COORDINATE, INTEGRATE, INVEST:

how joint child health and water, sanitation and hygiene (WASH) interventions can deliver for your country's future

Investing in integrated actions in the early years of a child's life creates a positive cycle that builds human capital, strengthens economies, reduces future healthcare costs and contributes to national development.

New analysis by WaterAid and PATH's Defeat Diarrheal Disease (Defeat DD) Initiative shows that major health gains and improved cost-effectiveness are possible if decision-makers act now to **coordinate**, **integrate** and **invest** in child health and WASH interventions.

ACT NOW:

1. COORDINATE

Improve the coordination between ministries of health and ministries responsible for WASH, and between teams within donor agencies. Build shared ownership for shared outcomes.

2. INTEGRATE

Rapidly innovate, assess and scale up integrated programmes. Promising entry points include co-location of child health/nutrition and WASH interventions to areas and communities with multiple vulnerabilities, and integration of hygiene promotion within routine vaccination programmes.

3. INVEST

Put in place domestic and international financing that supports and incentivises an integrated approach. Donors need to champion and enable rapid experimentation of innovative integrated approaches.

OPPORTUNITIES FOR GAINS

- Scaling up an integrated package of WASH, rotavirus vaccination and nutritional interventions (breastfeeding promotion or zinc supplementation) to 100% coverage could potentially **reduce morbidities by nearly two thirds (63%) and almost halve mortalities (49%) from diarrhoea and pneumonia** – the equivalent of averting more than 697,000 child deaths a year.[i]
- For every US$1 invested in water and sanitation globally, there is a **$4.3 return in the form of reduced healthcare costs**.[1] By expanding access to WASH and health services together, we can increase impact and cost-effectiveness even further.
- Integrated health and WASH interventions can have benefits far greater than the sum of their parts. For example, simultaneous improvements in access to WASH services and healthcare together seem to **halve the probability of being stunted** compared with access to WASH alone.[2]
- Countries in Sub-Saharan Africa and South Asia that have not tackled child stunting are facing punishing economic losses of **up to 9–10% of GDP per capita**.[2] Delivering integrated nutrition and WASH actions could help to create a more productive workforce and economic growth, lifting your country out of poverty.

[i] Read our full methodological report at www.washmatters.wateraid.org/integrate-for-health/methodology

WaterAid

DEFEATDD

WHY INTEGRATE?

289,000 children
die every year from diarrhoeal diseases caused by unsafe water and sanitation and poor hygiene practices – **that's one child every two minutes**.[4]

155 million children
under five are stunted, their cognitive and physical development damaged irreversibly by chronic malnutrition.[5] **Stunting is often connected to infections caused by poor WASH**.

1 in 3 people
(2.3 billion) do not have a decent toilet, and...

1 in 9 people
(844 million) don't have clean water close to home.[6]

More than 1 in 3
healthcare facilities in low- and middle-income countries do not have an improved water source.[7]

Racheal, eight, having her middle arm circumference measured, Monze District, Zambia.

WaterAid/ Chileshe Chanda

'We have known for some time that actions delivered through the 'nutrition sector' alone can only go so far. For example, delivering the 10 interventions that address stunting directly would only reduce stunting globally by 20%. The SDGs are telling us loud and clear: we must deliver multiple goals through shared action.'

Global Nutrition Report 2017[5]

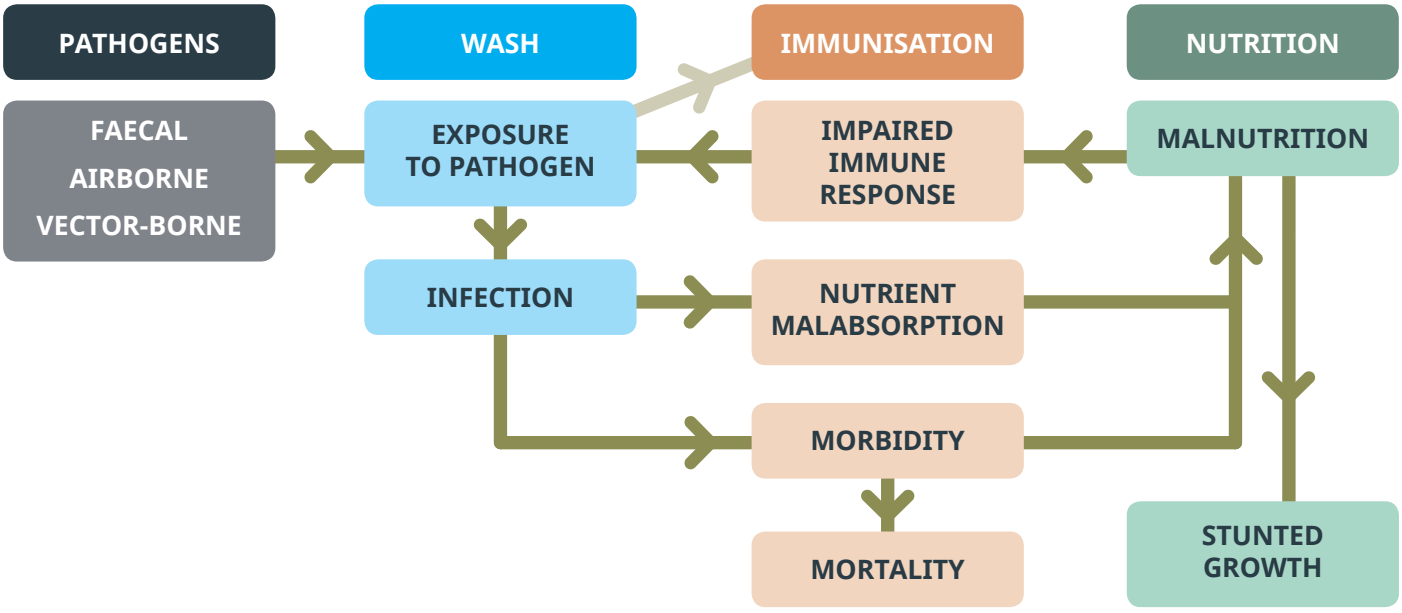
The Sustainable Development Goals (SDGs) 'are integrated and indivisible'.[3] But what does this mean in practice? Why integrate and take multi-sectoral approaches if these are more complex and less well defined? To answer this, we must first look at the challenge. The stark truth is that, despite progress in reducing poverty, and improving health and education, we have much more work to do to improve child health and access to WASH.

Dirty water, inadequate sanitation and poor hygiene are closely associated with the leading causes of under-five child death (mortality) and illness (morbidity), including diarrhoeal diseases, pneumonia and malnutrition. For example, 58% of child deaths from diarrhoeal diseases are caused by poor WASH.[4] It is estimated that half of all undernutrition is linked to infections caused by poor WASH,[8] and that poor sanitation is the second largest risk factor for stunting.[9] As Figure 1 shows, child health and WASH are closely interconnected through many direct and indirect pathways.

This is not solely about child deaths. The often invisible cost of poor WASH and health access is in the effects of recurring illnesses – impacts on children's development that are often irreversible and cause lifelong damage or disability. These effects prevent them from growing, learning at school and fulfilling their potential. This creates an intergenerational cycle of poverty and ill-health – sick and malnourished mothers give birth to low birth weight babies who then suffer malnutrition and have impaired immune systems, and so the cycle goes on. But a positive cycle is possible – integrating WASH and child health can lead to positive gains for future generations.

Despite efforts by national governments, donors and international institutions to address development issues, it is clear that 'vertical', sector-specific approaches alone will not address the multi-faceted development challenges we now face as we collectively seek to achieve health and prosperity for all, leaving no-one behind, by 2030. The bottom line? The SDGs on health, nutrition and WASH cannot be achieved without effective integrated action. **New approaches are needed**.

Figure 1: An overview of WASH and child health linkages



IT'S TIME FOR ACTION

People do not live their lives in sector-specific siloes. From giving birth in an unhygienic health facility without running water, to having no choice but to eat and drink food and water contaminated by faeces, the challenges people living in poverty face cross issues and sectors – and so must the solutions.

Integration is a two-way street and the onus must be on both the health sector and the WASH sector to come together. It is the poorest families and communities who are most likely to face unacceptable conditions and be unreached by traditional approaches. To 'leave no one behind', we must think and act differently.

There is no 'silver bullet' to integrating child health and WASH interventions. Integration is context-specific, not 'one-size-fits-all'. However, it is no longer enough to talk about integration or to write policies advocating future improvements. Now is the time for action. Here we outline, in practical terms, potential entry points for effective integration, case studies of approaches around the world, and actions that decision-makers should take right now to start on the path towards a healthier future for their countries.

We urge you to act now to coordinate, integrate and invest.

1. COORDINATE

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to improve the coordination between ministries of health and ministries responsible for WASH, and between teams within donor agencies. Build a sense of shared ownership for shared outcomes.

WaterAid/ Kate Holt

A group of eight-year-olds at a school in Antsirabe, Madagascar, stand beneath a chalk line indicating the global average height for their age as outlined by WHO.

Too often government ministries are acting in isolation to plan and deliver vertical interventions, and are failing to seize opportunities for improved coordination. Donor agencies, NGOs and UN agencies, often similarly siloed into issue-based teams, risk reinforcing the separation.

However, experiences from across the world are beginning to show that, through enhanced information-sharing, joint policy-making and coordinated planning, innovative approaches linking interventions and sectors can be rapidly assessed and scaled up nationwide.

Case study 1: Madagascar's coordinated action to tackle malnutrition.[ii]

Malnutrition is a major public health threat in Madagascar, where nearly half of children under five are chronically malnourished. Almost half of people lack access to safe drinking water, and access to improved latrines is 12%, with sanitation components such as faecal sludge and solid waste management poorly developed.

In response, the Government is strengthening coordination of efforts on malnutrition and WASH through the National Action Plan for Nutrition Phase III (2017-2021). The plan aims to take a multi-stakeholder and multi-sector approach to accelerating reduction of stunting in children under five, from 47% to 38% by 2020. It prioritises 'nutrition-sensitive' as well as 'nutrition-specific' interventions, with targets to improve access to drinking water to 65% of households and sanitation to 30% by 2020, and to promote good food and hand hygiene.

To improve coordination, the Government intends to:

- Strengthen the policy and regulatory environment governing nutrition.
- Improve coordination mechanisms and align actions around a common results framework.
- Increase mobilisation of internal and external resources.
- Set up a multi-stakeholder consultation on WASH and nutrition.

At the 2017 Global Nutrition Summit in Milan, the commitment the Madagascan Government made highlighted the importance of WASH as part of a multi-sectoral approach in the fight against malnutrition.[10]

Case study 2: Multi-sectoral planning into action in Brazil.[iii]

In the state of Bahia in Brazil, despite significant progress, in 2008 incidence of diarrhoea in children under five remained high. In response, the World Bank helped the Government to develop a multi-sectoral health and water project between 2010 and 2016. The project included five sectors – health, water, sanitation, public management, and planning – and was under the administration of the secretary of financing (SEFAZ).

The project identified the ten municipalities with the highest incidences of diarrhoea and the worst drinking water and sanitation infrastructures and delivered a series of interventions: (i) increased the number of people served with simplified water supply systems and basic sanitation from 32,295 to 72,295; (ii) trained 800 community health agents in environmental control, hygiene, and water and sanitation management; (iii) used scorecards and incentives to improve household sanitation and hygiene behaviours by setting 'green hygiene family goals'; (iv) improved monitoring of water quality along with river basin planning; (v) increased the coverage of family health teams from 53% to 70% of the population; and (vi) increased rotavirus vaccination in children younger than one year from 57% to 82%.

This multi-sectoral project was a major success for Bahia. From 2008–2015, the state recorded a 70% reduction in hospitalisations for diarrhoea of children younger than five, along with a 40% reduction in the infant mortality rate.

[ii] This case study is based on a presentation given by Ambinintsoa Andriamboahangy Raveloharison, Coordinator of the Madagascar National Nutrition Office and SUN Government Focal Point, at Stockholm World Water Week 2017. Presentation available at www.slideshare.net/SUN_Movement/madagascar-presentation-79563646/1

[iii] This case study is adapted from World Bank (2017).[2]

2. INTEGRATE

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to rapidly innovate, assess and scale up integrated programmes. Promising entry points include co-location of child health/nutrition and WASH interventions to areas and communities with multiple vulnerabilities, and integration of hygiene promotion and routine vaccination programmes.

Proven interventions exist to tackle the leading causes of child death and illness. For example, the Defeat DD Initiative's 'State of the Field' report 2017[11] highlights the need to integrate proven prevention and treatment solutions for diarrhoeal diseases including through WASH, vaccines, breastfeeding, oral rehydration solution (ORS) and zinc. Our new analysis, together with work by the World Bank and others, reinforces the case that integrating WASH with child health interventions can multiply improved health outcomes many times over, while delivering a synergetic cost reduction.

In an analysis for PATH and WaterAid,[iv] the impact of WASH interventions on children's diarrhoea and pneumonia was quantified using comparative risk assessment, an approach used widely in Lancet Global Burden of Disease studies. The analysis also assessed the impact of integrating water, sanitation and hygiene (individually and together) with breastfeeding promotion, zinc supplementation and immunisation against rotavirus, pneumococcal infections, and Hib (Haemophilus influenzae type B). To quantify the impact of WASH and WASH–health integration, the study determined the proportion of global morbidities and mortalities from diarrhoea and pneumonia attributable to the lack of the interventions. The joint impact of integrated interventions was defined as the product of the effects. The study's conclusions include the estimates that:

- Scaling up an integrated package of WASH, rotavirus vaccination and nutritional interventions (breastfeeding promotion or zinc supplementation) to 100% coverage could potentially reduce morbidities by nearly two thirds (63%) and almost halve mortalities (49%) from diarrhoea and pneumonia – the equivalent of averting more than 697,000 child deaths a year.
- The multiplier effect of pairing health and WASH interventions could be substantial. For example, rotavirus vaccination integrated with hygiene promotion (an approach being trialled in Nepal – see Case study 3) could lead to nearly twice the reduction in child morbidities and nearly five times the reduction in mortalities than could rotavirus vaccination alone.

Although this single analysis is an estimate and should be treated with caution, its findings parallel those of others in concluding that integrated interventions can have greater health benefits than can the sum of each separate intervention. For instance, the World Bank's WASH Poverty Diagnostic Initiative estimates that simultaneous improvements in access to WASH services and healthcare together seem to **halve the probability of being stunted** compared with access to WASH alone.[2]

CO-LOCATION AS AN ENTRY POINT

The World Bank's work highlights that one clear entry point for integration is to improve the joint targeting of health, nutrition and WASH interventions to communities and geographical areas with multiple vulnerabilities. For instance, in Indonesia, the Bank estimates that children are 11% more likely to be stunted if living in communities with higher levels of open defecation, when compared with communities with adequate sanitation coverage. Similarly, it

[iv] Read our full methodological report at www.washmatters.wateraid.org/integrate-for-health/methodology

Five-month-old Teshale is given a routine weight test for malnutrition in Burie Zuria district, Ethiopia.

WaterAid/ Behailu Shiferaw

has shown that in Mozambique exposure to inadequate WASH and other susceptibility factors (lack of access to vitamin A and ORS and being underweight) combined increases the risk of child mortality due to diarrhoea.[2] The Bank urges decision-makers to use geospatial mapping to prioritise and target interventions.

TACKLING UNDERNUTRITION THROUGH INTEGRATION

Drawing on collaboration between the Scaling Up Nutrition (SUN) Movement and Sanitation and Water for All (SWA) partnership,[v] Action Against Hunger, the SHARE Consortium and WaterAid recently articulated a potential 'recipe for success' for integration of WASH and child nutrition interventions to tackle undernutrition.[12] Based on an analysis of national nutrition and WASH policies and plans, the report summarises a 'toolkit for integration', which highlights several promising entry points:

- Establish a strong enabling environment characterised by joint policy-making and strong cross-ministerial and multi-stakeholder coordination, underpinned by leadership and convening power from the highest level of government.
- Prioritise babies and mothers as the target group for whom good nutrition is most critical to development, including through 'BabyWASH' interventions.[vi]
- Target the same geographical areas with WASH and nutrition actions – those with high rates of undernutrition and low access to WASH – based on district-level or geospatial mapping data.
- Promote comprehensive hygiene behaviours including complementary food hygiene, handwashing with soap at critical times and safe disposal of child faeces.
- Ensure all health centres and schools have the WASH facilities they need to deliver nutrition and health services, and educate frontline health workers, teachers and caregivers in the intersections between health, nutrition, education and WASH.

'The research conducted under the WASH Poverty Diagnostic Initiative demonstrates that WASH investments targeted at areas or groups whose risk of diarrhea and stunting is high are likely to accomplish more in improving overall human development outcomes than efforts to achieve universal coverage by reducing the WASH gaps between poor and rich, rural and urban.'

World Bank WASH Poverty Diagnostic Initiative[2]

[v] Read more about the SUN-SWA collaboration at http://scalingupnutrition.org/nutrition/integrating-wash-and-nutrition-actions/

[vi] BabyWASH interventions are baby-centred interventions designed to prevent exposure to pathogens (for example, safe children's play areas, complementary food hygiene, safe disposal of child faeces).

INTEGRATION OF HYGIENE PROMOTION AND ROUTINE VACCINATION PROGRAMMES

Another route to enhanced integration of WASH with child health interventions is to use the roll out of routine vaccination programmes as an opportunity to promote behaviours such as handwashing with soap and good food hygiene alongside promotion of exclusive breastfeeding of infants. There is increasing recognition that vaccine efficacy can be weakened in children with enteric infections caused by poor WASH. At the same time, integrating hygiene promotion can reduce mistrust in the immunisation programme, improve uptake of routine vaccines and strengthen health systems.[13]

Case study 3: Nepal integrates hygiene within rotavirus vaccination roll out.[vii]

WaterAid is working with the Government of Nepal to reach thousands of mums and babies at immunisation clinics. In Nepal, a new mother will take her baby to an immunisation clinic at least five times in the first nine months of the child's life, making these clinics an excellent point of contact for promoting hygiene behaviour change. By embedding hygiene promotion in Nepal's existing routine immunisation programme, this project is revolutionising how the hygiene and public health sectors work together.

The pilot intervention ran from February 2016 to June 2017 in four districts – Bardiya, Jajarkot, Myagdi and Nawalparasi – and is now in transition to the scale up phase. The project aimed to integrate hygiene promotion into the national routine vaccination programme ahead of the introduction of the rotavirus vaccine, and to demonstrate best practice for scaling up the model across Nepal. The project will strengthen Nepal's routine immunisation system by improving trust in, and use of, immunisation services, and by potentially contributing to the effectiveness of oral vaccines, including the rotavirus vaccine.

An independent evaluation shows the hygiene promotion intervention improved all key hygiene behaviours (from 2% at baseline to 54% after one year of implementation) as the primary outcomes, as well as increasing immunisation coverage, reducing drop out and the vaccine wastage rate, and helping to reach un-reached people.

WaterAid/ Mani Karmacharya

Swala Kumari Singh showing a fan illustrating five key hygiene behaviours to Chandra Malla during the hygiene session at Dhime Health Post, Jajarkot, Nepal.

[vii] Read more about WaterAid's Nepal immunisation project at washmatters.wateraid.org/hygiene-promotion-through-immunisation

3. INVEST

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to put in place domestic and international financing that supports and incentivises an integrated approach. Donors need to champion and enable rapid experimentation with innovative integrated approaches.

It is vital that policies and plans integrating child health and WASH are backed up by the financing necessary to deliver. The health of children and the future health of economies depends on decision-makers translating words into actions.

Too often national governments shy away from a more integrated approach because of institutional barriers, territorial battles between ministries, or inflexible financing.

Another source of hesitation is that integrated approaches focus less on quickly counted outputs such as numbers of children vaccinated or who received zinc supplementation, and more on measuring health impacts, which takes longer. However, long-term sustainable results could be transformational in getting a country on track towards prosperity. Donors have a key role to play in incentivising and enabling the governments they support to embrace a cross-sectoral, integrated approach. Donors need to champion and enable rapid experimentation with innovative approaches, allowing flexibility to trial these in pilot projects and test multiple approaches.

'Focused, coordinated and integrated international, national and sub-national action on pneumonia and diarrhoea control is needed to continue sustaining and increasing the gains in the reduction of child mortality.'

The integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD)[15]

Case study 4: The Global Financing Facility – an opportunity to finance integration?

The Global Financing Facility (GFF) is the financing arm and implementation platform of 'Every Woman Every Child'. The GFF model emphasises a country-led approach to deliver results on reproductive, maternal, newborn, child and adolescent health and nutrition. 'The investment case process is also rooted in a multisectoral perspective that emphasizes investments in other sectors such as education, social protection, and water and sanitation, among others'.[14] As such, it has the potential to be an important route to financing more integrated approaches to child health and WASH.

The GFF highlights two countries that are using financing to combine WASH and health and nutrition measures. Tanzania is strengthening primary healthcare facilities, including through improved water and energy infrastructure. And in the Democratic Republic of Congo the GFF process is helping to address hygiene promotion and latrine construction to improve public health.[14] However, these examples are relatively limited. With the GFF soon to hold its first major replenishment, and with plans to expand to a total of 50 countries in the next five years, we urge governments and donors to capitalise on this opportunity to finance effective integration of WASH and child health.

ACT NOW

COORDINATE, INTEGRATE, INVEST

For the SDGs to become reality requires bold action and new thinking, beyond traditional siloes. The children of today, and the economies of tomorrow, depend on governments and donors acting urgently to strengthen coordination, integration and investment in child health and WASH. This briefing offers practical examples and entry points for enhancing effective integration. We urge decision-makers to act now with ambition and innovation to forge a path towards health and prosperity for all, leaving no-one behind.

Jelina shares a light moment with niece Sharon, seven, while preparing a meal at her home in Simakalanga, Zambia.

WaterAid/ Chileshe Chanda

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First-time mother Shokla with her eight-day-old baby and midwife Parboti, at Dacope Upazila Health Complex, Khulna, Bangladesh.

WaterAid/ Al Shahriar Rupam

www.washmatters.wateraid.org/integrate-for-health

www.DefeatDD.org

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Cover image: "Having enough water in our village makes us cleaner and less tired." Aurelia, 12, drinking clean water in Manakambahiny village, Madagascar.

WaterAid/ Ernest Randriarimalala.

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