

**HEALTH PROFESSIONALS' PERCEPTIONS  
OF GROWTH MONITORING AND PROMOTION  
PROGRAMMES IN SELECTED DEVELOPING  
COUNTRIES**

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## Introduction

The WHO defined Growth Monitoring and Promotion (GMP) as a nutrition intervention that not only measures and charts weight of children, but also uses information on physical growth to counsel parents in order to motivate actions that improve growth (1). From this perspective, the growth chart was proposed as an educational tool to make the child growth visible to both health workers and mothers (2). In case of adequate growth, parents could be encouraged and be given advice on how to preserve the good growth of their child. In case of growth faltering, the condition could be detected and made apparent long before any easily observable signs or symptoms of malnutrition become evident. This would trigger a reaction of health workers and caretakers in order to institute timely corrective measures and put the child back on an upward growth trajectory (3-6) . To put it in a different way, parents are expected to appropriate the chart as a tool to evaluate and understand the growth and development of their children.

As malnutrition is an important factor associated to the high under-five mortality rates observed in developing countries (7,8), great hopes have been put in GMP programmes to achieve the goals of the Child Survival and Development Revolution (2,9) . However, several authors have pointed out that despite important international efforts, there is little evidence of achieving these goals (10). Explanations for this failure have been sought in the poor performance of the growth chart as a measurement tool, the insufficient or inadequate training and supervision of basic health workers (11) and the poor understanding by parents, particularly those with low school achievement (12-15).

In the whole debate on growth monitoring, the way mothers understand and use the growth chart has received much attention.

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How health managers, such as District Medical Officers who organize the health system and the activities, view and appreciate growth monitoring has, to our knowledge, never been addressed. This is quite surprising when one considers that they bear the responsibility for implementing GMP at the local level and as such constitute the main articulation between international health policies and national/regional contexts of application. The aim of this qualitative research was therefore to explore the perceptions of these professionals regarding GMP and understand their difficulties and expectations.

## Methods

Between October and December 2000, 18 district medical officers from South America, Europe, Africa and Asia were interviewed by an anthropologist with a medical background. They were randomly selected from a class beginning a public health master programme in Antwerp, Belgium. All of the interviewees were or had an experience as District Medical Officer.

**Table 1: Characteristics of participants**

	Age	Sex	Country	Function
1	34	M	Burkina Faso	District Medical Officer
2	30	M	Bolivia	Head of Health Centre
3	39	M	Morocco	Head of Hospital
4	42	M	Conakry Guinea	Prefecture Medical Officer
5	36	M	Chad	District Medical Officer
6	35	M	Zambia*	Medical Officer
7	36	F	Niger	Regional Medical Officer
8	38	M	Morocco	Head of Medicine Service in hospital
9	38	M	Ivory Coast	District Medical Officer
10	37	M	Haiti	Head of Planning Service, Ministry of Health
11	36	F	Rwanda	Medical Officer
12	36	M	Congo DRC	District Medical Officer
13	42	M	Togo	Prefecture Medical Officer
14	30	M	Cuba	Director of Health Services
15	46	M	Chad**	Paediatrician
16	42	F	Philippines	Chief Executive Officer, Health District Management Team
17	43	M	Bangladesh	Head of Field Service Unit of sub-district
18	29	M	Zimbabwe	Medical Officer
19	32	M	Kenya	Paediatrician, Research Officer

Nationality: \*=Belgian, \*\*=Italian.

Other participants were working in their own country

The in-depth interviews were conducted in French and English and lasted 45 minutes to 75 minutes. A series of structured prompting questions was used (see Table 2). All interviews were tape-recorded with the respondent's permission and fully transcribed. Transcription was done by a secretary and was checked against the recordings by the reviewer to ensure accuracy. Data were coded using QSR Nudist 5.0 software (QSR International Pty. Ltd., Melbourne, Australia. 2000) to facilitate cross-indexing. Coding in thematic blocks was made on the basis of the prompting questions, but also iteratively for themes emerging during the close examination of the transcripts. Analysis of data was performed by the interviewer and cross-checked by a sociologist to ensure reliability (16,17). The transcripts of the interviews were analyzed for the discourses that participants drew on to articulate their understandings and experiences of GMP. It is accepted in such research that the discourses articulated by the participants emerge from a pre-established stock of discourses already circulating in a culture, i.e. the field of international health in this case. The use of discourse is highly socially contextual. The data were thus considered as social constructs, i.e. as displays of perceptions, belief systems or assumptions, not as presentation of versions of "reality".

**Table 2: List of the prompting questions used during the interviews**

1	Did/do you use the growth chart in your work? In which circumstances? What do you think of it? What were/are your expectations/objectives in using such tool? Were they satisfied?
2	In your experience, do you consider that the GMP programme was well done? On what criteria do you base your evaluation? How would you define a good GMP programme?
3	If the UNICEF proposes, for whatever reason, to stop using the growth chart, how this recommendation would modify programmes aimed at improving health and growth of children in your country?
4	Do you consider that GMP contributes to improve child health? If yes, by which mechanisms? If no, what are, according to you, the problems, the impediments, the conditions that should be met?
5	Did/do the parents use the growth chart? Do they find it useful? How do they measure the growth and development of their children? Do they use other criteria than the weight and the height to do so? How did/do you proceed with your own child (children)?
6	You said that a copy of the growth chart was given to the mother. What was the rationale for doing so? Was it realized?
7	What conclusions would you like to draw following our discussion?

## Results

The interviews collected a large variety of experiences and opinions, reflecting the international pattern of the panel. Interviewees were coming from settings where nutritional issues, malnutrition rate, literacy rate, health policy, organization and resources of health services differed a lot (see table 1). Interviewees themselves had a very different personal and professional history, although all were medical doctors and had served as District Medical Officer.

Despite this variety of backgrounds, the interviews were quite homogeneous in the appreciation of the effectiveness of growth monitoring. The majority of the interviewees expressed the opinion that, in their experience, GMP did not work the way it ought to.

*"In theory, we have to follow-up a lot of parameters. In reality, it is mainly focused on vaccination activities..." (12, 42-44)*

*"I would say it is quite a difficult activity because we have a lot of difficulty to carry it out [...]. In the context of Chad, I think, yes, that this is nearly utopian" (5, 291-293)*

*"Of course, we did it [GMP]. There are many things done only by routine. It was there, so we kept it on, maybe due to the lack of time to find a new strategy" (6, 140-141)*

*"In theory, it is a good tool, it is very interesting, but in practice, it is different. It is maybe more a tool for me than for the mother. To do evaluations, statistics" (15, 168-170)*

This discrepancy between theory and practice of GMP was indeed identified at two levels in the discourse of the participants, first in the narrative of personal experiences, second in the expression of understandings and perceptions of GMP.

### *Narrative of personal experiences*

Interviewees evoked operational difficulties in the implementation of GMP. The most consistently reported reason was irregular attendance of mothers at weighing sessions once the vaccination schedule was completed. Participants explained this as a lack of interest of mothers in programmes, which do not display technical acts and visible effects. Mothers were also said to rely on their own criteria to evaluate their child's growth and health, and to refer themselves to health services only in case of obvious child disease (see communications by CedS, pp 87-95, and by Emma, p 80-86).

*"Maybe malnutrition is not perceived as an infectious disease. Measles is something striking, is something that people know well. Malnutrition becomes a problem when it is severe. When it is moderate, people do not notice it." (15,183-187)*

*"Ideally, it is an objective of prevention. But in practice, it is as I told you. For health agents as for beneficiaries, it is rather when there is a problem" (1,622-623)*

*«Because in general mothers when they think their child is in good health, he runs, he gambols, they do not see the necessity to bring the child only for parameters measurements...»(5, 30-32)*

An additional explanation of the poor adherence to the programme put forward was the weakness of awareness campaigns for GMP to motivate parents to adhere to the programme. The responsibility of this was partly attributed to health workers and their low motivation to perform GMP activities. Low competence and the heavy workload of field staff were presented as impediments to GMP<sup>2</sup>, although it was not clear why GMP should have been more particularly affected by these 2 limitations than other health activities.

*"It is neglect somehow. But it is also due to the (low) interest of health agents for nutritional problems" (1,353-355)"*

*"Thus the nurse can have the feeling that her effort is a little bit useless, disproportionate, not always, but sometimes. You have to control, to put some pressure on her but always you have to keep in mind that there are a lot of other tasks, maybe more crucial in the context" (2,150-153)*

*"Often, the problem is that our health agents can not argue properly with an old mother who has 12 or 15 children. What advice could you give her? You do not advice her because this woman knows better than you how to manage a child. Often people [health workers] are limited because their basic background is not enough..." (7, 187-193)*

*"When they get too busy, they have a lot of forms to fill in, then do not explain well to the mothers. They also think that it is not that important that mothers understand, because the understanding point is quite low, you see." (16, 58-61)*

A second group of limitations of growth monitoring put forward related to the capacity of response of parents to the information provided. First it was said that the parents fail to

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<sup>2</sup> This was particularly mentioned in Sub-Saharan countries where the responsibility of the GMP is beared most of the time by basic health workers.

understand the growth chart, mainly because they are illiterate or not educated.

*"...Because in our country, they are illiterate. They do not understand too much what is written on it [the growth chart], it is not too much their concern..." (1,341)*

*"The literacy rate is not very high. So she [the mother] goes home and she doesn't know" (9,265-266)*

*" But I am wondering if she [the mother] really understands. Because it is simple, but sometimes nurses also have difficulties to fill in [the growth chart]..." (15, 209-210)*

*"It is difficult to implement because people are mostly illiterate. There is a lack of enthusiasm, of knowledge; they cannot understand what is good for them, what is bad for them. Illiterate mothers tend to participate less, they are less concerned" (17, 23-26)*

Secondly, the lack of response to the messages was related to food insecurity and thus limited applicability of nutrition advice in some contexts.

*"You will say 'he is malnourished, you must feed him'. But they know it, they know that the child does not eat very well because it is the same meal every morning, every lunchtime, every evening, there is no milk, it is always bulgur. What are you going to propose? You are not going to propose anything because she won't have the capacity to apply what you will propose (...) This is a problem. Thus I think they are right not to come to be repeated the same thing ten times" (7,515-523)*

#### *Understandings and perceptions of GMP*

The preceding results demonstrated that the explanations given for the resented malfunction of GMP relate much to operational problems, in particular the demand of the population for technical aspects and not for promotional aspects. Looking at the statements provided by the interviewees, we find the same dialectic in their discourse between technical (visible, curative) and intuitive (invisible, preventive or promotional) aspects of care. Health officers endorse in fact, consciously or implicitly, the importance of the technical aspects in GMP with much less emphasis put on health and growth promotion.

*"This (growth) chart was made in the frame of the national vaccination day, thus the objective is the vaccination. In the mind of*

people [health workers], the weight and height monitoring is a secondary objective" (3,278-281)

"Yes, I always said that, the mother has not come to learn that her child gained weight or not. She has come for you to do something else. You do the vaccinations" (18, 201-203)

One of the interviewees did this revealing pun:

"A malnourished one is not going to contaminate somebody else. He does not carry much weight in the society" (9,389)

Strikingly, the criteria used by mother to evaluate their child's growth, as mentioned above, were grossly unknown by the interviewees but nonetheless qualified as subjective, approximate, and intuitive by them.

"The child has no disease, no diarrhoea, no whooping cough, he walks, and he laughs. That is all. It is a subjective assessment" (13,329-331)

"... But besides this, there is no other means to evaluate, except the physical aspect. Because the majority of mothers, nearly all of them, in the countryside, do not have weighing scale at home, it is just the physical aspect" (10,301-303)

"Thus I think that mother's perception is a criterion that can not be really defined, but I believe it is important even if it is intuitive"(5,176-177)

"I think these are good criteria because mothers at home need to know and they are not technicians, and the Z-scores are not their concern at all. But for the technician, I think that more technical criteria are required" (9,277-282)

"Their criteria give an idea but this is not something that is very acute (...). We are giving GMP criteria in a scientific way, they [the parents] are not up to that point, they have a very general idea" (17, 356-357)

Thus mothers are said to come for vaccinations because this is part of the technical sphere that is under the responsibility of the health services. They do not come for growth monitoring because this is part of the field of social communication, which is outside the acknowledged and claimed responsibility of health agents. Strikingly, some of the interviewees even tended to consider communication as a "no-act", while weighing was considered as the technical justification of their presence in GMP. As summarized by one interviewee:

*"Finally, to weigh, as I said previously, demonstrates to the mother that an act is done [...]. Secondly, it is also an act, not a medical one, but an act made by the health agents that can encourage the mother to come back the next time. Because if she comes to sit down and listen the advice, it is not so clear that she will come because, in the village spirit, she will think it is not so useful to go only for advice. That is what I think" (5,132-147)*

*"Her task [the village volunteer] is much more to gather the mothers and to be willing to listen to them but she does not act" (5,344-45)*

From this perspective, communication with parents on the basis of the growth curve is secondary. It was never reported as a means or a result of GMP, nor as a criterion to evaluate the programme during supervision sessions. The growth chart was mainly considered as a tool intended to be used by health services for diagnostic purposes and for the health information system. The following example can serve as a good illustration of it. In every country, the growth chart, or a copy of it, is given to the parents. But the rationale for doing so, as expressed by the interviewees, was preservation and transfer of information, in particular information on vaccinations and diseases. Never were cited, for instance, appropriation of the tool by the caretakers or their commitment in monitoring their child's growth. The fact that caretakers did not understand the content of the chart (and thus were unable to recall the clinical history of their child) was even presented by some interviewees as the precise reason to give it to them, in order to bring it with them at every consultation.

*"I find it useful to not lose information. But if there were another means, better to get the information, I think we can let it [the health card] down" (12, 225-227)*

*"The objective is not to discuss with parents to educate them but the objective is to determine if the child is malnourished or not. I think that with that objective, we do not have to discuss with the mother to know if the child gained weight or not" (9,295-297)*

Once the diagnosis is made, the focus is on education, recommendations, vertical transmission of information and advice, rather than on communication with the caretakers. Rarely conditions are met for a balanced and specific exchange of information regarding one particular child's health.

*"We measured weight, we look if he [the child] is inside [the growth path] or he is not. If he is not, we advise the mother to do that*

*or that. The objective is not to improve the relationship with the users" (9,302-304)*

*"During preschool consultations for instance, they used to measure the weight, to report it, and then to give ex-cathedra a health education session for everybody. And standard advice was given on how to prepare meals, child spacing,..." (6,79-81)*

*"We developed a strategy: when the weight is becoming stationery, these mothers have to stay after the consultation for nutritional advice" (12,152-153)*

*"Advice is always given. There is more or less standardized advice. This depends on the experience and competence of health agents to adapt it to the context, to every single mother. But advice is always given" (2,170-173)*

One interviewee, mentioning a quite satisfactory ability of his staff to interact with caretakers, perceived the unbalance in the communication process:

*"This is my feeling, my understanding: health agents, nurses, doctors can speak well but often can not listen. Maybe that messages and advice will work much better if one can develop the capacity to listen. It is only an idea. It is easy to talk" (2,207-212)*

*"Our function as parents is to give our views on our conception of malnutrition. I think there are a lot of presupposed things, that maybe are true for us, but maybe are not" (2,448-449)*

As mentioned above, the dichotomy was conscious for some of the interviewees. They explained it as the result of their professional training with its focus on curative approach, but also by the fact that the health system itself tended subsequently to give more value to technical acts.

*"I think that it depends on the training, I would not say on the ideology, but on the way to see things as we were trained to. Yes, you are health agents; yes you are here to fight against diseases, to heal people. It is how it is said during your training or even on several occasions..." (1,641-645)*

*"We are not trained on the determinants of nutritional issues, that is to say to evaluate problems in their globality" (1,359-360)*

*"It is necessary to vaccinate, to reach a high coverage. Much more weight is given to that. For instance, if you speak of the minimum package of activities at the level of the Public Health Ministry, they look much more at the immunization coverage than at the management of malnourished children. It is much more interesting..." (5,195-198)*

*"Communication with parents is more or less good, but we have to keep them pressurized [the health workers] to make their performances. Are they interested? They are more concerned by immunization because each single case is checked by us, and this is transmitted at the district level. Much emphasis is given nationally on immunization." (17, 258-62)*

Finally, the gap between theory and practice, between what should be done and what is actually implemented, resulted for some medical officers in a feeling that GMP was a frustrating but compulsory routine because prescribed by national and international recommendations. Others got over the contradiction by considering that the programme had still a role to play because there was either no relevant alternative for it or because the growth chart was useful to health services.

*"First, this is an activity of the Ministry of Health, thus we can not forget it because of the risk of being reprimanded (...). It is the WHO, the UNICEF who advised to do so. It is the WHO who said we have to do that. If not, certain things are not funded, so we do it" (13,363-371)*

*"Because the doctor feels very nice, very comfortable with the Mother-and-Child programme. It is a priority programme of the Ministry of Health" (14,51-52)*

*"I would say that most of the time we do it because we were told to do so, the WHO told us that it was useful, important, it was interesting, but I think that in every-day practice, with some experience, you can manage without the growth chart" (15,66-69)*

*"It won't change anything if we stop the programme. All the more that the coverage rate is not high. Thus with or without the chart, we work the same way. [Hesitation]. But even so, it is a tool for the management of activities that we can maintain" (19,154-157).*

*"I do not believe that used as it is it will make great changes. On the other hand, could it be useful in a more global approach? I still have to think about it. But it is even so useful; there is something visual in it. And as a tool, there is always an explanation phase, it could be useful indeed" (6, 115-120)*

*"And before abolishing, you need something to replace it, a valid alternative, and we do not have it. We have no time for it and I think that there would be some resistance from the staff to not use it anymore" (16,143-146)*

## Discussion

This study was exposed to two potential limitations. The first one concerns the external validity of the results. The DMO's interviewed constituted a particular group with at least the specificity of beginning a master in public health in a European country. They were not necessarily a representative sample of DMO's active in the field. The second one concerns a possible information bias. The content of the interviews could have been influenced by the fact that the study took place in the institute where the interviewees were studying and was led by an anthropologist employed by the same institute (18). The Master course is also focused on health care management and not on disease control. It has large emphasis on participatory processes and the provision of health care in a process of communication with the population. Some type of answers could therefore have been considered more appropriate or acceptable to provide to a staff member. If these two limitations were real, they do not contradict or invalidate our analysis however. On the contrary, we would have expected more answers mentioning health service activities committed to communication and transfer of decision-making powers.

Health professionals interviewed in this study reported a two-fold discrepancy between the planned activities and actual practice of GMP.

The first level of discrepancy was linked to operational difficulties in implementing GMP in various contexts. The findings of this study are consistent with those of previous studies. The drop in compliance after the immunization schedule is complete was often mentioned and raised questions about the real acceptability of GMP by the caretakers (19). On how caretakers understand the chart, the reviewed studies reported mitigating results. But overall scores are low (12,20-24). The association with literacy, however, is quite consistently reported in the studies (12). The understanding of the growth chart and of GMP by health workers, on the other hand, has been much less addressed, although it is potentially a crucial element (25-28). For instance, it was shown in one study that when health workers had a correct knowledge of GMP, a substantially higher proportion of growth charts was maintained (23). One potential explanatory factor for the low comprehension rates reported in mothers, as mentioned by some interviewees, could be due to low comprehension or low communication ability of health workers themselves (19,20,24,25). It has been proposed that nutrition education could be more effective by making it more specific, action-oriented, individualized, and relevant (29-31). But

this will be only if clear algorithms for decision-making are available and if health workers are trained in social communication and nutrition negotiation (29). Unfortunately, these conditions appear to be rarely fulfilled under field conditions (13,14,19,25-27,32,33). For instance, a study in Zambia reported little variation between the consultation time of a child who was growing well and one with faltering growth (about 30 seconds in both cases!) (33). In Papua New Guinea, the MCH nurses did not spend any longer if the child was losing weight (27).

The acceptability of growth monitoring by health workers has been poorly investigated. It has often been reported, as did several DMO's in this study, that health workers perform weighing sessions more like a ritual than anything else. A possible explanation of this attitude can be found in a behavioural study in Papua New Guinea. It showed that nutrition education was a task, which MCH nurses did not enjoy and did not see as very important; consequently it was all but eclipsed by examining, weighing and prescribing (27).

The present study revealed also that most of the medical officers interviewed, by understanding or by conviction, did not attach great importance to the communication process theoretically underlying GMP. Two hypotheses can be proposed to explain the poor results of GMP (34). The concept is either irrelevant or wrongly implemented. The findings of our study widened this second hypothesis. If caretakers, in general, understand and use poorly the growth chart, this might be the final result of a gap in understanding between international policy makers and local implementers. Indeed, in the interviews, GMP appeared quite secondary in Primary Health Care, and communication quite secondary in GMP. But it might be as well that the two hypotheses are strongly interrelated: to implement a same concept (monitoring and promoting growth) with a same tool (graphical representation of the growth) in a variety of cultural contexts and nutritional causalities can be considered *a priori* irrelevant. The question can be raised if this conceptual and technical sort of imperialism is not antinomic to the idea of communication also imbedded in GMP. For instance, the fact that what constitutes adequate growth does not necessarily overlap between lay people and health professionals has been overlooked (35,36). It was shown in Ghana, for instance, that weight variation was only one indicator among many others traditionally used by caretakers to assess the nutritional status of their children (37). In promotion as in evaluation of GMP, the significance of local beliefs and behaviour patterns concerning child growth has seldom been recognized within the context of more "modern" approaches based on Western concepts of health and disease. The important international promotion of the growth chart

might not have taken various cultural definitions of adequate growth enough into account so far (38-40). Thus it has been proposed that a way of improving GMP would be to bring together the observations and measurements made by both mothers and health workers (20,31,39). However no GMP programme based on such association of criteria has been reported so far. And unfortunately, according to the results of this study, the process seems far from being under way.

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