the various templates were filled out either by a participant or by the facilitator himself. This collected information was entered in the implementation report.
Also, in the district, the establishment was marked by the assumption of responsibility for the restoration of the participants by the asaco/management committees and the absence of payment of perdiems to the participants.
The installation was carried out in the majority of cases without difficulty. However, at certain centers, some difficulties should be noted: postponements of dates, absence of the DTC, absence of the president of asaco/management committees, misunderstanding between the facilitator and participant, weak mobilization of local actors.
After the establishment in the centers, the reports were drawn up by center. The said report was structured as follows:

A. Setup data

Introduction: It summarizes the situation of the PCIMA in the world, in the region and in the Kayes district. It addresses the difficulties of the PCIMA, the vision of the district, the objectives in this area.

Health center data: this is a table whose content refers to the name of the
health center, the number of villages in the health area (the health area is the geographic territory covered by a cscom), the distance from the csréf to the cscom, the geographic accessibility, the population of the updated area, the population of children under 5, that of children 6 to 23 months, that of children 24 to 59 months, that of children 0 to 12 months, that of women of reproductive age, CPN, delivery rate, uren performance indicators (recovery and nutritional education unit), indirect coverage of MAM and SAM, number of center staff, functionality of the asaco.
Elsewhere, accessibility was measured by a rating (Appendix 1).

Seasonal events: at this level, the results of the analysis made of the events
(Factors) capable of influencing the occurrence of malnutrition is mentioned. Also, the table takes into account the impact of the identified event on the demand for care and the period of its occurrence.

Morbidity curves: this part of the report deals with the results of the analysis made of the morbidity curves (peaks and their periodicity, etc.).

Long-term planning: this is a table which summarizes all the planned activities.By stakeholders (awareness rising of the population and clients of the health center, activities of the normal phase (active screening, nutritional demonstration). Its filling is quarterly. At the end of the month, it is mentioned there made before the planned activities carried out and not made before those planned and not carried out.

Capacity analysis/summary of gaps: this part summarizes the results of the evaluation of the supply of PMA and PCIMA services by identifying gaps and proposing feasible solutions. In the report, the gaps in relation to the various departments of the PMA are colored in yellow to facilitate their recognition. In some reports, a table summarizes the various gaps.
Surge actions and data encryption: this information is treated in two tables.
The first collects the surge actions identified and adopted during the implementation according to the different phases. It also identifies the actors responsible for carrying out the tasks. The

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second selects actions that require a budget, presents their unit and annual costs as well as those responsible for said actions.

B. Monitoring / Evaluation Data

This part of the report deals with possible changes to the report as the situation evolves.

Gaps: this is an empty table which contains the services of the PMA. It allows you to add other gaps that may appear over time.

Adaptation of the thresholds of the phases: it makes it possible to collect the modifications of the thresholds that the center could generate in the face of different realities.

Other surge/costing actions: this is a table which allows the addition of other actions according to the phases as well as their costs.

Contacts of the technical actors of PCIMA Surge implementation

C. Other information: this part deals with the findings of the facilitator who draws attention to the commitment or its deficit when setting up with the participants. And can even predict future difficulties or the success of the approach in the health center.

D. Photos: some photos of the participants appear in the report to historically perpetuate the establishment and justify the realization of the activity with respect for the diversity of the participants.

E. Memorandum of Understanding for the PCIMA Surge Approach

The addition of the memorandum of understanding signed between the health district, the communes and asaco/management committees in the presence of the sub-prefects makes it possible to remind all stakeholders and at any time of their commitments.

-Lessons learned

The involvement of communities in the establishment process made it possible to obtain their active participation and commitment.

The DTP and the nutrition officer have a central role in setting up given their capacities to provide information, to propose actions, to explain the ins and outs of decisions to other participants who feel closer to them. .

The DTC has an important role in the success of the implementation through the involvement of the various community actors, hence the need to explain this task during their training.

Asaco member/management committees and DTC being trained can support the facilitator in his activity.

The participation of the sub-prefects gives a more solemn aspect to the activity in the eyes of the other participants. It also allows them to take nutrition activities into consideration.

The implementation is an opportunity to advocate for nutrition with community and administrative actors. In fact, the facilitators systematically returned to the definition of malnutrition, the types of malnutrition, the causes and consequences, the role of the various actors. This made it possible to strengthen the participants' commitments in favor of nutrition.

The implementation helps to identify problems related to the supply of PMA services, so it allows these problems to be discussed in order to find solutions in the presence of decision-makers.

- What was missing?

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The duration of the implementation was insufficient (1 day) for the majority of the centers. For this, it is useful to bring it to two days for those who want to exhaust the whole program effectively.
The lack of tarpaulin monitoring supports causing health centers to trace monitoring tools on conference papers which can be easily detached by rain, wind, etc.
The diversity of participants was limited when setting up in some centers.

5.6. Formalization of commitments (Step 5)

- **What has been done**

Step 5 is crucial to the successful implementation of the approach. After the implementation in the various health centers, the commitment formalization workshop was planned. The participants were the mayors or representatives, the presidents of asaco/management committees or representatives, the DTCs or representatives, the sub-prefects, the prefect, the chief physician or representative, the RND, the members of the CCPCIMA Surge (Point SR focal point, malaria focal point, SEC focal point, ENP focal point, a member of SIS), representative of the president of the district council, the representative of the local service of social development and solidarity economy, nutrition partners and the song. The workshop lasted two days.
On the first day, the implementation reports for all the centers included were presented on the PowerPoint software. The second day saw the completion of presentations, followed by the signing of the memorandum of understanding between the health district and community actors as well as administrative officials.
It should be noted that only one municipality did not sign the agreement because the mayor's representative was absent during the signing ceremony.
The discussions during the workshop focused on the method of calculating the cost of the actions, the number of community relays to use during the quarterly active screening, the availability of inputs, the apparently high threshold of the normal phase of a center. of health, the non-taking into account of the costs of the normal phase when the center is in alert phase, the need for the signing of the commitment agreement by the key actors of health (Sub-prefect, Mayor, asaco/management committees, the chief doctor, the president of the circle council, the prefect (visa)).
The workshop led to the following results: validation of the surge actions of the different centers, validation of the costs of the different surge actions, signature of an agreement to formalize the commitments.

-Lessons learned

The formalization of commitments is a privileged framework for advocacy in favor of nutrition because it brings together many key players in nutrition;
It is important that the various decision-makers during the formalization are present to facilitate the implementation of actions at the different phases;
The signing of a document which commits the responsibility of decision-makers at the different levels of implementation of the approach is essential;
It must be ensured that the memorandum of understanding is approved by the prefect of the circle.

- What was missing?

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The absence of the submission of the memorandum of understanding for the approval of the signatories before the workshop. Indeed, taking into account the expiration of the time limit for using the funds of the local partner; the formalization workshop was more or less rushed. This did not allow the draft agreements to be sent to the actors (mayors, asaco presidents, sub-prefects, chief medical officer); the differences between participants'fees. In fact, the partner who paid the participants' fees was forced by his policy to pay less to the DTC and asaco presidents/management committees than to the mayors and sub-prefects. This has led to a lack of understanding among the latter, putting at risk all the work that has been done upstream and creating disinterest in the approach among some DTCs.

6. Discussions

From September 2018 to January 2019, the Kayes health district implemented the PCIMA Surge approach in 30 health centers and the csref ureni. The objective of our work was to describe the implementation process in the 30 health centers in order to share the district's experience in this area. The limit of this work lies in the absence of capitalization of the experiences of all the district facilitators to further improve knowledge of the process.

6.1. Health centers

The implementation was carried out in 30 health centers (27 cscom and 3 CSS) and the ursia of the csref. This number is high compared to all the health districts of Mali where the approach was carried out. The same is true for the pilot project in Kenya where Concern first implemented the approach in 14 health establishments in Marsabit county between May 2012 and the end of 2014 [1,4] to reach 24 more and more health establishments. 2015[2].

6.2. Skit

It was a fairly important teaching tool in the participants' understanding of the challenges of the approach. Concern's operational guide [2] does not mention the sketch in the implementation process, while it prepares the audience to assimilate the approach in its various aspects. It therefore seems important to integrate it into one of the stages of the approach, in this case stage 1.

6.3. Authorities' orientation workshop on the approach

This workshop was an advocacy framework, used to share with participants information on malnutrition, its negative impacts on development. The control strategies issued by the national PCIMA protocol [1] were explained to them to make everyone aware (sub-prefect, mayor, village chief, asaco, youth or women's associations, community relays, CHWs, GSAN, town criers, religious and customary chiefs, etc.) its role in the fight against malnutrition. The essential message passed at this meeting was that malnutrition is a scourge that undermines the development of the country; that there are seasonal peaks of malnutrition in health centers which must be addressed through concerted planning and funding of suitable activities to be carried out; and that this mechanism was called the PCIMASurge approach.

DTC training workshop and asaco members/management committees

This workshop was also a framework for advocating for nutrition by highlighting its negative effects on the progress of the community and the roles that DTPs, asaco/management committees

and other community actors can play. This aspect of training advocacy is not explained in the Concern operational guide [2]. Special mention should be made of this because during this training and the other circumstances of the implementation of the approach; whenever community participants were made aware of the negative impact of malnutrition on children's intelligence and growth, the local economy in the long term, their role in combating and preventing the scourge; it was found that many felt challenged and ready to engage in control activities at the local level.

Feedback has shown that DTCs play a key role in the successful implementation of the approach. Because, they are the conductors in the organization of the implementation in the health centers, the updating of the monitoring tools, the triggering of the enlargement and the reduction of the surge actions (step 7) [2]. Given their workloads, they need to be educated enough for nutrition to get their full attention. So orientation and training workshops should be used for this purpose.

6.4. Content of the training: the members of asaco who participated in the training had great difficulty in understanding the technical terms although efforts were made in this direction by facilitating at certain times in the national language. However, the message was clear to them at the end of the workshop: we must face the peaks of malnourished people in health centers through a technique which is the surge approach. The realization of this technique requires the involvement of the asaco through the mobilization of actors at the local level and the funding of nutrition activities.

As for DTC, being used to plotting and interpreting curves; they had a relative ease in understanding the stages of the approach. The observation was that their understanding of the approach was average at the end of the training.

6.5. Implementation report: the reference document for the district's surge health centers remains the implementation report. Its advantage was its exhaustiveness on the information of the surge centers, its availability near the decision-makers (asaco/committees of management, town hall, sub-prefecture, csréf). This report lacks an element called "the work plan relating to surge actions" as indicated in the operational guide of Concern [2]. Indeed, this document gives more details in relation to the actions to be carried out during the different phases. However, the failure to carry out said plan was not considered an obstacle during the course of the actions contained in the various implementation reports.

6.6. Formalization of commitments: it marks the end of the implementation process and the start of PCIMA Surge activities in health centers. The formalization workshop remains an excellent advocacy framework in favor of nutrition activities. It brings together dozens of participants (120 for this study). Participants have different sensitivities, which is why facilitators must act with great dexterity to make the workshop a success.

6.7. The determination of thresholds/phases: during the implementation of the surge approach in the district, the normal workload, bearable, manageable by the staff of the center was fixed according to the number of new admissions of severe acute malnourished. However, apart from these, there are other admissions such as transfer cases, referrals, readmissions; which are a

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workload in addition to new admissions. To this end, the workload would be well assessed by taking into account not only new admissions but all of the patients in the program. This situation is also addressed in the Concern operational guide [1].

7. Recommendations

After implementing the PCIMA Surge approach in the Kayes health district, we make the following recommendations to improve the process:

- Invite all administrative and health decision-makers to the orientation workshop on the approach, such as the mayors of the municipalities concerned, the presidents of asaco/committees management of health centers included.
- Increase the training time for DTCs and asaco presidents/committees to three days management to better browse the entire program.
- Establish and train the PCIMA Surge coordination committee at district level for monitoring and integrated management of district activities.
- Put the set-up time in health centers at two days.
- Make the monitoring tools in tarpaulin.
- Ensure the diversity of participants when setting up in the centers.
- Submit the memorandum of understanding for signers' approval before the format workshop.

Conclusion

The success of the PCIMA Surge approach largely depends on the success of the implementation process. The Kayes health district implemented it very successfully, taking into account the benefits gained (revitalization of community activities with community funding (quarterly active screening, nutritional demonstration, monthly meeting); improvement of performance indicators for surge centers, great mobilization of stakeholders around nutrition). However, the process of setting up an arduous home requires strong leadership from government actors for its success and sustainability. This is why no effort should be spared for its success because it is on the latter that everything else will depend.

Thanks

Our thanks go to all of the surge stakeholders in the Kayes health district who have spared no effort to make the process of implementing the approach a success. It's about:

-the prefect of Kayes, sub-prefects, mayors of surge municipalities, village chiefs, presidents of asaco/management committees, DTCs and all the staff of the surge centers;

- communal relays, ASCs, communal leaders;
- surge facilitators
- NGO Action Against Hunger.

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Annex 1: rating of the accessibility of health centers

A1: Asphalted and less than 50 km, A2: Asphalted and 50-100 km, A3: Asphalted and more than 100 km, B1: Asphalted, easy access to all periods and less than 50 km, B2: Asphalted, access easy at all times and between 50-100 km, B3: Not asphalted, easy access to all periods and more than 100 km, B4: Unpaved, easy access outside wintering and less than 50 km, B5: Unpaved, easy access outside wintering and between 50-100 km, B6: Unpaved, easy access outside wintering and more than 100 km away, C1: difficult access at any time and less than 50 km, C2: difficult access at any time and between 50-100 km, C3: difficult access at any time and more than 100 km.