

**Innovations for Women's, Children's and Adolescents' Health:  
Every Woman Every Child Innovation Marketplace**

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**Abstract.** Innovation is central to reaching the Sustainable Development Goals (SDGs) on women's and children's health. During the past five years, a robust pipeline of over 1000 RMNCAH innovations has been developed. The task now is to transition these innovations to scale in a sustainable manner so they can save and improve lives of women and children. As its contribution to the Secretary General's Global Strategy for Women's, Children's and Adolescent's Health, the Innovation Working Group of Every Woman Every Child plans to tackle the innovation scaling challenge. It will do so by developing the EWEC Innovation Marketplace with 4 key activities: pipeline, curation, brokering and investment. The goal by 2020 is to successfully transition 20 RMNCAH investments to scale, and by 2030 is to see these innovations scale in country to ensure more women and children survive and thrive.

### **Background and Introduction**

*Saving Lives, Protecting Futures*, the progress report on the UN Secretary General's Global Strategy for Women's and Children's Health, notes that "innovation is essential to achieving the ultimate goal of ending preventable deaths among women and children and ensuring they thrive".<sup>1</sup>

The Report advocates an approach called integrated innovation, which combines science & technology, social, business, and financial innovation for sustainability and scale.<sup>2</sup>

Conceptually, this means innovation is a cross-cutting issue needed for interventions and strengthening health systems as well as it is required in all Every Woman Every Child (EWEC) domains including social determinants, rights, leadership, finance and accountability in order to help achieving the Sustainable Development Goals (SDGs).

Strategically, innovation forges untraditional partnerships among public and private sector actors, attracts new sources of funding through presenting investment opportunities to the private sector and domestic governments, and stimulates creative ways for country engagement.

Innovation is complementary to programmatic initiatives which can achieve near-term results but may not be sustainable without ongoing donor support. Furthermore, innovation

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<sup>1</sup> "Saving Lives, Protecting Futures: Progress Report on the Global Strategy for Women's and Children's Health", 10 March 2015.

<sup>2</sup> <http://www.grandchallenges.ca/integrated-innovation/>

promotes economic growth and jobs, lessens dependency, and changes the equation as it provides more impact per unit of resource input (i.e., bends the curve).

A concrete example is the African Meningitis Vaccine, which took 15 years to start saving lives but has now bent the curve having immunized 215 million people. By 2020, the vaccine is expected to protect more than 400 million people and prevent 1 million cases of meningitis A, 150,000 deaths, and 250,000 cases of severe disability.

The Lancet Commission on Investing in Health believes that it is possible to achieve a grand convergence in health within our lifetime. The Commission argues, “today’s health tools, which are mostly based on R&D that occurred several decades ago, will not be sufficient to achieve a grand convergence. The discovery, development, delivery, and widespread adoption of new technologies will be essential.” It recommends that “the most effective form of international collective action to help achieve convergence would be to direct a substantial portion of development assistance to health towards this R&D enterprise”.<sup>3</sup>

Together with the launch of the Every Women and Every Child (EWEC) initiative in 2010, the UN Secretary General Ban Ki Moon launched the Innovation Working Group (IWG) to advocate for, identify, and support innovations to accelerate progress on the health targets included in the Millennium Development Goals. Through its flexible structure and extensive network of more than 180 members representing more than 80 institutions, the IWG has made the case for innovation as a game-changer for reproductive, maternal, newborn, and child health (RMNCH).

Meanwhile, global partners of the SG’s Global Strategy were developing a pipeline of innovations in RMNCAH that did not previously exist. For example, the Bill & Melinda Gates Foundation, Grand Challenges Canada, the US Agency for International Development, the Norwegian Agency for Development Cooperation (Norad), and UK Aid partnered on Saving Lives at Birth, which has supported 81 innovations. At the same time multinational companies, often associated with private sector commitments to Every Woman Every Child, were moving forward innovations like the Odon Device (BD), inhaled oxytocin (GSK), carbetocin (Merck), V-scan (GE), Uniloo (Unilever), pneumonia technologies (Philips), and making important commitments to innovative approaches to health system strengthening (e.g. J&J and Merck for Mothers). Research conducted for the *Saving Lives, Protecting Futures* showed that more than 1000 innovations totalling over US \$255 m had been supported in the R&D pipeline.

Looking forward, the basic challenge of innovation today is different from the basic challenge of innovation in 2010. In comparison with earlier low awareness of innovation but high Global Strategy (GS) ambition levels of 2010, the situation today can perhaps best be described by calling 2015 a watershed year; one that on one hand marks completion of the MDGs (2000-2015) and the considerable initial work done up to now, and on the other hand moves the innovation agenda forward in more practical and pragmatic ways. Simply put: there is great potential, much unfinished business, and critical need to be strategic to ensure the best

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<sup>3</sup> Global Health 2035: a world converging within a generation

innovations are being supported, tested, used and refined at country level in the coming years.

Challenges and suggested solutions for the Post-2015 period and beyond are offered in this paper, pulled together in the form of the Every Woman Every Child Innovation Marketplace.

### **Statement of Problem**

Despite great progress in saving the lives of women and children, today's results can be improved upon and brought to a level that is more acceptable. The Sustainable Development Goals (SDGs) provide a comprehensive framework of problems that need to be addressed. In the most recent version of the SDGs, as proposed by the Open Working Group, an RMNCAH cluster can be identified which constitutes 13 of the 179 targets across the 17 goals.<sup>4</sup>

The Grand Challenges approach to innovation can help address these (and other) RMNCAH problems using innovation.<sup>5</sup> We still need to bend the curve by bringing innovations demanded by countries to scale especially in health systems of high burden countries in order to more rapidly save and improve lives of women and children.

Five years ago, there was an inadequate pipeline of early phase innovations. Today, a robust pipeline exists, but only a few of these early innovations are transitioning to scale.

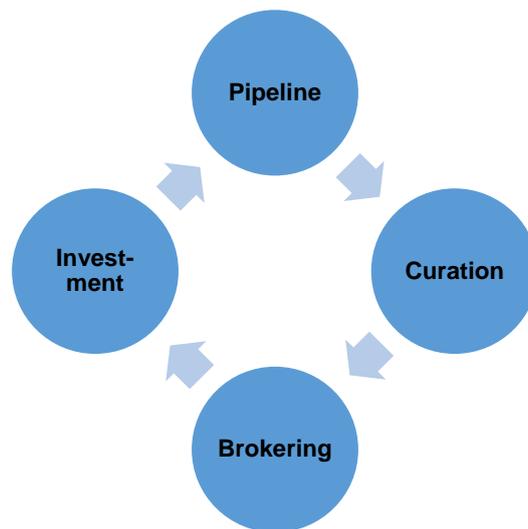
A key gap is the lack of a smooth pathway for innovations to scale in a sustainable manner. EWEC is uniquely positioned to bridge gaps along this path through providing the platform that delivers strong political and leadership commitments, catalyzes resources, and links all the various actors needed to successfully scale innovation. The actors needed include innovators, universities, small-medium enterprises, incubators and accelerators, foundations, development agencies, civil society organizations, multi-national corporations, investment banks, family offices, high net worth individuals, high burden country governments and others.

IWG aims to smooth the pathway to scaling innovation in a sustainable manner by establishing the EWEC Innovation Marketplace to facilitate across 4 interlinked elements: pipeline, curation, brokering, and investment (figure 1).

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<sup>4</sup> Silver KL, Singer PA. SDGs: start with maternal, newborn, and child health cluster. *Lancet* 2014; 384: 1093-4 DOI: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(14\)61667-6/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)61667-6/abstract)

<sup>5</sup> Singer PA, Buchsbaum S, Ferguson D. The Grand Challenges Approach can help achieve the Sustainable Development Goals. <http://www.grandchallenges.ca/2014/the-grand-challenges-approach-can-help-achieve-the-sustainable-development-goals/>



**Figure 1. EWEC Innovation Marketplace**

The IWG seeks to create the linkages to resources and initiatives that already exist so a more coherent system of scaling innovations in a sustainable manner to save and improve the lives of women and children will result. It is not proposing to recreate elements of this ecosystem to replicate what is already being done very well by others. At the same time, EWEC provides the type of neutral platform that permits the bringing together of various initiatives and actors in a manner that might not otherwise be possible.

### **Response and Priority Interventions**

The purpose of this EWEC Innovation Marketplace is to turn the trickle of innovations transitioning to scale into a torrent to increase the overall impact of RMNCAH innovations on saving and improving the lives of women, children and adolescents.

Specific targets during the lifetime of the Global Strategy from 2015-2020 include:

- *Pipeline*: By 2020 generate > 500 new RMNCAH innovations to refresh pipeline & selectively fill gaps based on results of curation
- *Curation*: By 2020, all RMNCAH segments (see below) in pipeline curated
- *Brokering*: By 2020, successful pilot of brokering process which is up and running
- *Investment*: By 2020, 20 investments > \$1M transitioning to scale assisted by EWEC innovation marketplace

During this period, due to the longer time frame of innovation, the success of the Marketplace would be measured by the number of new deals completed and their projected benefits. The impact of these investments would not be expected during this period. However, this impact can be modelled, as with the estimates contained in *Saving Lives, Protecting Futures* that for example the Odon Device has the potential to prevent 200,000 deaths per year in sub-Saharan

Africa (4500 maternal deaths, 111000 stillbirths, and 95000 newborns) or that inhaled oxytocin can prevent 20,000 deaths of pregnant women each year.

It could also be anticipated that some innovations supported during the 2010-2015 time frame – especially those that rely on social or business innovation related to health system delivery – will begin to show outcomes on end beneficiaries. Examples include:

*Preventing infection among newborns: With investments from the Saving Lives at Birth partners, John Snow International has pioneered the use of the antiseptic compound chlorhexidine (CHX) in Nepal as a safer, more effective alternative than existing methods for disinfecting a newborn's umbilical cord stump. Research indicates that routine use of CHX could reduce the incidence of newborn death by 24%. 1.2 million babies have already had CHX applied to their umbilical cord stump leading to an estimated 7500 lives saved in Nepal alone, and scale-up is already occurring in Nigeria and Madagascar and other countries.*

*Novel home-based care model piloted in Kenya by Jacaranda Health: a chain of maternity clinics in peri-urban Nairobi. Receiving home visits make mothers twice as likely to return for a post-partum visit as mothers who receive no post-partum follow-up care; those who receive phone calls are 40% more likely to return for a post-partum visit.*

*Innovation in health insurance: m-Kadi e-Voucher (Changamka): Most Kenyans (83%) are excluded from nationally subsidized health coverage because they are not formally employed. Providing subsidies for transportation and care to low-income expectant mothers has shown to increase their likelihood of delivering their child in a health facility by more than 50% which, in turn, substantially reduces the risk of serious complications or death. Supported by the Saving Lives at Birth partners, Changamka successfully launched the m-Kadi e-voucher program to provide maternity care subsidies to pregnant mothers through mobile phones. Changamka diversified their offerings to include a micro-insurance product, Linda Jamii, allowing access to health care for the whole family. Over 14,200 policies have been sold to date. If Changamka is able to reach even 10% of all those uninsured with their financial products, they have the potential to reach over 250,000 pregnant mothers and their newborns, saving roughly 2,000 lives per year.*

A clear example of this is the Saving Lives at Birth project on chlorhexidine in Nepal, implemented by JSI in partnership with the government of Nepal, which has already reached 1.2 m newborns and saved an estimated 7500 lives.

Looking towards 2030, the key outcome will be contribution of innovation towards meeting SDG targets related to RMNCAH. One might imagine that by 2030 at least 10 sustainable and

scaled innovations are making significant, attributable and additional difference in saving and improving lives of women and children. While too early to tell the exact numbers of women and children whose lives would be saved and improved, the African meningitis vaccine cited at the beginning of this paper provides an inspiring model.

The remainder of this section will explore in greater detail the elements of the EWEC innovation marketplace – pipeline, curation, brokering, and investment.

**Pipeline** refers to the early stage innovations supported by various groups at \$100k - \$250k in order to reach proof of concept. As noted, there are more than 1000 RMNCAH innovations in the pipeline. Key sources include:

- Saving Lives at Birth (USAID, Gates, Canada through Grand Challenges Canada, Norway, UK Aid)
- Saving brains (Canada thru Grand Challenges Canada & partners including Aga Khan Foundation Canada, World Vision Canada & Norlien, Bernard van Leer, Maria Cecilia Souto Vidigal Foundations)
- All Children thriving & Putting Women and Girls at Center of Development (Gates & partners including Brazil & India)
- Global Innovation Fund, DIV@USAID, Gates Grand Challenges Explorations, Grand Challenges Canada Stars in Global Health, etc
- Grand Challenges organizations in India, Brazil China, Israel, Peru, and nascent initiatives in Thailand and ASEAN, etc
- Every Woman Every Child Innovation Working Group Catalytic mhealth Grants Program supported by Norad through UN Foundation
- Individual company pipelines including small & medium enterprises & multinational corporations
- Universities as key source of innovation for the above

While the innovation pipeline is now relatively robust it is difficult to access and analyze. For example, 1689 innovative projects (including but not limited to RMNCAH) in 80 countries are listed on grandchallenges.org. This is an advance but it is difficult to pull out all the projects on a specific topic, access project level information (potentially including results), analyze the projects, and provide a repository for depositing projects by other qualified funders. The Bill & Melinda Gates Foundation is working to improve the functionality of grandchallenges.org along these lines. Moreover, USAID is developing an Exchange which could also fill these gaps. The Center for Health Market Innovation provides details on more than 1,300 innovative health enterprises, nonprofits, public-private partnerships, and policies.<sup>6</sup>

The IWG role here is to stimulate funders to refresh the RMNCAH pipeline and to monitor as well as proactively encourage the consolidation of RMNCAH pipeline information so it is easier to access and analyze.

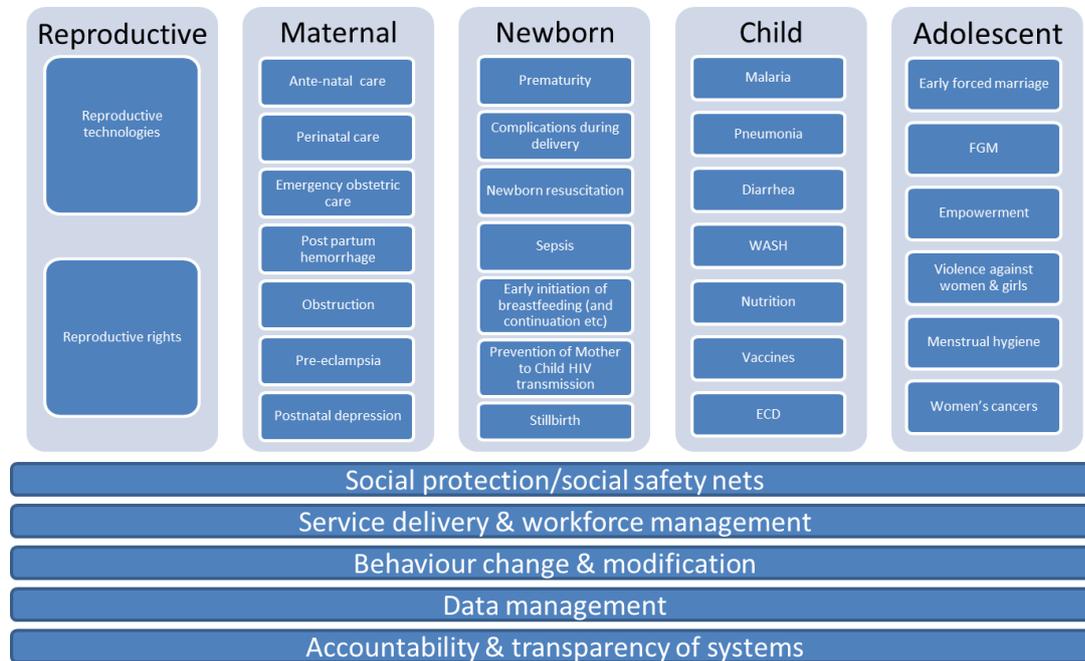
**Curation** refers to the comparative analysis of innovations in the pipeline. It is answering the question, which of these innovations is the best. It is a critical step between the dozens of

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<sup>6</sup> <http://healthmarketinnovations.org/>

innovations that might be in the pipeline for an RMNCAH sub-topic like pneumonia and presenting just a few of the top innovations to an investor who may be interested in supporting a pneumonia innovation. A taxonomy of RMNCAH sub-topics developed through consultation by the IWG is shown in Table 1 below:

**Table 1: RMNACH Sub-topics**



At the moment, there is not enough comparison of innovations in specific sub-topics. The provenance of initial funding at proof of concept often drives scaling investments more than comparative value of innovation. This does not optimize the potential of the innovation pipeline. There is a need to focus curation activities on conditions with greatest burden and innovations with greatest life-saving and life-improving potential.

What is needed is a process and criteria for making comparisons among innovations especially those in the pipeline in specific sub-topics that are vying for follow on investment. A good example of a trailblazing attempt to do this is the PATH Innovation Countdown 2030 initiative<sup>2</sup>. This initiative is at the level of the broader topics - targeting several health domains including not only RMNCAH but also non-communicable diseases - and it contains innovations both at proof of concept and transition to scale. However, it can inspire deeper dives to compare innovations in the pipeline on specific sub-topics as it looks to identify high-potential innovations and develop an innovation assessment framework. Grand Challenges Canada has commissioned two such pilots in WASH and newborns.

<sup>2</sup> Funded by the Norwegian Agency for Development Cooperation (Norad) and the the Bill & Melinda Gates Foundation.

While doing curation we will discover that some of the innovations are not quite investment ready because they have not reached scientific proof of concept or because their entrepreneurial business plan is inadequately developed. This could highlight the need for bridge finance in the \$100-\$1M range (providing both grant and non-grant funds to bridge proof of concept and transition to scale funding) and also for mentoring to ensure innovation is investment ready. Investment readiness programs like Lemelson/Venture Well, Duke SEAD, Villgro, GSBI, and NESST could be of great value-add in this context.

The IWG role in curation is to stimulate and potentially organize and finance curation exercises in all the sub-topics represented in Table 1 so the most promising innovations can move along the path to scale through brokering and investment, and ultimately to impact. IWG's neutrality is critical here because investors want to have a trustworthy list of investment opportunities, free of conflicts of interest and developed using transparent criteria and governance processes by a trusted partner.

**Brokering** refers to the process of matching innovations to investors. Brokers need 'line of sight to entire community' including looking 'backward' to curation and 'forward' to investment to effectively link innovators and investors. Communication of the curation effort will be important in the marketing of the investment opportunity, conveying message around best product and critically, that it is "doable" with a sound investment thesis. Lessons can be learned from other impact investment channels such as the Global Health Investment Fund.

The gap being addressed is there is no successful, systematic experience with offering social investments to investors. As Judith Rodin of the Rockefeller Foundation has pointed out, there are trillions of dollars in private capital sitting on the sidelines.<sup>8</sup> Investors require trustworthy channels as well as an effective and neutral deal sourcing process through which to make impact investments. What is needed is an impact investment manager to broker such opportunities.

The UN General Assembly (UNGA) week, and the annual EWEC private sector luncheon, offers an opportunity to celebrate private sector commitments in the form of brokered deals. Examples of brokered deals announced at UNGA include the Odon device (2013) and inhaled Oxytocin (2014). These are described below:

*Assisting difficult births: The BD Odon Device™ - a delivery assistance device supported by Global Strategy partners that is designed to be safer and easier to use in resource-limited settings than forceps, vacuum extractors or Caesarean sections – has potential to prevent 200,000 deaths per year in sub-Saharan Africa. Development of this new device is ongoing, and BD (Becton, Dickinson and Company) intends to manufacture and distribute it at full scale assuming ongoing clinical testing further validates its safety and efficacy.*

*Preventing postpartum hemorrhage: Efforts to develop a heat-stable dry oxytocin formulation that can be inhaled by Monash University, initially supported by the Saving*

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<sup>8</sup> <http://www.rockefellerfoundation.org/blog/remarks-by-dr-judith-rodin-socap-2014>

*Lives at Birth partners, are now being accelerated through a partnership with GSK, McCall MacBain and Planet Wheeler Foundations and Grand Challenges Canada, and could save the lives of almost 20,000 pregnant women with postpartum haemorrhage per year.*

The missing ingredient from innovation deals brokered to date at transition to scale is country leadership. There is a key role for Ministries of Health to select innovations based on needs – and for IWG to create ‘a global platform that thinks locally’. This would provide user feedback from front line staff and other key roles for countries in procurement and distribution, topics addressed under investment below.

As a neutral platform, IWG would take the lead on brokering and development of brokering models, including using the annual UNGA event as a brokering platform and to celebrate successful deals. This is the key area for value-add from EWEC innovation marketplace.

**Investment** refers to a process of due diligence and decision about public and private funding of innovations at > \$1M. Investors include multinational companies, impact investors, venture philanthropists, angels, VC funds, CSOs, foundations and governments.

Because there is nothing that drives innovation like procurement, it is never too early to begin to think about procurement of successful innovations. Volume guarantees are critical for price and affordability. Here, the Global Public Goods window of the Global Finance Facility (GFF), and the PMNCH consultations concluding that this window should focus on market shaping, are highly relevant. The GFF would link innovation to the agenda of country governments, ensuring country ownership and leadership of the scaling of those innovations in a sustainable manner to save and improve the lives of women and children. We know that scale-up of and country adoption of innovative service delivery approaches and new technologies “is associated with an annual decline of about 2% per year in the under-5 mortality rate.”<sup>2</sup>

Imagine a scenario where a health minister could survey the gaps in care in her country, match these to innovations in the EWEC marketplace, and finance scaling of these innovations through procurement using the GFF. That would be a system that optimized both country leadership and the life-saving and life-improving power of innovation for women and children!

In addition to the GFF, innovation is an effective domestic resource mobilization strategy. Countries support their own innovators because this leads not only to social but also to economic development and jobs. Moreover, civil society organizations represent a source of finance and they are well positioned to take up and scale innovations. Also, the regulatory environment within countries plays a key role in adoption of innovations and there is a valuable role for international technical agencies such as WHO in making recommendations for health interventions including innovations. More generally, mechanisms that focus on creating enabling environments for health systems to absorb innovations – including the

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<sup>2</sup> Jamison DT, Sandbu M, Wang J. Why has infant mortality decreased at such different rates in different countries? Working paper no. 21. Bethesda: Disease Control Priorities Project, 2004.

lessons of scaling innovations in one country for other countries, while beyond the specific focus of the innovation marketplace, would be useful.

Obviously the EWEC innovation marketplace provides a mechanism for impact investing, social finance and domestic resource mobilization, therefore aligning closely with other initiatives such as OECD/WEF Redesigning Development Finance, UN Secretary General's Office of Special Envoy for Financing the Health MDGs, and the Addis Finance for Development meeting.

The IWG role is to build network of investors and to link innovations to EWEC private sector commitments through the brokering function of EWEC innovation marketplace.

## **Conclusion**

Not unexpectedly, the global health scene generally and vis-à-vis innovation is far different in 2015 than it was in 2010. Compared with 2010, there is now much greater space for innovation thought, more experience with identifying and concept-testing solutions with potential benefit, better understanding of the process (including risks) of bringing new products to full-scale use, and not least, greater opportunities to bridge gaps between innovation and impact.

At the same time, when looking forward to fulfilment of new post-2015 health agenda and its development goals (Sustainable Development Goals - SDGs), there is need for greater strategic focus and consolidation of efforts – inspired by the EWEC collective action spirit and success - to maximize chances for innovation success at country-level. "Business-as-usual" is not the order of the day for post-2015. To the contrary, the lessons learned and experiences gained from five years of work since 2010 must now on an urgent basis be operationalized and communicated to all potential stakeholders of innovation to improve the health of women and children.

A key strategy of the IWG going forward will be to contribute to a global marketplace for RMNCAH innovations, where innovations meet investors to help them transition to scale in a sustainable manner and achieve widespread impact. The innovation model developed for RMNCAH may also be useful to pave the path from innovation to impact for other SDGs in the post-2015 era.

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