Leading global action to eliminate brain damage due to iodine deficiency
Last year, IGN’s 2020 annual report recognized the global success of salt iodization, but also called for stronger vigilance and emphasized the need to continuously monitor the iodine nutrition situation and to take corrective action where necessary.

Looking back on that report and reflecting on our work over the past year reinforces our conviction that important determinants of a sustained adequate iodine nutrition program include national ownership of salt iodization efforts, integration within a national nutrition policy and broader food fortification frameworks, as well as actions to reduce salt intake. These perspectives continued to guide our work over the past year.

In 2021, IGN collaborated with organizations such as the United States Agency for International Development (USAID), the United Nations Children’s Fund (UNICEF), the World Health Organization (WHO), the Bill & Melinda Gates Foundation (BMGF), Kiwanis International, the Micronutrient Forum (MNF), the Global Alliance for Improved Nutrition (GAIN) and the Food Fortification Initiative (FFI) to increase awareness about the potential of expansion of food fortification to reduce or mitigate undernutrition and its broader impact on learning, income earning, health, development, and wellbeing.

IGN’s perspective on salt iodization efforts over the past decades across the world can provide valuable lessons to the renewed efforts now being made to reach yet more vulnerable populations with fortified foods. IGN worked with national partners, supported by UNICEF and Kiwanis, to monitor and analyze the strengths and weaknesses of national programs and take the first steps towards improvements in more than 40 countries. The information that we gathered this year has shown that in some countries, knowledge about salt iodization seems to be forgotten; in others, management and monitoring systems have become dysfunctional. We learned that in some regions, inter-country trade is of great importance in achieving optimal iodine intake. On the positive side we also found that in many countries, salt iodization continues to be highly effective and import and quality assurance systems perform as they were meant to do.

We have seen that countries can slide back, and that reinforced population groups in a continent such as Europe are at risk of iodine deficiency. While no-one can ever guarantee complete sustainability, putting optimal monitoring, control and management systems in place and continuing to raise awareness and knowledge will build program resilience and longevity in the years ahead.

In 2021, we continued to struggle with the fact that data on population iodine status, as well as national iodisation efforts, are either lacking or outdated. Changing food consumption patterns lead to reduced iodine intake from table salt, but opportunities to improve iodine intake from processed foods exist, although they are as yet insufficiently identified and utilized. Last year, IGN began work on simplifying assessment of population iodine status and salt iodization efforts, with a focus on ensuring those who are accountable for national policy decisions and guidance, providing new opportunities for data collection and program action.

So, as we continue to make progress, and re-double efforts to target populations in countries such as Papua New Guinea, Sudan and Madagascar, we must not be lulled into thinking that once good quality iodized salt is available for all households, the fight against iodine deficiency is over and that we can walk away.
IGN’s core team
Small, strong, resilient and versatile – the work of IGN’s core team and the people who do it

IGN provides oversight, insight, momentum and leadership to global efforts to achieve adequate iodine nutrition for all, primarily through the process of Universal Salt Iodization (USI). IGN maintains a small core staff and a team of regional and national coordinators who work with national counterparts to develop action plans for program strengthening. This team is complemented by a roster of experts who help us to tackle specific technical issues.

At IGN’s heart is a group of people who, due to COVID-19, have not met personally as a team and have overcome the difficulties of the last couple of years via Zoom. The Executive Director is supported by three Senior Advisors: Robin Houston, Arnold Timmer and Joyce Greene, together with Finance and Administration Manager Jude Louis, and with operational support provided by Mathilde Maurel. We thought you’d like to learn a little more about their work and what motivates them.

Executive Director Werner Schultink joined IGN in January 2021, following his retirement from UNICEF and a career of more than 35 years in development, nutrition and humanitarian response, 21 of them at UNICEF. He is based in Ottawa, Canada. His role is to chart the organization’s direction, control its operations, and ensure financial sustainability through fundraising. Here’s what he says about his work and his reasons for joining IGN.

I was very happy with the opportunity to work with IGN, further strengthening and expanding one of the biggest nutrition and public health success stories of the past decades, to which I had also contributed while working with UNICEF and German government development agency GTZ. The positive impact of an almost universal fortification of salt with iodine on school performance and learning capacity alone has been tremendous. It is of great importance that this situation is maintained, and that there is no slipping back. Creating optimal conditions for both continuity and further expansion of this unique experience of global iodization of salt is challenging and motivating. It is a real pleasure to work with a highly professional, experienced and motivated team of colleagues from all over the world, and to provide leadership and oversight, under guidance of our Board, over the work of IGN.

Senior Advisor Robin Houston MD MPH has the longest history with IGN and has over 30 years’ experience with IDD/USI programs. He is based in Bozeman, Montana. He describes his work for IGN:

I have been a Senior Advisor to IGN for a number of years, following a career in international public health. My interest in nutrition began with work on a UNICEF funded effort to address micronutrient malnutrition. This program, based at the US Centers for Disease Control (CDC) and Emory University, provided training for national counterparts working on nutrition, and began with helping to establish salt iodization programs.

My role as Senior Advisor is to provide technical input for a variety of IGN efforts, including those focused on strengthening monitoring and addressing data gaps, and on ensuring the progress made with USI efforts is sustained. In the past year, I have focused on two areas of concern. First, processed foods using iodized salt contribute to iodine intake, but that contribution is not often well understood. IGN developed a guide to improve understanding of this contribution, thus putting use of household salt in perspective.

In addition, I am working on improving monitoring systems to address outdated or incomplete data on impact and improving the understanding of program elements and whether they are strong enough to sustain the progress made. It is exciting to work on a mature fortification effort, recognizing the remarkable global progress made in addressing iodine deficiency. The challenge now is to ensure that this success is sustained, and thus this work on assessing program elements is important in understanding what might make a program vulnerable.
Here's what he says about his work:

**Finance and Administration Manager Jude Louis** joined IGN at the beginning of 2020. He oversees all accounting and administrative tasks including financial reporting, budgeting, and compliance, and supports the core team and other IGN colleagues across various regions in project financial management.

**About IGN**

IGN’s core team is a great opportunity for me to contribute to the prevention of iodine disorders among children around the world. As a junior on the team, I am grateful for the opportunity to work with experienced, dedicated and altruistic colleagues from all over the world, who are truly inspiring to me. You Can Save and Canada Helps and am driven by the trust they place in us.

**Working as part of a small team in a lean organization has its challenges and pressures, but we are rewarded by the fact that what we do is absorbing, meaningful and impactful. We value our relationships and partnerships with organizations such as UNICEF, the Bill & Melinda Gates Foundation, and the World Health Organization.**

I am especially uplifted and inspired by the contributions of people around the world to our organization and our work through platforms such as The Life You Can Save and Canada Helps and am driven by the trust they place in us.

After working on fortified products, especially iodized salt, during my internship in Mauritania, I developed a real interest in the fight against micronutrient deficiencies for which prevention can make a big difference.

I was delighted to be able to join the team that has continued the work following the study I did in Mauritania and thus be able to participate in the realization of actions to improve the situation. I am very enthusiastic about the idea of being part of such projects that can have a considerable impact on improving the lives of people and children.

**About IGN**

Senior Advisor Joyce Greene began her career as a national news reporter in Ireland, but after moving to the US in the late 1980s has spent much of her career working on advocacy around nutrition as well as on fundraising, working at UNICEF and later at GAIN. She is based in West Cork, Ireland. She joined IGN in 2020 and is responsible for global advocacy at IGN, as well as partnerships, communications and fundraising.

**Mathilde Meunier takes care of operational matters for IGN, navigating the complex worlds of grant reporting and data analysis as well as project budgeting.**

A nutritionist by profession, she joined IGN in mid-2020 after graduating with a Master’s degree in nutrition and food science. She is based in Toulouse, France.

I am personally passionate about making the world a better place by helping people affected by crisis, conflicts, disasters, and disease. Being part of the IGN team is a great opportunity for me to contribute to the prevention of iodine disorders among children around the world.

In Western Europe, I was surprised to see how iodine deficiencies among children could hardly utter a sound, they were stigmatized by others and could not participate in school and community life. High risk surgeries for the extreme cases were the only solutions to guarantee some quality of life. Later with young children and women with large goitres and was shocked by the devastating effects iodine deficiency has on them. For children, apart from impaired cognitive and physical development, their voices were affected and they could hardly hear a sound, they were stigmatized by others and could not participate in school and community life. High risk surgeries for the extreme cases were the only solutions to guarantee some quality of life. Later with young children and women with large goitres and was shocked by the devastating effects iodine deficiency has on them. For children, apart from impaired cognitive and physical development, their voices were affected and they could hardly hear a sound, they were stigmatized by others and could not participate in school and community life. High risk surgeries for the extreme cases were the only solutions to guarantee some quality of life. Later with young children and women with large goitres and was shocked by the devastating effects iodine deficiency has on them. For children, apart from impaired cognitive and physical development, their voices were affected and they could hardly hear a sound, they were stigmatized by others and could not participate in school and community life. High risk surgeries for the extreme cases were the only solutions to guarantee some quality of life. Later with young children and women with large goitres and was shocked by the devastating effects iodine deficiency has on them. For children, apart from impaired cognitive and physical development, their voices were affected and they could hardly hear a sound, they were stigmatized by others and could not participate in school and community life. High risk surgeries for the extreme cases were the only solutions to guarantee some quality of life. Later with young children and women with large goitres and was shocked by the devastating effects iodine deficiency has on them. For children, apart from impaired cognitive and physical development, their voices were affected and they could hardly hear a sound, they were stigmatized by others and could not participate in school and community life. High risk surgeries for the extreme cases were the only solutions to guarantee some quality of life.
The human body needs constant, small amounts of iodine in the diet for metabolism and brain development. Normal diets in most countries do not contain enough iodine.

Insufficient intake results in iodine deficiency, the world’s largest cause of preventable mental impairment, and it’s a problem in both rich and poor countries.

The health of all population groups can be affected by iodine deficiency, especially pregnant women and children.

Adding tiny amounts of iodine to salt for human and animal consumption can address the problem. It is simple and very inexpensive – just 5 cents a year for a lifetime of protection – and has been carried out in most countries around the world for the past three decades.

Insufficient iodine intake during pregnancy can lead to lasting brain damage that reduces a child’s IQ by 8 to 10 points and up to 13.5 points in case of severe deficiency, with marked impact on children’s learning ability and school performance.

Our work
Global iodine status

Nationally representative cross-sectional studies measure urinary iodine concentration (UIC) in populations. UIC reflects the total iodine intake from all dietary sources. The overall iodine intake in countries is classified as sufficient, deficient, or excessive based on the median UIC.

IGN compiles data on UIC obtained in studies conducted throughout the world to monitor the global iodine status and the impact of salt iodization programs. The IGN Scorecard presents the most recent UIC data in school-age children as a proxy for the general population for 194 WHO Member States.

The global iodine status is summarized yearly, based on data from UIC studies conducted over the past 15 years. Cross-sectional UIC studies have been conducted in 141 out of 194 countries in the past 15 years (2007-2021): in 126 countries (89%), the studies were nationally representative.

In 2021, data has become available from ten new nationally representative surveys conducted in Albania, Belgium, Canada, Ghana, Guatemala, Japan, Pakistan, Poland, Seychelles, and the United Kingdom. Recent data is lacking from 53 countries. The majority are island countries with small populations, but recent data is also lacking in several African countries.

Countries with adequate iodine nutrition

The iodine intake in the general population is assessed as being adequate in 111 countries around the world in 2021. The number of countries with adequate iodine intake has nearly doubled over the past 20 years, reflecting the effectiveness of the successful implementation of salt iodization worldwide.

Nine out of ten countries with new nationally representative studies confirmed overall iodine sufficiency, with no or only minor fluctuation since the last national study. In the Seychelles, iodine status was assessed for the first time and adequate iodine intake was reported.

Compared to the global review in 2020, the total number of countries with reported adequate iodine intake decreased from 118 to 111 in 2021. However, this decline is not necessarily a reflection of an actual global deterioration, rather because the studies in 11 countries have become older than 15 years and were not included in the current summary.

Countries that are iodine deficient

In 2021, globally, 19 countries (out of 141 countries with data) still have insufficient iodine in their diets. Iodine deficiency remains in all regions worldwide and affects populations at all stages of economic development. Iodized salt is produced or imported in all iodine-deficient countries, but factors such as low coverage among households, inadequate quality, and low use of iodized salt in processed foods have hindered the adequate improvement of iodine status.

Several countries have low nationwide coverage and large regional variations in iodine status, e.g. Sudan, Burkina Faso, Bangladesh, Afghanistan and Korea. Iodine intake is also low in Israel as well as in several countries in Europe (Norway, Germany and Finland). New data from Belgium suggests insufficient iodine intake in adults, as indicated by a median UIC just below the threshold. This is not unique to Belgium. The iodine intake in many European countries fluctuates around borderline adequacy.
Countries with excessive iodine intake

Worldwide, 11 countries have documented excessive iodine in their diets. Excess iodine intakes in populations can result from diets that are naturally high in iodine and/or groundwater. In situations where the iodine intake is excessive, salt iodization level should be reduced to bring down the population iodine intake.

Disparities in iodine intake among vulnerable population groups

Despite overall adequate intakes in 111 countries worldwide, there may still be gaps in the salt iodization program and it is possible that certain segments of the population may not meet the dietary iodine requirements. If resources allow, UIC studies may be targeted to a specific population group, geographic region, lower socioeconomic status, with varying diets and/or salt sources to provide supporting data for focused program improvements.
IGN’s work in regions and countries in 2021

IGN has a dedicated and experienced team of Regional Coordinators around the world, complemented by National Coordinators who work with us on a voluntary basis.

With a small core team operating virtually and a network of technical experts, we work with our partners such as UNICEF and WHO to improve iodine status worldwide.

Our principal strategy for identifying gaps, weaknesses and opportunities in regional efforts and national programs is our regional roadmapping. The process facilitates the creation of a five-year, evidence-based strategic direction for annual country and regional activities. The graphic below outlines the status of these roadmaps.

Our work with regions and countries in 2021 fell into four broad areas:

- Recognizing the importance of regional trading, regulations and institutionalized cooperation
- Strengthening national ownership, funding and partnerships towards sustained optimal iodine intake
- Identifying approaches for countries that are still iodine-deficient
- Exploring the role of processed foods in improving iodine nutrition.

Activities in more than 40 countries led to:
- Improved iodine status (e.g. Madagascar)
- Improved regulations (e.g. Bangladesh, Russia)
- Continued evidence-based advocacy on program implementation (e.g. China, India)
- New country analysis and action plans (e.g. Burkina Faso, Angola, Tajikistan, Pakistan, Bhutan, Sudan)
- Improved knowledge on the contribution of processed foods to iodine intake in 15 countries in Southeast Asia, Latin America and West Africa (e.g. Thailand, Indonesia, Philippines)
- Preparation to support a highly deficient population group in a remote area of Papua New Guinea
- Improved knowledge on the situation of vulnerable Andean populations
- Effective regional coordination mechanism in Eastern and Southern Africa

IGN worked closely with countries with inadequate status, including Burkina Faso, Burundi, Mali, Mozambique, South Sudan, Lebanon, Cambodia, Vietnam, Haiti, Nicaragua, Russia, Tajikistan and Ukraine.

The following pages provide a regional breakdown of activities.
IGN’s activities in 2022

Funding for IGN’s regional activities comes from a number of sources. In 2021, UNICEF, with support from USAID, funded a large part of IGN’s activities in Eastern and Southern Africa, Western and Central Africa, Eastern Europe and Central Asia, South Asia, and South East Asia and Pacific. Additional regional activities were supported with funding from GiveWell and The Life You Can Save.

Situation

Data on the iodine status of population is adequate in 16 countries and insufficient in five – Angola, Burundi, Madagascar, Mozambique and South Sudan. However, for eight countries, the data is older than ten years, while data for Comoros is not available.

Progress in 2021

Technical support targeted high-burden countries with insufficient iodine intake – Angola, Madagascar, Mozambique and South Sudan.

A regional coordination mechanism established in 2020 continues to strengthen cooperation and collaboration among universal salt iodization partners. The 14 member organizations identified countries requiring special support and issues necessitating a regional approach. Advocacy was strengthened through engagement with regional partners, supported through regional newsletters and policy briefs.

Templates – a landscape analysis and a regional scorecard – were developed to strengthen program monitoring and tracking by providing a standard method for review of USI/IDD programs which allows comparison between the countries.

What’s next

In 2022, the East, Central and Southern Africa Health Community (ECSA-HC) will chair three coordination meetings to further strengthen regional coordination and ownership, and under the leadership of IGN Regional Coordinator Festo Kavishe, a mid-term review of the regional coordination initiative will be conducted. IGN will also provide targeted technical support to Madagascar and South Sudan, countries with insufficient iodine intake, and to countries which are major suppliers of salt: Botswana, Kenya, Namibia, Tanzania & South Africa. In Mozambique, IGN will provide technical support to a supply and value chain analysis to improve quality iodization of salt, while development quality assurance and compliance mechanisms will be supported in Namibia.

Eastern and Southern Africa

Our work

IGN’s activities in 2022

Our work

IGN’s activities in 2022

Eastern and Southern Africa

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**Western and Central Africa**

**Situation**
15 countries have adequate iodine status, three have excessive iodine status and four countries have insufficient iodine status. Data for 14 countries is over 10 years old, six countries have data that is 5-10 years old, and two countries have no data. In this region, the salt producing countries are Senegal and Ghana, while salt also comes from Brazil and Namibia for processing in Nigeria and Cameroon.

**Progress in 2021**
Five countries – Ghana, Mali, Chad, Mauritania and Togo – received technical assistance, seven countries updated their national plans, while 11 conducted country landscape analyses. A total of 22 country summaries are new available, providing a comprehensive picture of program status in the region. The analysis show that the situation in the country countries has not been reviewed for several years, and the need for updating of management systems becomes apparent.

**What’s next**
In 2022, Regional Coordinator Amal Tucker Brown is planning a study of the cross-border trade and supply of iodized salt and to explore innovative mechanisms to track salt along the supply chain. She will organize a regional workshop on universal salt iodization with key stakeholders. Technical support will be provided to the government of Ghana around implementation of existing legislation on the use of iodized salt in processed foods and to Senegal and Burkina Faso on refining their action plan for USI.

**Middle East and North Africa**

**Situation**
Coverage of iodized salt is below 70% in eight countries, among them Sudan, Syria, Libya, Iraq, and Yemen. A further four countries have coverage of below 80%, while seven countries have high coverage but also excessive iodine intake.

**Progress in 2021**
An assessment of Sudan’s salt industry on the feasibility of increasing production and availability of quality iodized salt took place in the midst of political unrest, supporting the development of a roadmap and action plan towards the sustainable production of quality iodized salt. (See feature story on page 34). In Egypt, a three-day workshop organized by the Ministry of Health, the Salt industry Union and the National Institute of Nutrition with IGN, WFP, WHO and UNICEF determined the need for a national landscape review in 2022.

**What’s next**
In 2022, IGN’s Regional Coordinator, Izzeldin Hussein in collaboration with UNICEF and WHO will oversee compilation of landscape analyses for 17 countries, including more in-depth analyses in Iraq, Lebanon and Sudan. He will also support development of Egypt’s landscape review, and the strengthening of IGN collaboration with WHO’s office in the region.
**Situation**
An IGN review of the USI program in 17 countries for the period 2010-2020 showed that 11 countries were successful in maintaining adequate iodine status among the general population in complementarity with salt reduction activities, achieved through widespread use of adequately iodized household salt and by the food and bakery industry. A further three countries—Albania, Moldova, and Kyrgyzstan—have adequate iodine status but the use of adequately iodized salt is relatively low due to a weak regulatory environment. In Tajikistan, Ukraine, and Uzbekistan salt iodization levels are generally high, except for Afghanistan, Bangladesh, and Pakistan.

**Progress in 2021**
To support the findings of the program review outlined above, IGN has produced three resource notes to help advocates and decision-makers understand and advocate for progress and for recommendations for country program managers on roadmaps, a regional supplement to the guidance on salt in processed foods, and on maintaining USI in the context of COVID-19. Two joint IGN-UNICEF technical webinars were conducted to disseminate findings and guidance notes among stakeholders. With support from UNICEF and IGN National Coordinators, implementation of the program guidance in selected countries in Albania, Ukraine, Georgia, Armenia, and Uzbekistan.

**What’s next**
In 2022, IGN Regional Coordinator Renuka Jayatissa, in partnership with UNICEF, plans to facilitate improved dialogue between the ministries of health and trade as well as the public and private sectors. IGN will also explore innovative monitoring options, including integration into food control systems, exploring the use of different surveillance methods to assess iodine status, and promote use of the Global Fortification Data Exchange dashboards by program managers at national, sub-national and regional level. IGN will continue to promote the use of iodized salt in processed foods and to engage on salt reduction strategies.

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**Situation**
The region’s eight countries have adequate iodine status at national level, but pockets of deficiency remain among some vulnerable populations and in specific geographic regions. Salt iodization levels are generally high, except for Afghanistan, Bangladesh, and Pakistan.

**Progress in 2021**
Landscape analyses have been produced for all countries in the region and countries are moving towards action plans, with country meetings held in Sri Lanka, Bangladesh, Afghanistan, Pakistan and Bhutan. An overall regional landscape analysis report has also been completed, along with a review of trade standards for processed foods containing salt across South Asian countries. A regional webinar on sustaining universal salt iodization in compatibility with salt reduction health initiatives attracted 485 participants from over 30 countries. In Pakistan, a seminar with stakeholders including the public and private sectors drew attention to the situation on iodine deficiency and identified solutions to eliminate iodine deficiency. Research in ante-natal clinics in Sri Lanka was initiated to determine urinary iodine status among pregnant women through routine surveillance, in order to identify an early and cost-effective system to monitor iodine status of pregnant women.

**What’s next**
In 2022, IGN Regional Coordinator Bambik Ahmadzadeh, in partnership with UNICEF, plans to facilitate improved dialogues between the ministries of health and trade as well as the public and private sector. IGN will also explore innovative monitoring systems, including integration into food control systems, exploring the use of different surveillance methods to assess iodine status, and promote use of the Global Fortification Data Exchange dashboards by program managers at national, sub-national and regional level. IGN will continue to promote the use of iodized salt in processed foods and to engage on salt reduction strategies.
Situation

The iodine status of children is adequate in many countries and territories (30 out of 31, with at least 80% of the total population). However, in some parts of the world, it is inadequate. Pregnant women in 19 countries and territories (20% of the total population) and in Australia and New Zealand, where national data indicates the iodine status of the non-pregnant population is adequate, are at risk of iodine deficiency during pregnancy. In addition, for children, iodine deficiency is a leading cause of mental and neurological deficits.

What’s next

In 2022, IGN Regional Coordinator Edward Otico will advocate for strengthening the salt iodization program as well as for regulation and enforcement of iodized salt in processed foods in Indonesia, Philippines, and Vietnam. In Cambodia, a strategic plan will look into efforts to monitor iodinate efforts. Sentinel surveys of iodine status in school-age children are planned for eight Pacific countries.

Situation

Data from the 2020 National IDD monitoring survey in China showed overall adequate iodine status of children and pregnant women, but an analysis in six provinces shows that coverage of household salt fell below 90%, perhaps due to people’s health concerns about excess iodine and excessive salt intake.

Progress in 2021

To address these concerns, IGN Coordinator Qian Ming published an article in the Asia Pacific Journal of Clinical Nutrition: “Whether iodized salt consumption increases thyroid cancer incidence” (by Li T, Qian M), which aimed at improving understanding about IDD and iodized salt among the medical community. IGN surveyed more than 9,500 families and 6,000 students on the use of iodized/non iodized salt. Results show that more than two thirds of families (69%) use only iodized salt, only one in ten consumes only non-iodized salt, while 21% use a mix of both. The purpose of the survey was to raise awareness of the importance of iodized salt among medical students and observe household trends in iodized salt intake. IGN supported the government’s work on creating new standards for iodine levels in salt.

What’s next

In 2022, IGN Regional Coordinator Qian Ming will continue to monitor the progress of IDD control, with a focus on Western China, Tibet and Xinjiang. He will also continue to promote understanding about the relationship between iodized salt and thyroid diseases among stakeholders, especially medical doctors and scientists.
Central America and Caribbean

Progress in 2021

Progress in the region was hampered by COVID-19 and unrest in Haiti, but work continued. A secondary data analysis of household consumption and expenditure surveys in Guatemala and Panama (2014 and 2018) showed that household salt rather than processed foods remains the major source of sodium availability in the diet, especially among the poorest, emphasizing the importance of salt iodization for IDD prevention. Training on salt production monitoring and use took place in Guatemala with the main objective of providing specific knowledge on issues of regulatory monitoring for food fortification with micronutrients, based on the Food Fortification Guidelines and Guidance for Monitoring salt fortification/UNICEF, in collaboration with the Institute of Nutrition of Central America and Panama (INCAP), and Guatemala’s National Fortification Commission (CONAFOR) created a comprehensive website resource on the fortification and consumption of fortified foods.

What’s next

In 2022, IGN will work on three main objectives – updating data and research, improving competencies and human resources, and communications and advocacy. To support these objectives, through collaboration with INCAP, a regional review of the status of salt iodization program will be conducted, together with an analysis of regulations and standards, and a study of variation of iodine levels in salt processing will be done. In addition, IGN, with INCAP, will continue working with the salt sector to create evidence-based information on quality control guidance to the Ministry of Health in external monitoring; and will continue fortification advocacy efforts with CONAFOR and the Regional Commission of Micronutrients and Fortified Foods (CORMAF), including production of three short informational videos.

South America

Progress in 2021

While Ecuador reaffirmed its commitment to BDD prevention through salt iodization and requested technical support from IGN, in general iodine deficiency prevention and monitoring have become a neglected field in the regional health agenda. IGN in the region has two ongoing initiatives that show that people there are unaware of the importance of adequate iodine nutrition for the pregnant women and the brain development of infants and young children, and even decision makers and health personnel see it as a lesser concern. Yet a recent analysis in Peru of data from ongoing country-children iodine deficiency intakes in children under 36 months, especially in the Amazon region, shows high childhood-iodine deficiency intakes in children under 36 months, especially in the Amazon region.

What’s next

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North America

Situation
Canada and the United States remain iodine sufficient. However, mild iodine deficiency has re-emerged among pregnant women in the US over the last decade. No national data are currently available regarding the iodine status of pregnant women. In Canada, salt iodination was mandated in the 1940s, but in the US salt iodination has always been voluntary. In both countries, commercially processed foods typically use iodized salt, and iodine levels are relatively low. Dairy foods are likely the primary source of iodine intake in both countries. However, the iodine content of milk is not monitored or well regulated. Awareness of the importance of iodine nutrition is lacking among healthcare providers and the public.

Progress in 2021
IGN has been working with the European Commission to raise awareness among policy makers. This includes a meeting with the Commission’s Directorate General for Health and Food Safety in January and working with the World Health Organization to draw attention to the problem among Europe’s member states.

What’s next
IGN’s Regional Coordinator Rodrigo Moreno-Reyes is planning a meeting in Brussels in September to raise awareness of the issue in Europe. In addition to well-recognized experts on iodine nutrition, the participation of representatives of ministries of health of several European countries and a representative of WHO Europe is expected. The meeting will be an excellent occasion not only to raise awareness of iodine nutrition in Europe but also to assess research needs in the field for the coming years. IGN will also participate in an international conference hosted by the World Iodine Association on iodine in food systems and health in November.

IGN is a partner in the EUthyroid consortium seeking funding for further research on effective strategies to promote awareness of the problem, especially among young people. Finally, at the initiative and with the support of IGN and Kiwanis International, a WHO report on iodine nutrition, the first specifically addressing the situation in Europe is in progress.

Western and Central Europe

Situation
According to research conducted by the EUthyroid consortium and funded by Horizon Europe, Europe is largely an iodine-deficient continent. Iodine deficiency during pregnancy and breastfeeding is widespread, and estimates suggest that up to half of newborns are exposed to iodine deficiency.

Progress in 2021
IGN has been working with the European Commission to raise awareness among policy makers, including a meeting with the Commissioner’s Directorate-General for Health and Food Safety in January and also working with the World Health Organization to draw attention to the problem among Europe’s member states.

What’s next
IGN’s Regional Coordinator Elizabeth Pearce will continue to raise public awareness on the importance of iodine through a campaign on the centennial of US salt iodization in 2023 with Kiwanis and the American Thyroid Association, as well as through a campaign on the role of iodine in child brain development with the National Dairy Council. A planned study of repeated UIC measurements across multiple US pregnancy cohorts will create a better understanding of which pregnant US women may be at risk of low iodine intakes.

1 Bertinato J, Qiao C, L’Abbé MR. J Nutr. 2021;151(12):3710-3717
Finding a win-win solution for salt iodization in Morocco

Morocco’s population overall has adequate iodine status. Yet more than one in five school-aged children, as well as one in three women of childbearing age have insufficient levels of iodine, and some regions are more prone to overall deficiency. However, only 7% of households consume adequately iodized salt, and one in four households consume only non-iodized salt. To ensure universal coverage of adequately iodized salt, Morocco’s Ministry of Health reached out in 2019 to IGN and UNICEF to revitalize the USI program. Working closely with the Ministry, IGN and UNICEF conducted studies to understand the specific roadblocks and identify solutions. Workshops and meetings helped improve understanding of the constraints from a stakeholder perspective. Several issues emerged:

• While iodization of table salt has been mandatory since 1995, the processed food sector is not obliged to use iodized salt, which lessens the incentive for large producers to separately produce iodized salt for household use.
• The government’s Office National de Sécurité Sanitaire des Produits Alimentaires (ONSSA) uses much of its monitoring resources to inspect “dangerous foods” for consumers and iodized salt is not prioritized.
• Household salt processing therefore falls to the smaller processors, with a total of 50 different salt brands on the market. Most of these processors are resource-poor and operate in the informal sector, where ONSSA does not have the mandate to monitor them.
• All salt packaging in Morocco has the iodized salt logo, irrespective of iodine presence and level.
• Catering establishments and sales outlets are not under ONSSA control and can therefore procure non-iodized salt.

IGN and UNICEF advocated for the engagement of these stakeholders in the USI program, leading to creation of a roadmap to implement the new USI strategy, and accelerate the elimination of iodine deficiency disorders in Morocco.

First, IGN global guidance to model the contribution of iodized salt in industrially processed foods was used in Morocco, identifying the crucial role of iodized salt in processed foods in meeting the iodine needs of the population, particularly pregnant women. Institutional catering contractors were identified as one of the major procurers of salt, with most institutional catering establishments government-led, such as schools, universities, hospitals, creches, orphanages. With the buy-in of the processed food sector, the next step was to advocate with policy makers to include iodized salt in processed foods. New legislation is in process and is due to be approved in 2022. The new law mandates the purchase of iodized salt for food processing from accredited suppliers. The catering sector has also committed to the new strategy. This in turn will provide an incentive to reinforce the salt supply chain, with improved packaging, processing and control of iodized salt. Local salt will also become fit for export, creating sustainable incomes for local producers.

Full engagement of key stakeholders at all stages were vital in the engagement and development of the roadmap and the new strategy. Strong structural analysis, targeted studies and sharing of global best practices were essential in identifying context-specific programmatic actions. Good progress has been made in the implementation of the roadmap in 2021 at the national level, while in 2022 focus will be at sub national level in the south of Morocco, where most of the country’s salt is produced and in regions where iodine deficiency remains endemic.
The study found that with time, knowledge about the importance of iodine nutrition has diminished. While the solution is within the means of every household, the general population is unaware of the impact of iodine deficiency on pregnant women and the brain development of infants and young children. Among decision makers and health personnel, the perception that salt iodination is an outdated issue and loss of public health concern, especially in the light of other priorities such as the COVID-19 pandemic. This has resulted in less program funding and the weakening of communication strategies.

In parallel, countries are working to reduce salt intake for health reasons, reintroducing iodized salt. A study found that with time, knowledge about the importance of iodine nutrition has diminished. While the solution is within the means of every household, the general population is unaware of the impact of iodine deficiency on pregnant women and the brain development of infants and young children. Among decision makers and health personnel, the perception that salt iodination is an outdated issue and loss of public health concern, especially in the light of other priorities such as the COVID-19 pandemic. This has resulted in less program funding and the weakening of communication strategies.

To identify paths to progress, IGN’s Regional Coordinator Ana Maria Higa, the Coordinator for South America, initiated a study to understand current perceptions of salt iodination among key audiences in the two regions.

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An assessment in Sudan leads to a prolonged stay for the IGN team

Surveys from more than 15 years ago indicate that IDD is a severe public health problem in Sudan, where more than 20% of school-aged children have goiter, a clear signal of chronic iodine deficiency. There is no reason to think that the situation has improved and, for some time, IGN’s Middle East and North Africa Regional Coordinator Izzeldin Hussein had wanted to review options to upgrade salt production in Sudan to ensure the country produces enough adequately iodized salt for its 42 million population. But COVID-19 had made it difficult to travel there.

On 16 October 2021, he and a team of experts felt they could make the trip and travelled to Sudan to spend a few days working with the Ministries of Health and Industry, the governor of the salt-producing Red Sea State, as well as salt producer and consumer associations, to assess the problem and identify possible solutions. Just after their arrival, political unrest broke out in Khartoum and prevented them from returning home until the end of the year.

Despite the disruption, the team began assessing the salt iodization situation in Sudan. Demand for salt for human consumption in Sudan is met in two ways, through large-scale producers who sell refined salt in supermarkets, and by small-scale cottage producers who produce the bulk (around 60%) of the country’s salt and sell it informally in local markets. Outdated technology for salt production and refinement, inadequate infrastructure for iodizing salt, and insufficient monitoring of small producers has led to availability of large quantities of cheaper non-iodized and unrefined salt. The supply of potassium iodate, used for the iodization of salt, is not financially sustainable, and heavy levies and taxes negatively impact the profitability of the sector. There are no penalties for non-compliance with regulations and demand from communities for iodized salt is low. The problem was exacerbated due to COVID-19 lockdowns, with the already limited production of iodized salt decreasing by almost a third.

An urgent initial recommendation of the analysis was that a baseline study must be conducted to have updated understanding of the IDD prevalence, geographic distribution, and the availability, knowledge about and attitudes to iodized salt. The report lays out thoughtful options for short-term iodization by small producers, and for increasing capacity by the larger companies. In the longer-term, ideas such as aggregation of salt production and installation of better infrastructure such as roads, power, water, and transportation to modernize production and transform the supply chain can be explored in more detail.

Much work remains to be done to increase the availability of adequately iodized salt in Sudan, but Izzeldin is hopeful there will be progress:

It turned out to be a difficult time for us, but we learned a lot and believe that we have a solid foundation for the future. We look forward to working with all of the stakeholders to move salt iodization forward in Sudan.
Improving understanding of the contribution of processed foods to iodine nutrition

Universal Salt iodization (USI), which intends that all salt for human and animal consumption be iodized, has been the global strategy for elimination of iodine deficiency for some three decades.

Until a few decades ago, consumption of iodized salt mostly happened in the home when added during cooking or at the table. But increasingly, because of changing lifestyles due to industrialization, urbanization and a host of other factors, people are consuming more processed foods such as bread and bakery products, noodles, and broth or bouillon cubes. For many people, consumption of salt through processed foods has been increasing.

IGN sought to learn more for two reasons – firstly, because processed foods have the potential to provide iodine in areas where household salt is not, or is poorly iodized; and secondly, because people who consume little household salt and consume more processed foods are vulnerable to iodine deficiency. Indeed, several countries rely on the mandatory use of iodized salt in widely used processed foods or locally prepared foods, such as bread, to ensure optimal iodine nutrition. Use of iodized salt in processed foods can help stabilize iodine intake in populations who are consuming more processed foods and using less table salt.

As a first step, IGN developed program guidance for countries who wished to assess the contribution of iodized salt in processed foods to population iodine intake, and whether action is needed to achieve or sustain this. In 2021, with support from UNICEF, GiveWell and The Life You Can Save, IGN helped countries in Africa (Morocco, Senegal, Cameroon, Burkina Faso, Nigeria, Ivory Coast and Ghana), South America (Peru, Panama and Guatemala) and South East Asia (Myanmar) to assess their situation, while ongoing activities were reviewed in the Philippines, Indonesia and Thailand.

Roadmapping 2021: Processed foods

<table>
<thead>
<tr>
<th>Region</th>
<th>Countries</th>
<th>Complete</th>
<th>Challenges and solutions</th>
<th>Roadmaps and action plans</th>
<th>Program support</th>
</tr>
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<tbody>
<tr>
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<td>1 of 23</td>
<td>Complete</td>
<td>1 processed food assessment report</td>
<td>1 processed food assessment report</td>
<td>Implementation, status, next steps</td>
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<td>6 of 24</td>
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<td>6 processed food assessment reports</td>
<td>Support enforcement of iodized salt in processed food in Ghana</td>
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<td>1 processed food assessment report</td>
<td>Develop action plan to ensure use of iodized salt in all processed foods</td>
<td></td>
</tr>
<tr>
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<td>Complete</td>
<td>2 processed food assessment reports</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>8 of 8</td>
<td>Complete</td>
<td>1 processed food assessment report</td>
<td>Assessment of contributions of processed foods to salt and iodine intake in 2 countries</td>
<td></td>
</tr>
<tr>
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<td>5 of 8</td>
<td>Complete</td>
<td>4 processed food assessment reports</td>
<td></td>
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After three years of this work, IGN has observed some overall trends:

- **Opportunity:** Sufficient iodine intakes are being achieved through widespread use of iodized salt. However, some salt use may be low due to cultural preferences, social status, or lack of access to iodized salt in low-income households.
- **Policy:** There is a need for engagement between policy-makers and the food industry, with policy-makers emphasizing the role producers can play in improving population iodine status. The World Health Organization (WHO) is urging countries to ban salt intake to reduce blood pressure, risk of cardiovascular disease, stroke and heart attack, which can be iodized, and if necessary, salt reduction levels can be adjusted to ensure adequate iodine if the amount of salt is reduced.
- **Advocacy:** Some producers voluntarily use iodized salt, but others fear that doing so may affect product taste and are unaware of the benefits of iodine for themselves and their communities.
- **Legislation:** Laws in many countries do not specifically mandate the use of iodized salt. However, legislation creating ambiguity around the issues. Countries with legislation mandating iodized salt use, or have established programs to do so, often lack external monitoring, and producers are sometimes unaware that such legislation exists.

IGN is in support of policies and plans for a safe, affordable, nutritious diet, including a reduced consumption of unhealthy foods and snacks. Our work, which considers local context and aligns with national policies, does show that using iodized salt in production of widely consumed foods such as bread, or universally used condiments such as bouillon, can play an important role where access to iodized salt is low.

IGN works with WHO to ensure that efforts to reduce iodine deficiency in children, women and pregnant women using thyroglobulin in school age children, women and pregnant women. The studies were conducted in populations exposed to a wide range of iodine intakes, from low to moderate iodine deficiency to excessively high intakes. All studies used uniform methodologies, sample collection procedures and laboratory method. This allowed data from single studies to be pooled into larger data sets of individual study participant data, providing stronger evidence for the prevalence of inadequate iodine intake was calculated from the habitual iodine intake distribution. The study shows a strong correlation between the conventional reporting of median UIC and new estimates of the prevalence of inadequate iodine intake from spot UIC.

Defining the median UIC threshold in children has been identified as a key step in improving population iodine status. The foundation for IGN’s vision of a world with optimal iodine nutrition is based on solid scientific evidence. Our activities are guided by current research and our goal is to identify and address scientific questions to increase the effectiveness of iodine programs. IGN has a wide network of scientists around the world and supports research addressing questions arising in iodine programs.

**Assessment of iodine intake and status**

For some years, IGN has supported research aimed at improving definitions of optimal iodine nutrition for men and women of different age groups. Iodine status is assessed in overweight children and pregnant women using urinary iodine concentration (UIC) in spot urine samples. This field-friendly biomarker effectively identifies gaps in salt iodination programs, but is a low inaccuracy in its applications have been identified.

**Estimating habitual iodine intake and prevalence of inadequate iodine intake from UIC**

A population median UIC below the recommended threshold indicates overall iodine status, but does not quantify the prevalence of inadequate or excessive iodine intake. An analysis of data from 5.677 school age children from 15 study sites and 3,154 women from 9 sites worldwide evaluated new methods to estimate the iodine intake from spot UIC, accounting for habitual dietary intake, hydration status and within-person variability from a repeat spot UIC. The prevalence of inadequate and excessive iodine intake was calculated from the habitual iodine intake distribution. The study shows a strong correlation between the conventional reporting of median UIC and new estimates of the prevalence of inadequate iodine intake from a broad range of iodine intakes. This new method may be applied in UIC studies as a complementary method to the median UIC. The prevalence of inadequate iodine intake in deficient populations does not quantify the prevalence of inadequate iodine intake in deficient populations.
Calculating how many study participants should collect a repeat urine sample in UIC studies aiming to estimate the habitual iodine intake

The day-to-day variability in dietary iodine intake is typically high. To estimate the habitual iodine intake, a repeat urine sample must be collected in a subgroup of the study population. The second sample is used to quantify and account for the within-person variability of the iodine intake. A study using data collected in women from Switzerland, South Africa and Tanzania evaluated in how many study participants a second urine sample should be collected in UIC studies aiming to estimate the habitual iodine intake and prevalence of inadequacy.

Seasonal effects on UIC in women of reproductive age 1

Hot climate conditions may reduce urine volume, thus leading to overestimations of UIC and thereby masking inadequate iodine intake. The effects of season on UIC were investigated in women in an observational study conducted in Tanzania and South Africa, two populations exposed to high-temperature climates. The findings showed that spot UIC may slightly overestimate the iodine intake in hot temperatures due to concentrated urine. In such cases, methods to adjust UIC for hydration status can be used. The study also showed local-seasonal differences in iodine intake, which may occur in some populations.

Influence of temperature andhumidity on the stability of dried blood spot thyroglobulin

Thyroglobulin is a thyroid specific protein that can be measured in the blood and be used as an additional marker for iodine status. To avoid temperature and cold chain in field studies, blood may be collected using dried blood spots (DBS). Recent data suggest that DBS cards exposed to hot and/or humid climates during collection, drying and storage may affect the stability of thyroglobulin and reduce the concentration. A stability study of thyroglobulin measured on DBS was conducted using samples collected in Swiss adults and investigated the impact of temperature and humidity during the drying period. The results suggest that degradation of thyroglobulin when DBS cards are exposed to humidity.

Variability of the iodine content in salt

In the absence of UIC data, salt surveys are used as a proxy for population iodine intake. However, the iodine content obtained in household surveys that include coarse, fine and/or refined salts may vary and be neither representative of salt iodization program performance nor adequately predict population iodine exposure, causing a lack of clarity on iodine intakes in populations relying principally on iodized salt to assure intakes.

A study is currently being conducted in Tanzania to investigate the reason for the variability in salt iodine content. The study will aim to estimate the variability in salt iodine content in introduced at salt processing and fortification, during the survey, or as an analytical level. The aim of this study is to improve the quality and interpretation of data collected from household salt surveys and provide recommendations to strengthen the QA and QC practices for the iodination of different types of salt.

Collaboration and funding

IGN supported research activities have been conducted in collaboration with local study teams representing almost all regions of the world, coordinated by ETH Zurich, Switzerland. The COVID-19 pandemic paused or slowed down some of the field studies, but all studies are now resumed and/or are being wrapped up. The research projects have been funded by UNICEF/USAID. The longstanding support made it possible to address key programmatic research gaps in a sequential and uniform way.

New publications

All research projects will be published in scientific journals and translated into program guidance.

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IGN’s research work in 2020
Iodine Global Network
Annual Report

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IGN and data

Working to create sustainable fortification programs through improved data

As IGN keeps watch over the global effort to eliminate IDD through universal salt iodization, it is clear that the work of ensuring adequate iodine nutrition for all is not yet done. Therefore, IGN continues to support countries that remain deficient. There are also countries where iodine status of the population as a whole is adequate, but where substantial inequities exist between population sub-groups, leaving some parts of the population deficient, and this is also a concern which we try to address. The availability of good data is essential for the sake of selection of effective strategies and approaches, the right targeting and management choices.

Several data issues have arisen that require new solutions. One of these issues is the need for stronger monitoring systems that provide regular, more complete information so program managers have a comprehensive view of their program, its potential vulnerabilities and impact. IGN is focusing on two aspects of this problem – new and simpler data collection methods, and improved indicators that assess the strength of programs.

Using data to support the work of national nutrition program managers

While surveys remain the optimal way to assess the impact of USI programs, they are costly and as a result haven’t been routinely done in many countries, leaving them with outdated data that only provides a national estimate. Some countries have other data suggesting that there is inequity – either between lower and higher wealth quintiles, or between certain geographic regions. So, do we need to conduct these national surveys as frequently as recommended before, and do we need large sample sizes, or can we use simpler and cheaper methods to gauge the iodine status in a country?

IGN is working on a sentinel surveillance approach using existing facilities for data collection and directing these efforts based on existing information on iodized salt production, quality and distribution. This approach is based on the FORTIMAS model for tracking the population coverage and impact of flour fortification programs developed by Smarter Futures, a partnership for grain fortification in Africa. We hope that this approach, applied to salt iodization, can provide annual data inexpensively, fill in data gaps, and guide program priorities.

Sentinel data collection sites, such as antenatal care clinics or schools, can periodically provide basic coverage information, information on use of processed foods (that use iodized salt) and even data on median urinary iodine concentration (mUIC) to verify that the program is working well. This model will be tested in a variety of countries in 2022-2023.

A second component to improving monitoring is understanding how well programs are working – not based on impact, but rather on the strength of the various program elements, such as legislation or advocacy efforts. IGN is defining a list of program elements and a series of indicators that should assess their strength and vulnerability, using already available data as much as possible. For example, with the success of...
of USI, many countries are no longer seeing iodine deficiency as a priority and the issue is fading from health and nutrition agendas, so we are developing indicators to assess the level of awareness of the issue and the strength of advocacy efforts. Indicators are also being developed to assess the strength and quality of program elements such as legislation/regulation, program management and coordination, and salt production and distribution allowing program managers to more easily develop their annual workplan to prioritize activities to address these vulnerabilities.

Over the past year, supported by the Bill & Melinda Gates Foundation (BMGF), we have worked with the Global Alliance for Improved Nutrition (GAIN) and the Flour Fortification Initiative (FFI), our partners in the Global Fortification Data Exchange (GFDx), to design such a data and monitoring tool aimed to enhance effectiveness and future sustainability. This global database will allow national data to be in one place, making analysis and review easier.

A new partnership with WHO on global data

WHO is expanding and expanding its global Vitamin and Mineral Nutrition Information System (VMNIS), which was established following a request by the World Health Assembly to strengthen surveillance of micronutrient deficiencies at the global level. One component of VMNIS is the Micronutrients Database that compiles national, subnational regional and first administrative level data on vitamins and mineral nutritional status of populations in Member States. This database is used to monitor micronutrient status around the globe, provide global estimates of the burden of micronutrient deficiencies, and calculates trends in micronutrient deficiencies over time, and has recently expanded to become a more comprehensive surveillance system that includes most indicators of micronutrient status being used worldwide today.

IGN has served as the main source of iodine status data while WHO has been upgrading their systems, and in 2021, with the support of Founders Pledge, IGN began to collaborate with WHO to update the Micronutrients Database with data on iodine. This update will allow the preparation of a joint peer-reviewed publication on the global iodine status of school-age children, non-pregnant women of reproductive age and pregnant women in 2022, as well as a WHO report on the iodine status situation in Europe to be released in late 2022 or early 2023. Efforts will also be made to include this data within the next edition of the Global Nutrition Report to have greater visibility of the global iodine situation.
A big year for nutrition

Partnerships in 2021 brought new visibility to IGN and to salt iodization.

Food fortification

The United Nations Food Systems Summit (UNFSS) in September 2021 and the N4G (Nutrition for Growth) summit in December of that year brought renewed attention to the issue of providing safe, affordable nutritious diets through food fortification. IGN participated in several events and panels that drew attention to salt iodization as a major public health strategy. A side event of the N4G held by UNICEF, BMGF Partnerships in 2021 brought new visibility to IGN and to salt iodization.

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Werner Schultz
IGN Executive Director

Partnerships

As well as the partnerships outlined above, IGN was working through the Global Fortification Data Exchange (GFDX) with partners G4F and F4H, with BMGF support, to design new ways of gathering data. A further objective was to improve global knowledge about iodine deficiency, and provide technical guidance and support to the sustainability of iodine programs in regions and countries around the world. The program cooperation agreement was signed from August 2021 to August 2022. The actions under this partnership globally and across the regions are detailed in our regional round-up. We hope that through these partnership efforts IGN will continue to work with government representatives from Kenya and Ethiopia, to call attention to the problem of iodine deficiency in Europe, through the Global Fortification Data Exchange (GFDX) with partners G4F and F4H, with BMGF support, to design new ways of gathering data. A further objective was to improve global knowledge about iodine deficiency, and provide technical guidance and support to the sustainability of iodine programs in regions and countries around the world. The program cooperation agreement was signed from August 2021 to August 2022. The actions under this partnership globally and across the regions are detailed in our regional round-up. We hope that through these partnership efforts IGN will continue to work with government representatives from Kenya and Ethiopia, to call attention to the problem of iodine deficiency in Europe through the Global Fortification Data Exchange (GFDX) with partners G4F and F4H, with BMGF support, to design new ways of gathering data. A further objective was to improve global knowledge about iodine deficiency, and provide technical guidance and support to the sustainability of iodine programs in regions and countries around the world. The program cooperation agreement was signed from August 2021 to August 2022. The actions under this partnership globally and across the regions are detailed in our regional round-up. We hope that through these partnership efforts IGN will continue to work with government representatives from Kenya and Ethiopia, to call attention to the problem of iodine deficiency in Europe. The program cooperation agreement was signed from August 2021 to August 2022. The actions under this partnership globally and across the regions are detailed in our regional round-up. We hope that through these partnership efforts IGN will continue to work with government representatives from Kenya and Ethiopia, to call attention to the problem of iodine deficiency in Europe. With a consortium of partners that include the World Iodine Association, Thyroid Federation International and several leading researchers, a $2 million grant proposal to the EU’s Horizon project has been submitted to look at ways of raising awareness of the problem of iodine deficiency in Europe, with IGN playing a key role in dissemination efforts if the proposal is funded.

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Funding

In addition to the support outlined above, IGN continued to receive support from individuals through platforms such as Goodwill and The Life You Can Save. An initiative by philanthropist and philosopher Peter Singer to donate part of his winnings from his 2019 Nobel Peace Prize to support work in countries to improve iodine status and eliminate roadblocks to progress. Our major collaboration with UNICEF, funded by USAID, strengthened universal salt iodization, improved global knowledge about iodine deficiency, and provided technical guidance and support to the sustainability of iodine programs in regions and countries around the world. The program cooperation agreement was signed from August 2021 to August 2022. The actions under this partnership globally and across the regions are detailed in our regional round-up. New approaches with UNICEF funding are now in place in several regions and countries.

IGN would like to thank all who made it possible for us to do what we do:
• The Bill & Melinda Gates Foundation
• The Centre for Effective Altruism
• Evenden Hedge
• The Giselle Foundation
• The Hadley Family Foundation
• Kewiana International
• Maiman
• The Open Philanthropy Project
• The Ottawa Community Foundations
• Sam Ludmer Fund
• UNICEF
• USAID

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Iodine deficiency is the most common cause of preventable brain damage worldwide. A unique partnership between governments, civil society and the private sector to iodize salt, the number of iodine-deficient countries dropped from 113 in 1993 to just 19 in 2017. The investment in salt iodization has resulted in hundreds of millions of children being protected against iodine deficiency, creating better futures for them, for future generations — and for the countries in which they live.

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IGN and the Micronutrient Forum

Iodine is a micronutrient, one of several essential vitamins and minerals that we need in small amounts for our growth, development, health, well-being and even survival.

Micronutrient deficiencies—most commonly iron, vitamin A and iodine—can be prevented through several interventions—nutrition education to stimulate the consumption of a nutritious diet where possible, fortification and biofortification of foods with essential micronutrients, and vitamin and mineral supplements where needed. Salt iodization is one of these interventions, protecting the brain development of hundreds of millions of children around the world.

At the heart of the work to prevent deficiencies in these essential vitamins and minerals is the Micronutrient Forum, which acts as a backbone organization by supporting partners and fostering alignment and collective action on micronutrient-relevant issues for all aspects of health, development and disease prevention—a similar but broader role to IGN’s work on advocacy, convening, tracking and knowledge management on national and global iodine nutrition and salt iodization.

It’s therefore no coincidence that Saskia Ossendarp, Executive Director of the Micronutrient Forum, serves on IGN’s Board of Directors. Sharing her impressions of IGN from a Board member’s perspective, she notes: “I’m impressed by IGN as an action-oriented organization with a strong presence in regions and countries. I see the organization rising interest in iodine deficiency but also in the broader cause of micronutrient deficiency, translating the success story of iodized salt for non-traditional donors and funders. It’s something all of us can learn from.”

This advocacy role is one that the two organizations take on together. “There are so many opportunities for us to work together at the global level. The story of iodine deficiency, and the public health success in tackling the problem, is the tip of the spear in terms of global micronutrient advocacy efforts,” says Micronutrient Forum’s Director of Advocacy and Communications, Tanuja Rastogi.

Successful advocacy collaborations to date have included the release of a joint statement on the power of micronutrients by a number of key organizations working to improve micronutrient nutrition. The commitment is supported by 28 organizations and 160 individuals in 50 countries around the world. The two organizations also worked with GAIN, Nutrition International, the Bill & Melinda Gates Foundation, UNICEF and others on advocacy for the UN Food Fortification and Nutrition for Growth summits last year, with a focus on food fortification as one tool to address widespread malnutrition in low and middle-income countries.

“These are many overlapping areas where we need to be working together,” says Saskia. Among the mutual topics of interest is an inadequate and underinvested micronutrient data system, most notably the issue of data gaps and how to address them. The Forum hosts the Micronutrient Data Innovation Alliance (DIA), a coalition of diverse partners from the LSFF, global development, and micronutrient data communities, including from the public and private sectors, who will apply their expertise and experience to this problem.

In addition, with future plans to engage more with national policymakers, the Forum hopes to work even more closely with IGN. “IGN will be the first port of call and a critical partner in creating networks at country level”, says Tanuja. IGN looks forward to this continued collaboration.
In 2021 IGN welcomed a new Regional Coordinator and a new Board member. Edward Otico joined IGN as Regional Coordinator for the South East Asia and Pacific region. Daniel Levac has returned to the Board as Secretary.

Due to the COVID-19 situation the board and Management Council meetings were held virtually. In May 2021, the board reviewed success in road mapping, support to regional activities, communications and fundraising, while identifying opportunities to energize advocacy and partnerships. In October, the Board received updates on programming and fundraising.

The Management Council meeting took place in October 2021 and reviewed regional progress. Participants agreed on the effectiveness of the ongoing work of developing landscape analyses and action plans for countries and regions. A discussion on programmatic opportunities looked at issues such as processed food, alignment with salt reduction efforts, placing a focus on equity, and the need for different data collection and monitoring methods in the light of changing global priorities.

Here’s a full listing of the management council team.

**Executive Director** Werner Schultink Canada

**Senior Advisors**

- Robin Houston
  Technical assistance, strategy, fundraising
  USA

- Arnold Timmer
  Technical assistance, program strategy
  Switzerland

- Joyce Greene
  Global advocacy, fundraising, communications
  Ireland

**Manager, Finance and Administration**

Jude Louis
Canada
Regional coordinators

North America
Elizabeth N. Pearce
USA

Central America and Caribbean
Ivette Sandino
Nicaragua

South America
Ana Maria Higa Yamashiro
Peru

Western and Central Europe
Rodrigo Moreno-Reyes
Belgium

Eastern Europe and Central Asia
Gregory Gerasimov
USA

Middle East and North Africa
Izzeldin Hussein
Oman

Eastern and Southern Africa
Festo Karubu
Tanzania

South Asia
Bonaka Jaiprasadha
Sri Lanka

China and East Asia
Ming Qian
China

South East Asia and Pacific (new)
Edward Otico
Philippines

West and Central Africa
Amal Tucker Brown
Morocco

A public nutrition project manager for more than 12 years in the field of salt iodization, he has worked for UNICEF, GAIN and IGN. Before that, Edward accumulated more than ten years’ experience in marketing and business planning.

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Financial statements

For the year ended December 31, 2021

Financial statements for the year ended December 31, 2021 were in preparation at the time of production of this report. They will be shared on the IGN website as soon as they are available.