

Zinc & Health Quarterly Newsletter

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N'Goné Sine, a DSDOM, chats with children outside a health hut funded by the Zinc Alliance for Child Health in Thiès, Senegal.

DSDOMs Saving the Lives of Children in Senegal

N'Goné Sine is sitting with her neighbours in the village of N'Gomène Keur Atou in the Senegalese district of Thiès. She's trying to get some sewing finished but her work is constantly interrupted. Within the span of 20 minutes, three women come to see her with their sick children. All of these children are suffering from diarrhea.

At a community meeting in 2012, presided over by the village chief, 20-year-old N'Goné was chosen by her neighbours to train to be the village's "DSDOM". DSDOMs are local men and women trained by Senegal's Ministry of Health to treat malaria in their communities. They are put in place in villages that are at least five kilometres from the nearest health hut. DSDOMs are credited as major contributors to the reduction in

malarial deaths in Senegal over the past few years.

Through our Zinc Alliance for Child Health (ZACH) project in Senegal, the DSDOMs in Thiès are now also trained to treat diarrhea in children, allowing caregivers to provide faster, easier treatment closer to where they live. It's a pilot project that, if successful, will be scaled up across the country. And judging by this one 20-minute span, it's a big success. If children can be treated for diarrhea quicker and more effectively, some of the 6,000 child deaths from diarrhea in Senegal can be prevented each year.

N'Goné's first patient on this busy morning is six-month-old Mouhamed Toué. His mum, Sohka, is worried because he keeps getting sick. On the advice of her family members,



Improving Lives Around the World

Since its launch in 2011, Teck's Zinc & Health program has improved the lives of more than 35 million people at risk of zinc deficiency around the world. To learn more, visit www.zincsavestives.com



UNICEF Teck Partnership Celebrated at the 2014 World Economic Forum

Teck President and CEO Don Lindsay chats with Anthony Lake, Executive Director of UNICEF, at the World Economic Forum in Davos, Switzerland about the recent partnership between Teck and UNICEF to save children's lives in India.

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A young girl holds a special gift provided by Teck at the launch of our new zinc project in Gujarat, India.

UNICEF and Teck Launch Zinc Partnership in Uttar Pradesh

On December 3, UNICEF and Teck were in Uttar Pradesh for the state-level launch of their new partnership in India. The program, which aims to scale up the use of zinc and oral rehydration salts to treat diarrhea, will save 150,000 children's lives over the course of the five-year program and 50,000 lives annually going forward.

After meeting with Indian government officials and UNICEF staff on the ground, Doug Horswill, Senior Vice President at Teck, and David Morley, President and CEO of UNICEF Canada, saw first-hand the impact of the partnership. They visited health centres in Uttar Pradesh to view the distribution of zinc and oral rehydration salts (ORS), and spoke with mothers who will no longer have to fear that their children's lives could be taken by diarrhea.

"This new initiative exemplifies the considerable contributions corporate partnerships can make towards improving the lives of the world's most vulnerable children. UNICEF's partnership with Teck in India will provide strategic investments in proven interventions," said Mr. Morley. "UNICEF first partnered with Teck in Nepal and Peru through the International Zinc Association and we are pleased to be strengthening this partnership."

The program also aims to educate health workers and communities while strengthening the local supply chain to ensure zinc and ORS are accessible and that achievements made over the next five years are sustainable in the long term.

Zinc Alliance for Child Health Funds Zinc Scale Up Program in Gujarat

On December 4, Canadian partners in the Zinc Alliance for Child Health—Teck, the Micronutrient Initiative (MI) and the Government of Canada—announced \$1.5 million in funding to expand a childhood diarrhea treatment program in the Indian state of Gujarat. The funding will support the state government to scale up the program to all 26 districts in Gujarat and train an additional 97,000 health care workers on the proper treatment of diarrhea using zinc and oral rehydration salts (ORS).

"The ZACH partnership is committed to reducing child mortality by accelerating the use of zinc supplements and oral rehydration salts to treat diarrhea, one of the most common killers of children

in India," said M.G. Venkatesh Mannar, President of the Micronutrient Initiative. "We are pleased to support the State of Gujarat's Diarrhea Alleviation through Zinc and ORS Therapy (DATZ) project that aims to improve the chances of survival for their children."

The DATZ project currently operates in six districts of Gujarat and has already reached 270,000 children. ZACH, a public-private-civil society alliance, will provide funding for an additional 20 districts, reaching 670,000 children by March 2016. The project builds on the success of ZACH's current zinc projects in Africa that have helped treat over five million children since its launch in 2011.



Doug Horswill, Senior Vice President at Teck, with two sisters at the Gujarat launch of our new ZACH project.

Getting To Know...

Tara-Lynn Reynolds Zinc & Health Captain, Elkview Operations

Why did you choose to be a Zinc Captain?

I love helping spread the word about zinc deficiency and how zinc can help save children's lives across the globe to our employees and in the community. It is so rewarding to get our employees and others involved, especially when they learn how important zinc is for our health.

Favourite moment as a Zinc Captain?

We have run some really fun contests and awareness campaigns to encourage our employees to become engaged. I love giving presentations to the new hires at their on-site orientation meeting. It is so rewarding to know that I am helping make children's lives better just by making more people aware.

Favourite zinc-rich food or recipe?

Chocolate. Hands down! It gives me an extra reason to indulge – “just getting my daily zinc dosage!” Although a rack of ribs or lean rib eye steak come a close second.



Tara-Lynn and her daughter, Sydney.



When It Comes To Saving Lives, Two Is Better Than One

**Guest Submission: David Morley,
President & CEO, UNICEF Canada**

(Delhi) It reminded me a bit of a Mad Men episode. We were sitting around a table, looking at promotional materials: a short TV spot, stickers to go on windows, flyers and a brightly coloured mobile to hang by a cash register. They all had the same message: two is better than one. Oral rehydration salts (ORS) and zinc tablets are better for treating diarrhea than just ORS alone.

We have known for many years that ORS is an excellent treatment for dehydration from diarrhea. When studies showed that adding a course of zinc to ORS was even more effective at treating diarrhea, UNICEF and the World Health Organization included the dual therapy in its treatment guidelines —the accepted standard for treating this disease around the world. But here in India, where diarrhea kills nearly 700 children a day, only 2% of the children under five are treated with ORS and zinc. Our meeting with Teck in India was part of the battle plan to change that number.

As part of the UN, UNICEF saves more children's lives than any other humanitarian organization in the world. And since diarrhea is a major killer of children, and one we know how to prevent, we have to act. That is why we were looking at these social marketing ideas—to learn how we can increase the demand for ORS and zinc.

In India, social marketing posters like this one promote the use of zinc and ORS to treat diarrhea. Two is better than one.

To help us tackle this problem, we have partnered with Teck, a mining company based in Vancouver. Last April, at the Canadian High Commission here in Delhi, Teck announced that they have committed money to help UNICEF improve the supply of ORS and zinc; increase the demand through social marketing; educate community health workers and parents in three of the poorest states in India; and advocate with community leaders and professional associations to encourage the widespread adoption of ORS and zinc in the country.

Now, some people question why charities work with mining companies. To me the answer is clear. Business activities affect people's lives, so when a business takes action to be more socially responsible, we should be supportive of this and of the example it sets for other companies.

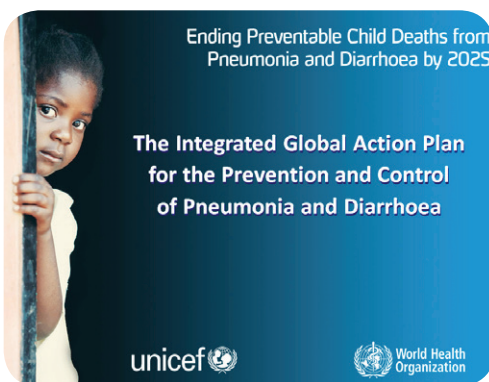
“This money from Teck will fund programs like our social marketing, our training and our education; it will help free up bottlenecks so the medicine reaches remote villages. This money will save the lives of 150,000 children,” says Genevieve Begkoyian, India's Chief of Health. As far as I am concerned, that is 150,000 good reasons for us to work with Teck.

I plan to return to India soon. When I do, I look forward to seeing the flyers and marketing I saw in our office out in the streets, on radio and TV. I also hope we will start to see an increase in the number of sick children getting ORS AND zinc – because when you are fighting diarrhea, two is better than one.

Zinc & Health: Our Progress in 2013



February 2013: The Zinc Alliance for Child Health launched zinc programs in Ethiopia and Burkina Faso that will treat 3.8 million episodes of childhood diarrhea, and provide training and support to rural healthcare providers over the next three years.



March 2013: Teck participated in the launch of the Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea, a simultaneous effort by over 100 health agencies and global organizations to integrate standardized ways, including zinc supplementation, to protect children from disease and infection.



April 2013: At the Canadian High Commission in Delhi, Teck and UNICEF Canada announced a new partnership to save the lives of children in India. The program will operate in the three states of India with the highest incidence of child deaths from diarrhea, and aims to save the lives of 150,000 children by 2017.



May 2013: Teck was celebrated as a commended company for its Zinc & Health program by GBCHealth at its annual Business Action on Health Awards. The awards recognize the best corporate programs developed to address global health needs.



September 2013: In conjunction with We Day events across Canada, Teck launched Send One, Save One, an e-postcard campaign that provides participants with the opportunity to help save a child's life while raising awareness about zinc deficiency. To date, nearly 3,000 e-postcards have been sent to recipients in 94 countries.



December 2013: The Teck-BASF partnership reached an important milestone, providing 30 million people at risk of zinc deficiency with access to zinc-fortified food products. The partnership aims to reach over 100 million people by 2015 and improve human health through innovative fortification products.



Contest winners Ian Henze and Corey Carlson (right) with their new Zinc & Health swag.

Zinc & Health E-postcards Sent to 94 Countries

Teck's Send One, Save One e-postcard campaign continues to run in conjunction with the 2013-2014 We Day season. To date, nearly 3,000 e-postcards have been sent to recipients in more than 90 countries around the world. The campaign aims to raise awareness about zinc deficiency while also providing participants with the opportunity to help save a child's life.

For every e-postcard sent at www.zincsavestives.com, Teck will donate \$0.50 – enough for a life-saving zinc treatment, to UNICEF in support of our zinc partnership in India. Help us

spread the word about Zinc & Health by sending an e-postcard today.

Congratulations to Line Creek employees Ian Henze, Reliability Technician; Corey Carlson, Senior Technical Analyst; and Brian Bisset, Mining Technician, who each sent e-postcards at www.zincsavestives.com and were the selected winners of Line Creek's Send One, Save One contest!

Many thanks to Anne Keery, Line Creek's Zinc & Health Captain, for running a great contest and raising awareness at our site.

Depression Tied to Low Zinc Levels in Blood

Individuals who suffer from depression have lower concentrations of zinc in their circulating blood compared to those without depression, according to the findings of a new meta-analysis published in the journal of Biological Psychiatry. Preliminary clinical trials have suggested that adding zinc to antidepressant therapy may produce more rapid or more effective improvement in depressive symptoms. "A growing body of evidence demonstrates that experimental zinc deficiency can induce depressive-like behavior in animals, which can be effectively reversed by zinc supplementation," wrote Walter Swardfager, Ph.D., from the Sunnybrook Research Institute, University of Toronto and colleagues.

Depression is a serious mental illness characterized by overwhelming feelings of sadness, lack of energy or motivation and other symptoms that last for more than two weeks. Lower serum levels of zinc have been associated with abnormalities in fatty acid metabolism and in serum lipid levels, which might affect brain function and vascular health. Lower zinc levels have also been associated with cardiovascular disease, a common comorbidity of major depressive disorder.

Source: The Journal of Biological Psychiatry





Feta and Lamb Burger Pitas

Lamb meat is an excellent source of zinc, providing nearly 50 percent of the recommended daily requirement. In addition, the type of protein in lamb promotes zinc absorption. This means that zinc is more easily absorbed from meals containing lamb. Yogurt is the best dairy source of zinc.

Serves 4

Ingredients:

- ¼ cup of plain yogurt
- 1 tbsp chopped fresh mint
- 4 whole wheat pita breads (with pockets)
- ½ cup crumbled feta cheese
- 2 tbsp sliced Kalamata olives

Patties

- 1 egg
- 1 tbsp water
- ¼ cup dry bread crumbs
- ½ onion, grated
- 2 garlic cloves, minced
- 2 tbsp wine vinegar
- 2 tsp Dijon mustard
- ½ tsp salt
- ½ tsp dried oregano
- ¼ tsp pepper
- 1 lb ground lamb

1. In a bowl, beat egg with water; stir in bread crumbs, onion, garlic, vinegar, mustard, salt, oregano and pepper. Mix in lamb. Shape into four ¾-inch thick patties.
2. Place patties on greased grill over medium heat; close lid and grill, turning once, until digital thermometer inserted sideways into centre reads 160°F (71°C), which should take 12 to 14 minutes.
3. In another bowl, combine plain yogurt with chopped mint.
4. Open the pita and place one burger in each; top burger with yogurt mixture. Sprinkle with feta cheese and olives. Add lettuce, sliced cucumbers and chopped tomatoes to the pita for extra crunch, if desired.



N'Goné Sine chats with Mouhamed's mother, Sohkna, about how to treat his illness with zinc and ORS.

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Sohkna had been treating her son's diarrhea with monkey-bread and fruit juice. He would recover for a few days or weeks but the diarrhea would eventually return. Sohkna's neighbour urged her to see N'Goné instead, who immediately advised treating the diarrhea with zinc and oral rehydration salts (ORS).

Using zinc, along with ORS, to treat diarrhea not only helps children recover from diarrhea faster, it also helps to stop the diarrhea from returning as often. One treatment of 10 zinc tablets and two packets of ORS costs less than 50 cents. For this project and in keeping with the Senegalese policy that all treatments received through the DSDOMs are free, the zinc is provided to Sohkna at no cost.

Happy that she has a new way of treating Mouhamed, Sohkna sets off for home. N'Goné will visit her in the coming days to check on them both. She also asks Sohkna to let her friends and neighbours know that a more effective treatment for diarrhea is available.

This DSDOM pilot project is just one part of the larger ZACH projects in Senegal, which is accelerating the use and awareness of this effective zinc treatment. As a partnership between the Micronutrient Initiative, Teck and the Government of Canada, the Senegalese ZACH project was launched in May 2012 with the Government of Senegal and is now active in 58 out of 76 health districts, which translates into 4,295 public health delivery points.