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Research Article

Gaps and opportunities for the integrated delivery of mother-child care, postpartum family planning and nutrition services in Burkina Faso, Côte d'Ivoire and Niger

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Background

Maternal and infant deaths can be prevented through integrated service delivery during pregnancy, postpartum, and early childhood. Our study analyses the gaps and opportunities associated with integrating maternal, newborn, and child health (MNCH) services with postpartum family planning (PPFP) and nutrition services at different points of contact in health facilities in a preintervention context in west Africa.

Methods

We conducted a qualitative study from June to July 2018 in Burkina Faso, Côte d'Ivoire and Niger. The points of contact studied at the health facility level were the prenatal care, postpartum care and immunisation/growth monitoring services. Individual in-depth interviews were used to collect data from key informants (providers, community health workers and mother-child health programme managers). To measure the degree of service integration, we used the dimensions and indicators included in the Integra Initiative framework concerning four aspects of integration: physical (the availability of multiple services in the health facility), temporal (the availability of care more than one day per week), provider level, and functional (the receipt of integrated services by the client).

Results

The findings of this study show that the integrated delivery of MNCH, PPFP, and nutrition services is configured in similar ways in Burkina Faso, Côte d'Ivoire and Niger and is insufficient at all points of contact. Physical integration is high. However, the study found important gaps in temporal, functional and provider-level integration. The main barriers to integrated service delivery are the shortage of providers, the lack of training in integrated service delivery, and insufficient service organisation. However, the availability of multiple services throughout the week, the multiple points of contact between the mother-child pair and the health system, and the multiple skills of providers represent opportunities for functional integration through the establishment of a formal referral system between the different care units with follow-up and feedback among service providers.

Conclusions

The provision of training and the development of a well-organised referral system in different health facilities, taking into account the specific characteristics of each health facility (urban/rural, primary health facility/district hospital), can improve the delivery of integrated MNCH, PPFP, and nutrition care to the mother-child pair.

Maternal and neonatal mortality remains high with 303,000 deaths of women, globally.[1] More than half of these cases (295,000 death in 2017) occurred in sub-Saharan Africa.[1] However, there is a disparity in this mortality

among countries, mainly in West Africa, which is characterised by limited resources countries. In 2017, for instance, the maternal mortality rate was 509 per 100,000 live births in Niger, 320 in Burkina Faso, and 617 in Côte d'Ivoire.[1] Infant mortality rates were catastrophic: 48% in Niger, 42.7% in Burkina Faso, and 27% in Cote d'Ivoire.[2–4] These three countries have a similar organisation of health systems, starting with the primary health facilities, while the national and teaching hospitals represent the top.

Maternal and child deaths can be avoided by integrating antenatal care (ANC), family planning, postpartum care, immunisation, and nutrition services.[5] Although the effectiveness of these services in reducing maternal and newborn morbidity and mortality is known, the implementation of such strategies is not always optimal. The integration of service/care is recognised as an effective strategy to optimise service provision during pregnancy, postpartum, and early childhood.[6–8]

Integration of care facilitates the delivery of care that is both requested and not requested by users through the use of one-stop-shop strategies (full integration), models that are colocated in the same facility (partial integration), or networks of facilities (external referrals). This integration involves the availability of services and an explicit organisation to deliver them.[9] Clinical integration responds to the need for comprehensive and continuous care. This strategy must ensure the optimal integration of care both in time and space and among professionals.[10]

Previous studies on service integration have shown efficacy in immunisation, family planning, and Human immunodeficiency virus infection and acquired immunodeficiency syndrome (HIV/AIDS) services provision.[5,11–16] Most of these evaluations have focused on experiences related to the integration of services for pregnant women, mothers and children in terms of their effects,[11,13,15,17,18] feasibility, or acceptability.[16,19,20] Few studies have addressed the barriers faced during this process and the factors related to its success.[21–23] Furthermore, these interventions have focused on two aspects (HIV/reproductive health (HIV/RH), family planning/antenatal care (FP/ANC), FP/immunisation) and rarely on the entire maternal and childcare continuum.[5]

This study, conducted as part of the Regional Hub for the Continuum Delivery of Postpartum Family Planning, Nutrition and Essential Newborn Package (INSPiRE) preintervention, analyses research gaps in this context and the associated opportunities for integrating maternal, newborn, and child health (MNCH), postpartum family planning (PPFP), and nutrition services at different points of contact between a mother-child pair and the health systems of Burkina Faso, Côte d'Ivoire, and Niger.

METHODS

STUDY SETTING

We conducted a qualitative study in Burkina Faso, Côte d'Ivoire, and Niger, three limited-resource countries in West Africa selected by the INSPiRE Initiative to test model for integrated care delivery. INSPiRE is an initiative funded by the Bill and Melinda Gates Foundation and led by IntraHealth International; partners in this initiative include Institut de Recherche en Sciences de la Santé (IRSS), Path Finder and Helen Keller International.

The three countries have pyramidal health system organisations. The first level comprises health districts with district hospitals (DHs) and their primary health facility networks. The second (regional) or intermediate level is represented by regional hospital centres (RHCs) and maternal and child health centres (known as MCHCs in Niger). This level is the point of referral for district hospitals. The third level, which is the highest reference level, consists of national or university hospitals.

The study was held in the central, central western and high-basin regions of Burkina Faso; in Tilabéry, Niamey and Maradi in Niger; and in the regions of Agnéby-Tiassa, Indenié-Djuablin and Abidjan in Cote d'Ivoire. The study included primary health facilities and referral hospitals in each region.

STUDY POPULATION AND SAMPLING

Purposeful sampling was used to select regions and participants. In each country, three regions were chosen, and within each region, three health facilities were selected according to their location (urban versus rural) and referral level (district hospital, primary health facility).

Participants included key informants from the Ministry of Health (managers of mother and child health, nutrition, and FP programmes), community organisations, international agencies such as the World Health Organization (WHO) and United Nations Population Fund (UNFPA), nongovernmental organizations (NGOs) and associations working in the fields of FP, nutrition and MNCH. In addition, we interviewed care providers and community health workers (CHWs).

DATA COLLECTION

We used in-depth individual interviews to collect data from key informants. Two trained sociologists conducted the interviews in a private location and lasted between 30 and 45 minutes each. The interviewers used semi-structured interview guides that included the following themes: RH and nutrition; actors and organisations involved in RH and nutrition services; the level of integration of PFPP, MNCH, and nutrition programmes and services; the planning process; service organisation; gaps in the integration of PPFP, MNCH, and nutrition programmes and services; opportunities for integration; and contextual factors that limit or promote integration.

DATA ANALYSIS

All interviews were recorded with Dictaphones and subsequently transcribed using Microsoft Word software. Data were encoded and analysed using NVivo 11 software. The analysis framework was based on the following themes:

- Organisation of MNCH, nutrition, and PPFP services

- Level of integration of PPFP, MNCH, and nutrition services
- Gaps in the integration of PPFP, MNCH, and nutrition services
- Opportunities for the integration of PPFP, MNCH, and nutrition services
- Factors that promote or limit the integration of services.

For the purposes of this study, integration is defined as the provision of two or more services to mother-child pairs at the same visit. This study focuses on the integration of the following services: maternal and child health (MCH), FP, and nutrition during ANC, delivery, PNC, and immunisation/growth monitoring.

To measure the degree of integration of services, we use the dimensions and indicators of integration included in the Integra Initiative framework.[9] Thus, four levels of integration are defined as follows:

- Physical integration: the availability of multiple services from the same health facility (with or without referrals among units) or in the same room. We considered physical integration to be high when two or more services are available to mother-child pairs and to be low when only one service is available.
- Temporal integration: the availability of multiple services in the same health facility throughout the week versus on specific days. Temporal integration is high when service delivery is permanent and low when it is discontinuous.
- Provider-level integration: a single provider offers more than one service (whether care offered by providers or care requested by the client) in addition to consultation. This form of integration is high when two or more services are offered.
- Functional integration: the receipt of integrated care by clients or multiple services (whether requested or unrequested) are offered by one provider or by multiple providers during a single visit. This form of integration is high when mother-child pairs receive at least two services.

ETHICS CONSIDERATIONS

All participants were informed that all the information collected in this study would remain confidential. They provided their informed consent in writing and consented to audio recording of the interviews. Each participant received a copy of the consent form. The information collected from the participant was completely anonymised. No mention of the identity of participants or statements that might identify them was included in this study.

RESULTS

CHARACTERISTICS OF THE PARTICIPANTS

A total of 102 persons were interviewed (34 in Burkina Faso, 38 in Niger, and 30 in Côte d'Ivoire). Most of the participants in the study were healthcare professionals. Table 1 summarises the profile of participants by country.

GAPS IN THE INTEGRATION OF MNCH, PPFP, AND NUTRITION SERVICES IN THE THREE COUNTRIES

Our findings show that the delivery of MNCH, FP and nutrition services is similar in Burkina Faso, Cote d'Ivoire, and Niger. The integration of maternal and child services is insufficient at the different contact points, including prenatal consultation, delivery, postnatal consultation, vaccination, and consultation regarding the healthy infant. Specific days are dedicated to certain services and integrated service delivery that differ between primary health facilities and district hospitals. Physical integration is high, but there are significant temporal, functional, and provider-level integration gaps.

PHYSICAL INTEGRATION

Physical integration refers to the availability of several services in the same health facility and/or the same room. In all three countries, physical integration is high in all health facilities. PPFP, MNCH, and nutrition services are offered in primary health facilities and district hospitals. In district hospitals and urban primary health facilities, almost all PFPP, MNCH, and nutrition care forms are available on the same days at different stations.

TEMPORAL INTEGRATION

In terms of temporal integration (the availability of care more than one day a week), the evaluation showed that the integrated delivery of PPFP, MNCH, and nutrition services differed between primary health facilities and district hospitals. In district hospitals in the three countries, temporal integration is quite high. MNCH, PPFP, and nutrition services are offered on the same days in the same health facility at different points of access.

In primary health facilities, the service integration level depends on the facility's location. In urban primary health facilities, the levels of temporal integration are similar to those in district hospitals and are quite high. MNCH, PPFP, and nutrition services are available throughout the week at different points of access. However, in rural health facilities, temporal integration is low. Few services are offered at the same time or for more than one day per week. Some services, such as immunisation, healthy infant consultation, and ANC, are provided on specific days, ranging from one to three days a week.

PROVIDER-LEVEL AND FUNCTIONAL INTEGRATION

Provider-level and functional integration (the receipt of integrated services by the client) is insufficient at each of the four points of contact we analysed. The services offered at each point of contact remain focused on the patient's main reason for the visit. For instance, during immunisation visits, providers offered care only to the child. Mothers are not offered any services during a visit aimed at infant immuni-

Table 1. Characteristics of the participants

Profile	Burkina Faso	Côte d'Ivoire	Niger
Providers	21	18	24
Ministry of Health programme managers (mother and child health, nutrition, FP)	3	2	3
International organisations (WHO, UNFPA, UNICEF)	3	3	3
NGO/association	3	4	5
Community health workers	4	3	3
Total	34	30	38

NGO – Non-governmental Organization; UNFPA – United Nations Population Fund; UNICEF – United Nations Children's Fund; WHO – World Health Organization.

sation. During postpartum visits in many health facilities, services are focused on the mother without considering the baby's needs. Many providers do not offer integrated services to the mother-child pair at the same visit.

Our findings showed that the integrated delivery of PPFP, MNCH, and nutrition services depend on the facility's location and the referral level.

In urban primary health facilities, functional and provider-level integration are weak. Although most MNCH, PPFP, and nutrition services are offered in maternity wards and even occasionally at adjacent locations, there is no formal referral system to facilitate the provision of more than one service during the same visit. Care offered at the different points of contact remains largely focused on the main and explicit reason for the visit.

In rural health facilities, functional integration is practically non-existent. For example, postnatal care is rarely offered on days devoted to ANC consultation days. As one health worker in Cote d'Ivoire stated,

> *"We reserve it for days when there is not much to do; when there is ANC or growth monitoring, it is difficult."*

The only service that mothers receive is the information provided by counselling groups before consultations (ANC, immunisation /growth monitoring) begin. This assertion was confirmed by a nurse in Burkina Faso:

> *'Before starting ANC or immunisation services, we provide group counselling on a specific topic: FP, ANC, hygiene, nutrition, etc.'*

In district hospitals in the three countries, integration at the functional and provider levels remain very low. Although FP, immunisation and ANC services are available on the same days in the same hospital, there is no mechanism to facilitate the provision of more than one service during a single visit. In district hospitals, ANC is offered 4-5 days per week week, typically on Monday through Friday, but the promotion of PPFP in the context of ANC is insufficient. In the few centres that do promote PPFP promotion, this service continues to be provided in the form of group sensitisation, with the exception of women who have had a caesarean section. As one midwife working in a district hospital in Niger stated,

> *"We can do FP immediately before discharge; we especially do counselling for family planning with women who have had a caesarean section; before releasing them, we suggest a method, and they choose."*

The gaps in integrated services delivery to mother and her child at the points of contact at the health facility, in the three countries are summarised in table 2.

FACTORS LIMITING THE INTEGRATED DELIVERY OF MNCH/FP/NUTRITION SERVICES IN THE THREE COUNTRIES

In all three countries, the integration of MNCH/FP/nutrition services is limited by several factors, including the organisation of services, staff shortages, and the lack of trained providers for integrated service delivery. These factors vary according to the health facility in question.

ORGANISATION OF SERVICES

In district hospitals and urban health facilities, providers are often limited to specific positions. This limitation is the case in the maternity ward, where prenatal care, delivery, postnatal care, and FP are compartmentalised. Thus, providers end up specialising in one position. In Niger, for example, there is a strong specialisation of providers in malnutrition management centres. In addition, there is no formal referral system to link the different points of contact. This situation hinders the delivery of integrated services to mother-child pairs.

The trend towards the specialisation of providers was described by a key informant from Cote d'Ivoire as follows:

> *"What we see in services is that when midwives come to the health facility with basic training, they integrate a service, for example, maternal health, child health or FP services, and only dedicate themselves to these activities. Providers must be rotated periodically (every three months) so that they are always operational in all forms of care in the unit.'*

STAFF SHORTAGES

In rural health facilities, the main obstacle to integrated care is the lack of human resources. Staffing standards are not respected in rural areas; there are a maximum of three providers for each facility. Due to such low numbers, provider workloads become high, and integration becomes

Table 2. Gaps in the integration of care provision by point of contact

Point of contact	Integration gaps in the selected facilities in the three countries
Antenatal care (ANC)	• PPFP promotion is not performed. • Nutritional counselling for pregnant women is not sufficient.
Postnatal care	• BCG and Polio 0 are not offered immediately postpartum. • The promotion of family planning is not systematic. • The availability of contraceptive methods in the immediate postpartum period is highly insufficient. • The supply of the means of contraception (e.g., intrauterine device (IUDs)) is not always reliable. • Nutritional counselling for postnatal women (maternal nutrition and exclusive breastfeeding [EBF]) is not systematic.
Growth monitoring	• Healthy infant consultation is focused only on the child; the mother's nutritional status is not considered. • The inadequate provision of family planning services (counselling and/or methods). • Insufficient nutritional counselling for the child. • Absence of services for the management of malnutrition in rural or urban health centres (in Cote d'Ivoire).
Immunisation	• Limited availability of immunisation in rural health centres. • PPFP services (counselling or methods) are not offered to mothers. • No other services are offered to the mother and child.

nearly impossible, as this provider from Burkina Faso confided:

> *"I think (that in order) to do integration there, you need more staff; I alone cannot do all this work. I have a nurse assistant who helps me, but for care (delivery), I need another midwife; otherwise, on the same days, I have to do postnatal consultations, weigh the children, perform the BCG, etc. If we have to integrate nutrition, it becomes too much."*

A key informant from Burkina Faso substantiated this opinion:

> *"Some providers are willing to do it (integration), but it is really difficult when there are only two of them, sometimes only one provider, and on immunisation or growth monitoring days, women are very numerous. Even the talk is sometimes skipped... The provider does the essentials to offer the main service for which the women came, and then that is it... Well, I don't always blame them because for some, it is really difficult to do more..."*

LACK OF TRAINED PROVIDERS

Another barrier to delivering integrated MNCH, FP and nutrition services in primary health facilities and district hospitals is the lack of providers trained to offer integrated services. Many providers have received training to provide maternal care, family planning, or nutrition, so they focus on the main reasons women visit the health facility. Depending on the country in question, some providers lack specific skills. In Côte d'Ivoire, the lack of skills in managing childhood malnutrition prevents some providers from integrating nutrition services. In Burkina Faso and Niger, the lack of training in IUD insertion limits the integration of PPFP with other services. Furthermore, the lack of infrastructure in some health facilities limits the reorganisation of services to offer integrated services to the mother-child pair. Some facilities have only two rooms for ANC, delivery, PNC, and FP.

OPPORTUNITIES FOR INTEGRATION

Our study identified opportunities for delivering integrated care to mother-child pairs that are common to all three countries. First, the strong physical and temporal care integration represents an opportunity for functional integration through formal referral mechanisms between the different care units. Similarly, the multiple points of contact between the mother-child pair and the health system provide an opportunity to offer integrated care to the pair. For example, providers can provide nutrition and FP services to mothers during infant immunisation sessions and child growth monitoring. During postpartum visits by the mother (Day 6 and Day 42), care can be offered to the infant.

Another opportunity identified is the multiple skills of healthcare providers. Indeed, in Côte d'Ivoire and Niger, the basic training of midwives includes all services related to maternal and newborn care (except malnutrition in Côte d'Ivoire). In Burkina Faso, nearly all provider profiles can offer integrated care if this ability is reinforced.

Furthermore, the strong commitment of policy-makers to the integration of care, which is reflected in the countries' strategic policies, also represents an opportunity. In Niger, for example, we have a letter about the integration of FP and immunisation in the CRENI that was signed by the Secretary General of the Ministry of Health and addressed to the general directors of hospitals. The letter states the following:

> *"I instruct you to integrate FP (counselling and provision of contraceptives) and immunisation at the level of all CRENIs in your respective facilities as soon as you receive this letter."*

Furthermore, most providers have a positive perception of care integration and find it beneficial to clients. A midwife working in an urban health facility in Niger described the related benefits as follows:

> *"There are many benefits to integrating all these services. These services should normally be integrated at all levels.*

> *Now, we don't have to say to the mother: Go and come back on this day to get this service. The mother, when she is there, should normally receive all these services because all these services exist, so that means that we must make an effort so that this mother has all these services..."*

Another midwife working at a rural health centre in Burkina Faso described the benefits of integrating nutrition with other existing services:

> *"Yes, there is an advantage because there are women who disappear after delivery. They are lost to sight; they don't come back anymore. So, as soon as they come to deliver, if we take advantage of offering them all these services, I think we will have won, and this will allow us to avoid many problems. Because, very often, these women who are in the wilderness and who are not informed come back to us with pregnancies. Two months after giving birth, she is pregnant, she comes back to you, and you don't know what decision to make."*

Finally, the technical and financial partners (TFP) of the health ministries of the three countries are in favour of the integration of the MNCH, FP and nutrition services. To achieve this goal, some of these partners support family planning through provider training and the provision of means of contraception. Others focus on implementing nutrition interventions at the community level that also integrate reproductive health activities and accomplish several goals (focus on women, adolescents, and youth). Regarding this integration, one of the Burkina Faso partners noted the following:

> *"This is what we support: when we take the example of family planning, we said that any opportunity must be used to offer FP to women. We have taken the example of pregnant women who come to us; we must be able to start talking to this woman about birth spacing as soon as she gives birth....., we must also be there to offer her FP. '*

DISCUSSION

The level of integration of services was found to be similar in all three countries. We also identified numerous gaps in the integration of care delivery at various points of access.

GAPS IN THE INTEGRATION OF MNCH, PPFP, AND NUTRITION SERVICES IN THE THREE COUNTRIES

In some health facilities, MNCH, PPFP, and nutrition services are available but not offered on the same day. This situation is due to the shortage of providers, especially in rural health facilities, and the lack of relevant guidelines. Previous studies have noted that the lack of human resources in health facilities is a major barrier to providing integrated services in many resource-limited countries.[15,24,25] For example, according to a study conducted in Burkina Faso by Belemsaga et al. to investigate the integration of postpartum visits and child immunisation, the lack of staff in rural health facilities limited the integration of services in these contexts.[15] In urban health facilities, providers tend to specialise in one service delivery area, which hinders the provision of integrated care. As some authors noted in previous studies conducted in resource-limited countries, providers may be more reluctant to share or relinquish their authority to offer integrated care in urban health facilities that feature more specialised services.[22,24,25]

Although the integration of services is desired, its implementation requires clear, practical guidelines and trained providers. Our study noted that many health workers had not received sufficient training to provide integrated care to mother-child pairs, and no clear guidelines for this integration are available. In addition, inadequate infrastructure and the lack of formal referral systems in the context of care within the unit are barriers to the provision of integrated care. Studies conducted in sub-Saharan Africa and Asia have shown that service integration is affected by structural barriers related to the health system, for example, personnel, the organisation of primary health care units, and collaboration within units.[21,22,26]

Another reason for the lack of service integration is that some health workers perceive such integration to constitute a form of increased workload. Kendall et al. showed that integrated services, by design, require health workers to take responsibility for additional tasks. These additional tasks can lead to increased workloads and longer waiting times, making health workers reluctant to implement them. In Malawi, both clients and providers have expressed concerns about the acceptability of integrating TB screening and treatment due to a potential increase in workload.[27]

OPPORTUNITIES TO INTEGRATE MNCH, PPFP, AND NUTRITION SERVICES IN THE THREE COUNTRIES

The availability of multiple services in the same facility (physical integration), multiple points of contact between the mother-child pair and the health care system, providers with multiple skills, and the commitment of policy-makers and TFPs can be used to improve the integrated delivery of MNCH, PPFP, and nutrition services to mother-child pairs.

In fact, many providers have the skills necessary to provide MNCH, family planning, or nutrition care. Therefore, to allow these providers to offer integrated care to mother-child pairs, they can receive training in integrated care delivery and clear guidelines that indicate how to provide MNCH, FP, and nutrition services in one visit. Previous studies have reported that adequate provider training with clear guidelines is essential to provide the knowledge and skills necessary to provide integrated services.[19,28]

These guidelines must explain clearly how to reorganise services, define the client flow of mother-child pairs, and establish referral systems among units if needed. After receiving such training, providers must be supervised. The guidelines must define the periodicity, content, and actors involved in this supervision. Integrated indicators must be identified by stakeholders and collected to monitor integration at the health facility level. The success of the integrated delivery of MNCH, FP, and nutrition services depends on collaboration between providers. They must work together to facilitate referrals for women between the different points of contact to provide follow-up and feedback

from different service providers. Additionally, the TFPs of the health ministries of the three countries, which support the integration of services, can pool their resources to support the implementation of relevant activities.

Finally, to ensure the success of integrated care provision, its implementation should be based on a participatory process that features the participation of all stakeholders from conception to implementation in practice. Previous studies have noted that to increase the chances that this process will be successful, it is essential to ensure that all parties are involved in the conception, design and implementation of integrated services to create a sense of commitment, responsibility and ownership.[22]

CONCLUSIONS

This assessment of the integration of MNCH, family planning and nutrition services in Burkina Faso, Côte d'Ivoire and Niger revealed a gap in integrated care delivery in the three countries. PPFP, nutrition, and postpartum care are not systematically integrated at different points of contact. This situation results from several factors, including the deficiency of providers in terms of both numbers and skills and the inadequate organisation of services. To improve the integrated delivery of MNCH, PPFP, and nutrition services in health facilities, it is necessary to strengthen the skills of providers concerning the delivery of integrated care, to increase the number of providers in rural health facilities, and to institute provider turnover concerning different units of care in urban areas. In terms of service organisation, a formal referral system should be established that links the different points of contact to ensure the flow of follow-up and feedback among service providers. Furthermore, it is necessary to define a package of integrated services that can be delivered at each point of contact with a mother-child pair and to reorganise the services to take into account the location of each health facility (rural/urban). It is also necessary to define integrated care indicators and develop tools for collecting such indicators. Subsequent evaluations could focus on analysing these indicators to assess the effectiveness of integrated care for the mother-child pair.

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AUTHORSHIP CONTRIBUTIONS

HT performed the analyses and wrote the article. YWM collected the data, performed the analyses, and reviewed the paper. RC reviewed the paper and the English translation. SK obtained funding for the study. BD, MB, DD, KD and MN reviewed the article and SK completed it in collaboration with all authors who read and approved the final version of the manuscript.

COMPETING INTERESTS

The authors completed the Unified Competing Interest form at http://www.icmje.org/disclosure-of-interest/ (available upon request from the corresponding author), and declare no conflicts of interest.

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