IVCC

Annual Report 24-25

years of impact

Together, we are closer than ever to a malaria free world.

“Twenty years ago, the Gates Foundation began partnering with IVCC with a shared goal: to transform vector control and accelerate progress against malaria.

Since then, IVCC’s innovations — like dual-insecticide mosquito nets — have helped prevent millions of cases and protect communities around the world. Through its commitment to collaboration, innovation, and scientific excellence, IVCC continues to drive progress in the face of challenges like insecticide resistance.

Together, we are closer than ever to a malaria-free world, and this partnership underscores the importance of sustained investment to achieve that vision.”

Philip Welkhoff
Director, Malaria, Gates Foundation

Front cover image credit: Derric Nimmo and Liverpool Insect Testing Establishment (LITE)

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Image credit: Derric Nimmo and LITE

Sherwin Charles,
Chair, IVCC Board of Trustees

I remain inspired by what we have achieved together and by what lies ahead.

Chair's foreword

This year marks not merely another milestone, but a significant moment in IVCC's remarkable journey. Our 20th anniversary is more than a commemoration of the passage of time; it stands as a testament to the power of innovation, collaboration, and unwavering commitment to saving lives.

The reality, however, is twofold. While we have made exceptional progress in the fight against malaria, the disease continues to pose a persistent and daily threat to millions of people across Africa, Asia, and beyond. As we embark on the next chapter of IVCC's journey, we must do so with the same determination, strategic partnerships, and spirit of innovation that have defined our first two decades.

The most recent Global Fund replenishment cycle reaffirmed the world's enduring commitment to tackling malaria, HIV, and tuberculosis. Yet it also highlighted a widening funding gap - one that risks slowing progress at a time when acceleration is most critical. Innovation, therefore, is not a luxury; it is an imperative.

Scaling delivery effectively remains the vital bridge between the laboratory and real-world impact. Every investment must yield greater value, every product must deliver measurable benefit, and every partnership must drive new frontiers of possibility.

Over the past twenty years, IVCC has helped transform vector control into a dynamic and innovative engine of scientific discovery and public health delivery. What began as bold ideas in research and development have evolved into life-saving tools deployed in communities, proving that with the right partnerships, innovation can move decisively from pipeline to proof - and from proof to protecting our communities.

The challenges before us are significant.

Climate change is altering disease transmission patterns, biological adaptation continues to test our interventions, and fiscal pressures are constraining health budgets globally.

Yet I remain confident that, with innovation at our core and collaboration as our foundation, IVCC is well positioned to continue driving impact and advancing toward a malaria-free world.

This year, I am also pleased to welcome Dr. Jackie Applegate and Dr. Stephen Smith to IVCC's Board of Trustees. Their vision, leadership, and expertise will strengthen our governance and help steer the organisation with clarity and purpose in the years ahead.

To my fellow Trustees, our donors, partners, and the IVCC team - I extend my deepest appreciation. Your belief, dedication, and sustained commitment over the past twenty years have made it possible for IVCC to imagine, innovate, and deliver at scale.

The next twenty years will undoubtedly bring new challenges, but also immense opportunity. I remain inspired by what we have achieved together and by what lies ahead. If we continue to invest wisely, collaborate across sectors and borders, and keep those most affected at the heart of our mission, a malaria-free world will move from aspiration to achievement - and stand as a shared legacy of which we can all be proud.

Reflections on the origins and growth of IVCC

The IVCC was conceived 22 years ago as a unique partnership designed to accelerate the development and delivery of new tools for insect vector control.

The concept brought together several strands of vector control activity, including a malaria initiative that I developed with Professor Brian Sharp, then Director of the Malaria Research Centre in South Africa and other leading scientists in the United States.

Our vision was to work with industry to bring new public health insecticides to market and to strengthen the implementation of vector control programmes globally.

Image credit: Derric Nimmo and LITE

At the time, complementary proposals were also being submitted to the Gates Foundation from other leading scientists focused on Aedes control and mosquito genetics. A chance meeting in Mexico with the Foundation's leadership brought these efforts together under one vision - to establish a single Product Development Partnership for vector control.

The resulting initiative became IVCC, with an initial indicative budget of $30-50 million and a clear mandate to deliver innovation through collaboration between academia, industry, and public health partners.

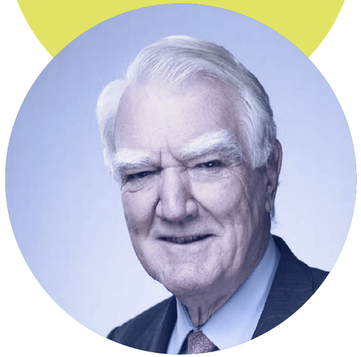
Developing the full proposal was a significant undertaking, requiring close engagement with the Foundation to ensure a shared understanding of both the science and the delivery model. The appointment of Dr. Kate Aultman as Programme Officer at the Foundation provided valuable support in finalising the programme, which was approved soon after.

The initial $50 million investment was evenly divided between new insecticide discovery and the development of complementary implementation tools. Our early success depended on two conditions - establishing a formal consortium agreement with academic and governmental partners and securing at least one industrial partner to co-develop a new public health insecticide under a Global Access Agreement. Working with colleagues from the Medicines for Malaria Venture (MMV), we successfully engaged Bayer as IVCC's first industrial partner, opening the door for other major agrochemical companies to join in the years that followed.

From those beginnings - when IVCC had just half of my time - it has grown into a global leader in vector control innovation. Over two decades, IVCC has delivered new insecticides, resistance management tools, and implementation strategies that have transformed the landscape of vector control. This progress has been made possible through the dedication of IVCC's staff, collaborators, and advisors, and the steadfast support of our funders. Together, we continue to advance the ambitious goals first set out all those years ago in Mexico.

Professor Janet Hemingway
IVCC's first CEO

> *IVCC is a global leader in vector control innovation.*



Sir Mark Moody-Stuart,
Chair of Board of Trustees 2005-2018

It has been a privilege to witness — and to help guide — this journey from its inception.

20 years of progress

As IVCC marks its 20th anniversary, it is a moment to reflect with pride on how far we have come, and to look forward with confidence to the challenges and opportunities that lie ahead.

Protecting communities from mosquito-borne disease

IVCC was founded in 2005 with a bold vision: to overcome the growing threat of insecticide resistance and to safeguard communities from mosquito-borne disease. Thanks to the foresight of Professor Janet Hemingway, the support of the Gates Foundation, and the commitment of partners across academia, industry, and philanthropy, IVCC was established as an independent organisation dedicated to delivering innovative tools for vector control.

At the heart of this founding moment was a conscious decision to ensure IVCC combined scientific excellence with business discipline.

I was honoured to serve as the first Chair of the IVCC Board of Trustees. In those formative years, I worked closely with Janet and her team to help shape IVCC's governance, build partnerships, and establish the foundations of the organisation we see today.

It is a privilege to see how those early principles of independence, collaboration, and innovation have guided IVCC's success ever since. In 2018, I handed over the Chair to Stephen O'Brien, and more recently to Sherwin Charles, ensuring that IVCC continues to benefit from strong, committed leadership.

A catalyst for global health innovation

Over the last two decades, IVCC has achieved a remarkable series of firsts. We secured unprecedented agreements with major agrochemical companies, opening their chemical libraries and intellectual property to accelerate the discovery of new active ingredients. We pioneered public–private partnerships that enabled the development and delivery of next-generation insecticides, ensuring communities at risk had access to effective tools.

Image credit: Malaria No More UK/ Hugo Bainbridge

The creation of our External Scientific Advisory Committee (ESAC) has guided a strong, science-based pipeline, while policy innovations have shaped a more enabling global environment for vector control solutions.

None of this progress would have been possible without the leadership of our past and current Chief Executives, the dedication of our staff, the wisdom of our partners, and the unwavering support of our funders. Together, we have transformed IVCC from a bold idea into a proven catalyst for innovation in global health.

Looking ahead to the future

IVCC remains committed to staying at the forefront of the fight against vector-borne diseases. The task ahead is as urgent as ever: to ensure that the most vulnerable communities are protected, that resistance is overcome and managed, and that innovation continues to save lives.

It has been a privilege to witness - and to help guide - this journey from its inception. I am honoured to continue supporting IVCC as Honorary President as we embark on the next chapter of impact and innovation.

CEO’s overview

In 2025 IVCC marks two decades of service to the malaria vector control community; twenty years dedicated to advancing innovation, strengthening partnerships and enhancing the impact of vector control in preserving life and the well-being of those at risk, across malaria endemic regions.

Image credit: Derric Nimmo and LITE

The past year has been one of significant change both within IVCC and across the broader global health landscape. The observation attributed to the ancient Greek philosopher Heraclitus, that ‘the only constant is change’ has proven particularly apt. Global health organisations have faced considerable restructuring and uncertainty while malaria endemic countries have encountered growing challenges in maintaining control efforts.

IVCC’s achievements over the past 12 months are therefore a testament to the strengths of its partnerships with industry, with countries, with scientific institutions and others - all of whom continue to face their own challenges.

IVCC concluded 2024 on a positive note, securing renewed funding commitments from the UK aid from the UK government and the Swiss Agency for Development and Cooperation (SDC), alongside established partnerships with the Gates Foundation, the Australian Government and USAID.

In January 2025, IVCC received notice of suspension – later a full cancellation - of funding from the United States government following policy shifts under the new administration.

Despite this development, flexible core funding provided by other funders, and timely re-prioritisation of activities, enabled IVCC to maintain strategic focus and momentum across the four key pillars of our strategic portfolio.

This past year, IVCC has signed new agreements with a number of industry partners; expanded its network of stakeholders that we partner with; explored new avenues for insecticide chemistry and advanced work on existing insecticide development projects.

Justin McBeath
Chief Executive Officer

IVCC has delivered tools that have transformed the landscape of vector control.

In March IVCC was honoured to celebrate its 20th anniversary alongside the RBM Partnership to End Malaria - Vector Control Working Group (VCWG), who also marked their own 20th anniversary.

The VCWG is a well-recognised and important structure within the malaria community, and their annual meeting was an ideal forum for joint recognition of this milestone for our respective organisations and to recognise the importance of collaboration and shared purpose in sustaining progress in the fight against malaria.

Changes within the IVCC Team have been significant this year. Tom McLean, one of the longest serving and founding members of IVCC, retired as a full-time employee at the beginning of the year but remains involved in our work via consultancy. Tom has been with IVCC since its inception, and we thank Tom for his significant contributions to the mission of IVCC over those years. A subsequent internal restructuring created the new position of Director of Finance to which Leonora Smedley was appointed.

The merger of the Portfolio and Market Access teams resulted in the departure of David McGuire whose leadership of the NGenIRS and New Nets Projects was instrumental to their success. His experience will be missed and we wish him well in his next steps.

This year we also mark the retirement of Graham Small, a highly respected member of the IVCC team. Graham's long association with IVCC began as a member of ESAC before he joined our technical team, where he played a pivotal role in supporting several scientific institutions across Sub-Saharan Africa to achieve GLP accreditation. We extend our sincere thanks to Graham for his significant contributions to IVCC's mission and for his lasting impact on our projects and partner capacity development across the African continent.

Among the scientific and technical milestones of the year, the publication in August of the World Health Organization (WHO) Global Malaria Program policy recommendation for spatial emanators represents a notable achievement for the vector control community.

This decision, aligned with the WHO prequalification of SC Johnson's Guardian and Mosquito Shield products signifies the introduction of a new class of tools. Whilst there is justified excitement about these new tools, further work is needed to help disease control programs understand how best to deploy them in their own settings and strategies. As spatial emanators constitute one of IVCC's strategic pillars, activities are underway to support their further development and help address future implementation challenges.

Looking ahead, the 2025 Global Fund replenishment and broader reviews of government investments in global health have underscored the need for continued innovation, adaptability and commitment to support the future funding of malaria and vector control.

The challenge of insecticide resistance and outdoor malaria transmission remain significant, reinforcing IVCC's commitment to developing new tools and strategies that address unmet needs.

Despite the considerable changes experienced over the past year, IVCC remains strategically focused and well positioned to deliver on its mission - to leverage the value of the Product Development Partnership (PDP) model to accelerate innovation, catalyse access to transformative tools such as spatial emanators and ensure vector control interventions continue to save lives.

I close by expressing my sincere appreciation to the entire IVCC team, not only for their ongoing passionate engagement but also for their resilience and flexibility over the past year in the face of these various changes.

The quest for innovation

Vector control requires constant innovation to tackle a multitude of challenges.

Insecticide resistance remains a significant threat to existing vector control products by diminishing the level of protection they provide to exposed populations.

Mosquito populations are dynamic, with species composition shifting over time and feeding behaviours adapting, such as changes in biting patterns and times.

Human behaviour is also evolving as increased travel, trade, and changing lifestyles influence how vectors spread and how communities respond to control interventions.

Additionally, shrinking budgets for product procurement and deployment demand innovative and alternative strategies to sustain public health outcomes.

Since 2023, IVCC has organised its work around four technology pillars.

Image credit: Derric Nimmo and LITE

Insecticide-treated nets (ITN)

Pyrethroid resistance in malaria vectors has reduced the effectiveness of first-generation insecticide-treated nets (ITNs). Current control relies heavily on dual active ingredient (AI) nets combining pyrethroids with chlorfenapyr, but the lack of alternative non-pyrethroid AIs limits resistance management options. This dependence risks the emergence of chlorfenapyr resistance, threatening progress in malaria control and leaving endemic regions without sustainable, long-term vector control solutions.

To counter this, the ITN pillar is accelerating the development of novel AIs with different modes of action, enabling malaria programs to rotate ITNs strategically, delay resistance and preserving insecticide efficacy.

Image credit: Goodbye Malaria

Indoor residual spraying (IRS)

Indoor residual spraying (IRS) continues to advance through strategic partnerships and innovation. IVCC continues to strengthen engagement with industry to maintain a diverse portfolio of high-quality, affordable IRS products, while exploring complementary funding streams to support long-term sustainability.

Work is ongoing to ensure multiple non-pyrethroid modes of action remain effective against resistant mosquito populations.

Field data are being collected to optimise deployment of tools such as IK Smartlight, supporting IRS as a sustainable, locally led intervention in malaria-endemic regions.

Spatial emanator (SE)

Spatial emanators (SEs) reached a milestone in August 2025 with a new WHO policy recommendation. In anticipation of this, IVCC has worked to close evidence gaps on outdoor use, market entry barriers, and potential insecticide resistance.

This has included evaluating Guardian™ in peridomestic settings with partners in Papua New Guinea and SC Johnson; supporting manufacturers in advancing national adoption of SEs in Sub-Saharan Africa and the Indo-Pacific; and coordinating with the scientific community to assess the risk of volatile pyrethroid resistance build-up, refine evaluation methods, and explore new volatile active ingredients.

Together, these efforts are helping ensure SEs can be deployed safely, effectively, and at scale as a new tool for malaria control.

Prevention of outdoor transmission

ATSB (Attractive Targeted Sugar Bait) research is moving forward despite recent trial results that did not demonstrate the expected impact. To better understand these outcomes, four coordinated workstreams are investigating knowledge gaps, exploring alternative deployment strategies, and refining evaluation methods. Alongside this, a 2024 Call for Proposals on Outdoor Tools attracted 42 submissions, with five invited to full proposal.

Of those, two partnerships are now developing projects scheduled to launch in 2026.

These technology pillars are supported by an ongoing effort to identify chemistries suitable for vector control. This includes screening existing compounds and supporting de novo chemistry to assess biological efficacy against susceptible and resistant mosquito strains, alongside safety profiles.

Compounds currently under evaluation have potential applications across SE, ITN, and IRS technologies. Further innovation comes from the Hypothesis-Driven Chemical Modification workstream, where we are refining analogues that showed promise in one mode of application but require optimisation for others. Participation in NECTAR (Network for Chemicals and Tools for Active Ingredient Research), a Gates Foundation–led initiative bringing together academic and industry partners, accelerates IVCC's discovery and screening of novel chemistries.

This collaboration strengthens the pipeline and supports the sustained development of tools across all four vector control pillars.

IVCC's portfolio

PUBLIC	Screening/ PoC	Optimisation	Pre-development	Development	Market entry	In market
Active ingredient	**Insecticidal compounds screening**	**MEA / IXA** Transferred to IVCC		**Flumetnicam** Syngenta * **Flupyroxystrobin** Licenced to IVCC		
Insecticide-treated net	**ITN repurposed** BASF *Multiple AIs* **ITN repurposed** VKA *Multiple AIs*		**Tenebenal ITN** MCCLS, DCT, AVIENT *Tenebenal™* **Flumetnicam ITN** Company A *Flumetnicam*			**Interceptor® G2** BASF **Royal Guard®** DCT & Avient
Spatial emanators	**Spatial emanator** *Non-pyrethroid volatile AI screening*				**NATNAT project** To evaluate SE in Papua New Guinea	
Outdoor biting	**PoC following outdoor transmission call for proposal**			**Attractive targeted sugar bait (ATSB)**		
Indoor residual spraying						**Vectron™ T500** MCCLS **Sylando®** BASF **Actellic® 300CS** Syngenta **K-Othrine® Polyzone** ENVU **Fludora® Fusion** ENVU **Sumishield® 50WG** Sumitomo
Enabling & access		**Capacity strengthening of research organisations**	**Market insight & forecasting**	**Stakeholder engagement**	**Public-private partnerships for alternative deployment of vector control tools**	

* = Regulatory review ----- = Dashed outline indicates IVCC support at one or more points in the development and market introduction process

Sustainable malaria control, together

IVCC expanded partnerships in Ghana, Uganda, Nigeria, and Zambia to strengthen domestic funding, sustain IRS, and drive progress towards malaria elimination.

Image credit: Iñigo Garmendia of Goizper Group

Over the last year, IVCC has strengthened collaboration with National Malaria Elimination Programmes (NMEPs) in Ghana, Uganda, Nigeria, and Zambia to expand financial and operational resources for sustained deployment of indoor residual spraying (IRS).

Through technical support and local partnerships, IVCC has enabled governments and private actors to mobilise domestic resources, reduce costs, and improve efficiency in vector control.

Driving domestic partnerships in Ghana

In Ghana, partnerships with Benso Oil Palm Plantation, Kill Pest, and Cardinal Mines supported domestic IRS using VECTRON™ T500 and Fludora® Fusion, protecting an additional 65,500 people.

In addition, PMI Evolve and AngloGold Ashanti Malaria (AGAMal) projects safeguarded an estimated two million people with donor support.

IVCC's technical guidance helped Benso Oil Palm Plantation to secure tax relief from the Government of Ghana for the first time in four years, reducing programme costs and sustaining commitment.

At the same time, Kill Pest, a local pest control company, was contracted by the NMEP to implement IRS in two high-priority districts with government funds. Together, these milestones demonstrate that locally led initiatives can deliver IRS cost-effectively.

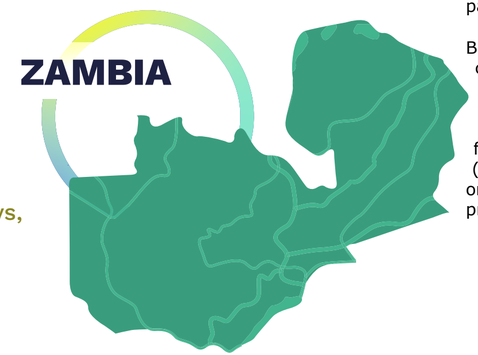
Innovation in Uganda and Zambia

In Uganda and Zambia, IVCC collaborated with Goizper Group to pilot the IK Smartlight spray technology. Designed to improve spray quality and reduce costs, the device enables operators to monitor and adjust their technique in real time while minimising insecticide use.

Early results have shown significant benefits: training time was reduced by two days, and insecticide use declined by about 20%, cutting waste and costs.

In Uganda, the Pilgrim Africa School IRS project expanded dramatically, with the number of boarding school dormitories sprayed increasing from five to 93, protecting 39,000 students in high transmission districts. Some schools are now self-funding IRS, motivated by visible health gains, reduced absenteeism, and savings in healthcare costs.

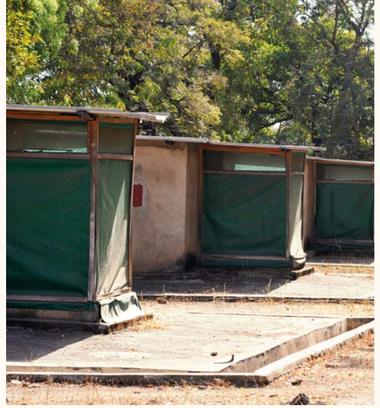
IVCC further supported private sector engagement by brokering competitive pricing with manufacturers, building on the strong networks and trust established through the earlier NgenIRS project.



Sharing lessons and building regional momentum

IVCC worked closely with the RBM Partnership to End Malaria to share lessons learned across Africa. The model of leveraging public-private partnerships is attracting interest from malaria programmes across the continent to address funding and implementation gaps. Together with partners, IVCC is advancing strategies for optimal and cost-effective use of IRS, ensuring that countries can sustain this proven intervention as part of their elimination strategies.

Beyond IRS, IVCC has also collaborated with NMEPs to gather insights that inform future product strategies. This included joint work on commodity forecasting, feedback on insecticide-treated net (ITN) preferences, and discussions on the introduction of newly WHO-prequalified spatial emanators.



Strengthening the case for domestic funding

At the invitation of ABC Health, IVCC contributed to their 2025 Annual Conference in Abuja, where domestic funding emerged as a central theme. Public-private partnerships were highlighted as essential for advancing malaria elimination, especially considering recent donor funding cuts. IVCC's experiences in Ghana, Uganda, Nigeria, and Zambia provided practical examples of how local resources can be mobilised to sustain and expand malaria interventions.

Looking ahead

As countries remain committed to malaria elimination, IVCC's strategy continues to focus on advancing innovative tools that are affordable, accessible, acceptable, and available to the most vulnerable populations. By enabling locally led deployment, fostering private sector investment, and introducing cost-saving innovations, IVCC and its partners are ensuring that proven interventions such as IRS remain central to Africa's fight against malaria.

4
NMEPs engaged

Up to
2m
people safeguarded
(Ghana)

20%
reduction in insecticide use
(Uganda and Zambia)

Partnerships for impact

Across Africa and the Indo-Pacific, IVCC works with partners to advance innovation, evidence, and adoption of vector control tools.

Strengthening vector control research in Africa

Achieving Good Laboratory Practice (GLP) certification (a globally recognised standard for laboratory quality and data integrity) in sub-Saharan Africa poses significant challenges. Rigorous Organisation for Economic Co-operation and Development (OECD) standards require robust infrastructure, skilled personnel, and sustained funding; factors that are often limited in the region. Laboratories face extended timelines for certification due to construction and refurbishment needs, equipment procurement and maintenance, and limited local expertise.

Staffing key roles, such as study directors, quality assurance managers, and IT/data managers, can be particularly difficult, as these positions are new or expanded within local institutions.

Since 2016, IVCC has supported seven African research facilities - four in West Africa, three in East Africa - towards GLP certification, leveraging funding from the Gates Foundation.

IVCC provided technical guidance, facilitated specialist training, and offered on-the-job support to strengthen staff capacity. Close collaboration between facilities, IVCC, and partners proved essential in overcoming challenges, particularly in areas beyond the laboratories' direct control, such as access to external expertise and funding.

All seven African facilities have now achieved GLP certification through the South African National Accreditation System (SANAS) and have successfully passed subsequent annual inspections.

These facilities conduct GLP laboratory and experimental hut studies on indoor residual spraying (IRS) and insecticide-treated net (ITN) products for multiple manufacturers, many developed in partnership with IVCC.

Their work generates high-quality data essential for World Health Organisation (WHO) and national regulatory submissions.

GLP-certified facilities have also contributed to community trials, including studies on Mitsui Chemicals Crop & Life Solutions' IRS product VECTRON™ T500, conducted collaboratively with the National Institute for Medical Research (NIMR) Amani Research Centre in Tanzania. Data from these trials informed WHO Prequalification Team / Vector Control Products (PQT/VCP) listing in March 2023 and have been published in high-impact journals [references 1–4].

Sustaining certification

Maintaining GLP certification requires ongoing investment, including monitoring authority fees, inspections, and equipment calibration and servicing. Facility managers have adopted strategies to manage costs, such as prioritising essential services, utilising local accredited calibration providers, and seeking project contracts and cost-sharing arrangements with academic, industry, and government partners. Professor Benjamin Koudou Centre Suisse de Recherches Scientifiques (CSRS, Côte d'Ivoire) highlighted the importance of diversifying funding streams to sustain operations, while Professor Franklin Mosha Kilimanjaro Christian Medical University College – Pan African Malaria Vector Research Centre (KCMC University-PAMVERC, Tanzania) emphasised resource prioritisation and collaborative partnerships as key to financial sustainability.

Impact

Four GLP-certified facilities: Liverpool Insect Testing Establishment (LITE, UK), Ifakara Health Institute Vector Control Product Testing Unit (IHI VCPTU, Tanzania), IRSS/DRO (Burkina Faso), and CSRS (Côte d'Ivoire) receive core funding from IVCC to provide testing and research services, underpinning the development and evaluation of new insecticides and vector control products. Through these achievements, IVCC has strengthened Africa's capacity to generate reliable, high-quality data, supporting both local expertise and the global fight against malaria.

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Strengthening innovation through the Indo-Pacific Initiative

The Indo-Pacific region faces a dual challenge: persistent malaria transmission in some areas and the growing threat of arboviral diseases such as dengue.

Tackling these requires new tools and locally generated evidence to support adoption and scale-up.

The Indo-Pacific Initiative (IPI), supported by the Australian Government, is central to IVCC's efforts to accelerate innovation in this diverse region, while ensuring that solutions contribute to the global fight against vector-borne diseases.

One promising intervention is the spatial emanator (SE); a versatile technology that disperses volatile active ingredients to repel or kill mosquitoes.

SEs require minimal behavioural change, can be used alongside insecticide-treated nets (ITNs), and may ultimately serve as a standalone intervention.

In August 2025, the World Health Organization (WHO) opened a new malaria product class for SEs, marking an important milestone.

However, challenges remain. Current policy supports only indoor, complementary use, while emerging evidence suggests SEs could also reduce outdoor transmission.

In addition, the product class relies solely on pyrethroids, raising concerns about the long-term impact of insecticide resistance.

In Malaysia, IVCC is working with national stakeholders to generate evidence to support adoption of SEs for dengue control, while in Thailand efforts are underway to evaluate their role in malaria control and elimination.

This country-led approach will inform how SEs can be introduced more broadly, including in sub-Saharan Africa.

Through the NATNAT project (led by the Papua New Guinea Institute of Medical Research, Burnet Institute, and James Cook University), IVCC is collaborating with SC Johnson to evaluate the Guardian™ product in peridomestic settings such as verandas, eaves, and outdoor cooking shelters in Papua New Guinea.

Image credit: Derric Nimmo and LITE

These studies complement ongoing work in Africa, building a richer global evidence base on the potential of SEs. IVCC is also working with Unitaid to ensure evidence is shared and aligned, particularly around deployment models that could position SEs as standalone tools.

Beyond product evaluation, IVCC is investing in the scientific foundations needed to safeguard the long-term impact of SEs. A commissioned report from the University of California, San Francisco (UCSF) is assessing the risk of insecticide resistance arising from volatile pyrethroid use.

In parallel, IVCC is coordinating across the vector control community to develop standardised methods for evaluating SEs and volatile active ingredients, ensuring consistent, comparable data. A market assessment for pyrethroid and alternative active ingredients for use in SEs is also underway, laying the groundwork for dialogue with prospective partners.

Together, these activities form critical steps toward screening, pre-development, and development of alternative volatile active ingredients, which will be a major focus in the years ahead.

The Indo-Pacific Initiative demonstrates how IVCC's partnerships, regional engagement, and technical expertise converge to advance new tools for vector control. By supporting innovation tailored to local contexts, IVCC is helping to secure the future of spatial emanators as part of the broader fight against malaria and arboviral diseases.

20 years of impact

Together with our partners, IVCC has delivered life-saving innovations that protect vulnerable communities and advance the global fight against malaria.

A 20-year journey in vector control innovation.

2005 – IVCC established with an initial grant of $50.7 million over five years from the Gates Foundation.

2013 – Actellic® 300CS: In partnership with Syngenta, IVCC introduced a long-lasting insecticide that set a new standard in indoor residual spraying (IRS) and earned World Health Organisation Pesticide Evaluation Scheme (WHOPES) prequalification.

2018 – Interceptor® G2: Together with BASF, IVCC launched the first dual-active insecticide-treated net in over 30 years, marking a major innovation for malaria prevention and gaining WHO prequalification.

2019 – SumiShield® 50WG: With Sumitomo Chemical, IVCC helped deliver a new tool for resistance management, expanding IRS options and achieving WHO prequalification.

2019 – Fludora™ Fusion: Developed with Bayer, this IRS solution tackled resistant mosquitoes across varied surfaces, demonstrating field - tested efficacy and WHO prequalification.

2023 – Vectron™ T500: In collaboration with Mitsui Chemicals Crop & Life Solutions, IVCC brought the first meta-diamide active (Insecticide Resistance Action Committee, IRAC, Group 30) to vector control, securing WHO prequalification.

2024 – Sylando® 240 SC: Partnering with BASF, IVCC supported the introduction of a new mode of action with chlorfenapyr, enhancing IRS strategies and attaining WHO prequalification.

Driving innovation in vector control

From discovery to deployment, IVCC harnesses science, data, and expert guidance to develop and optimise life-saving vector control solutions.

Accelerating discovery with artificial intelligence (AI)

Challenge:

The discovery of new, safe, and effective insecticides is traditionally slow, costly, and inefficient, taking over a decade and hundreds of millions of dollars for a single active ingredient.

Meanwhile, insecticide resistance is spreading rapidly in disease-carrying mosquitoes, threatening the effectiveness of existing tools. The urgent challenge is to accelerate discovery, reduce costs, and ensure the next generation of vector control solutions reaches the communities that need them most.

Solution:

IVCC is harnessing artificial intelligence (AI) to transform our research and development pipeline. By screening millions of molecules through computational models, AI increases the likelihood of identifying promising candidates from less than 0.1% in traditional methods as much as 5–20%.

Early prediction of toxicity de-risks investment, focusing laboratory resources on the most promising candidates and reducing waste.

AI also guides chemists toward novel, potent compounds, enabling a more targeted and efficient innovation process.

These gains extend beyond the lab. By integrating real-time data from weather patterns, satellite imagery, and smart traps, AI supports proactive vector control, predicting pest outbreaks and informing deployment strategies. This creates a feedback loop from molecule to mosquito, ensuring research efforts are aligned with real-world needs.

Image credit: Malaria No More UK/ Hugo Bainbridge

Through AI, IVCC is making its discovery pipeline faster, smarter, and more cost-effective. This approach enhances the impact of every research dollar, strengthens the pipeline of future vector control tools, and accelerates the delivery of life-saving solutions to vulnerable populations.

The unseen engine of innovation

Challenge:

Rigorous scientific oversight is essential to ensure vector control innovations are safe, effective, and impactful. Without independent, expert guidance, development pipelines risk misaligned priorities, wasted resources, or delayed delivery of life-saving tools.

Solution:

For 20 years, IVCC has relied on ESAC as a critical partner in innovation. Comprising world-renowned experts from academia, industry, and manufacturing, ESAC provides independent evaluation of projects against strict criteria, including efficacy, regulatory feasibility, economic sustainability, and suitability for endemic countries.

This oversight has been instrumental in bringing transformative vector control solutions to market, from next-generation insecticide-treated nets like Interceptor® G2 to indoor residual sprays such as Actellic® 300CS, Fludora®™ Fusion, and SumiShield®. Beyond individual products, ESAC guidance has shaped strategic initiatives, including the NgenIRS and New Nets Projects, expanding access to effective tools in malaria-endemic regions.

ESAC's biannual meetings foster dynamic scientific exchange, allowing IVCC teams and partners to benefit from expert insights, identify and mitigate risks, and optimise the research and development pipeline. This collaborative approach cultivates a culture of excellence and accountability, driving continuous innovation in the face of evolving challenges like insecticide resistance.

Looking ahead, ESAC's role remains critical.

Their guidance ensures IVCC continues to prioritise high-impact projects, strengthen the pipeline of innovative tools, and deliver measurable improvements in global health.

IVCC extends deep gratitude to all ESAC members, past and present, whose expertise has been pivotal in advancing life-saving vector control over the past two decades.

Optimising ITN performance

Challenge:

Insecticide-treated nets (ITNs) are typically distributed every three years, yet evidence shows their median lifespan in sub-Saharan Africa is only 18 months. In addition, the insecticidal effect of nets with novel chemistries can decline well before this point, and in some regions net use remains low despite access. As a result, at-risk populations may be unprotected between distribution cycles.

Solution:

As part of its broader ITN strategy, IVCC is optimising net performance and use through three integrated workstreams: physical durability, chemical bioefficacy, and human behaviour/environment.

Workstream one aims to improve physical durability. IVCC refined the Resistance-to-Damage (RD) score—a composite metric predicting net lifespan in the field—and demonstrated that a 10-point increase in RD score corresponds to a 3.5-month increase in median net life. Work continues to standardise testing protocols and explore improved net designs that withstand real-world use.

Workstream two addresses chemical longevity. Current proxies for insecticidal durability do not reliably predict performance for dual-active ingredient nets. IVCC is developing updated methods to measure chemical bioavailability and residual efficacy under field conditions, enabling faster evaluation of new chemistries and design features that extend the life of ITNs.

Workstream three focuses on human behaviour and environmental factors. IVCC is refining a risk index to capture site-level variables—such as net handling and care—that affect durability. This data will guide interventions to increase net survival, inform design improvements, and support country-level decision-making.

Through these complementary approaches, IVCC is ensuring that ITNs remain effective for longer, reach the people who need them, and maximise impact in the fight against malaria.

1b

cases of malaria prevented by ITNs since 2000

Finance report 24/25

Financial audit and governance

Financial governance

IVCC is a not-for-profit company limited by guarantee with charitable status in the UK. The Liverpool School of Tropical Medicine (LSTM) is the parent company of IVCC, by virtue of it being the sole member of the company.

The organisation is governed by the Memorandum and Articles of Association which were laid down at the incorporation of the company on 9 October 2008 and were most recently amended by special resolution on 25 April 2024.

The organisation is overseen by a Board of Trustees with fiduciary responsibilities and financial and audit oversight. The IVCC Leadership Team is responsible for strategic and day-to-day management of the programme, high level project monitoring and stakeholder liaison.

IVCC benefits from shared accounting and audit arrangements with LSTM. External audit work is carried out by Crowe UK LLP. All internal audit work is performed by RSM Risk Assurance Services LLP, providing independent and objective assurance to add value and improve the entity's operations, adopting a risk-based approach.

Image credit: LSTM

The LSTM group's Financial Services team (FS), accessed by IVCC, has extensive knowledge of all major funders within the sector and the expertise to comply with all external funder audit requirements.

The Finance and Investment Committee (F & I Committee) of LSTM acts as a review body for all finance and investment related activities.

A member of the IVCC board sits on the committee and reports across both entities on matters that should be brought to the board's attention for further discussion.

IVCC received an unqualified statutory audit report and no significant control issues were identified by the external auditor, Crowe UK LLP.

Value for money (VfM)

Value for money is crucial to IVCC and its stakeholders.

Responsibility for the delivery of VfM is recognised at IVCC and LSTM by virtue of the group operating an integrated procure-to-pay function. This enables IVCC to benefit directly and indirectly from the synergies generated through the centralised procurement function.

The VfM steering group is responsible for monitoring the VfM programme and for driving forward the strategy.

On 24 February 2025, the Procurement Act 2023 came into effect, replacing the UK Procurement Regulations that were last reviewed in 2025. The Act introduces a more flexible, transparent and value-driven approach to procurement.

Key VfM achievements

Process improvement activities:

Implementation of a time-tracking system

In line with industry best practice, IVCC has implemented a new time-tracking mechanism for all time spent on IVCC work, to enhance our grant reporting processes and gain insights into how we spend our time across different grants, activities and projects. Adoption commenced on 1 May 2025.

IVCC is an innovative organisation with a collaborative, creative ethos therefore the system has been configured in a manner that will reflect the IVCC culture and ways of working.

Optimisation of OneFinance finance system

Building on the previous year's implementation, the focus in 2025 has been on refining workflows, enhancing the user experience and embedding best practices across departments.

A total of
£11.7m
was spent on direct charitable project activities in the year

Replacement of Research Management System

Contracts have been signed with leading research information management providers to deliver a fully integrated solution.

The selected systems are expected to collectively deliver improved efficiency, reduced duplication and enhanced data quality, ensuring long-term return on investment and sustainability.

Several key research systems were successfully launched in the year, and the Current Research Information System (CRIS) project is at the systems integration stage.

Carbon Management Plan

During the year, LSTM appointed a supplier to measure the group's carbon footprint and develop a Carbon Management Plan, aligning with established sustainability goals.

Programmatic activity

IVCC works with partners and service suppliers to minimise the cost of activities while maintaining high quality standards. This year, a call for expressions of interest to fund proof of concept projects addressing gaps in vector control interventions was completed. A tender process was also launched to identify a contract research organisation (CRO) to provide targeted chemicals for IVCC's early-stage discovery portfolio.

Financial performance

Income for the year of £19.1m was £1.2m lower than last year, with resources expended of £17.3m down by £2.9m resulting in a healthy surplus of £1.8m before other recognised gains and losses.

Overview of resources by financial year

	2025/26*	2024/25	2023/24	2022/23	2021/22
Incoming resources	£20.63m	£19.10m	£20.35m	£33.43m	£48.61m
Resources expended	£20.37m	£17.27m	£20.19m	£32.22m	£47.66m
Net gain/(loss) on investments	-	-	-	(£0.06m)	£0.94m
Other recognised gains/(losses)	-	-	-	-	-
Net incoming resources for the year	£0.26m	£1.83m	£0.16m	£1.15m	£1.89m

*budget

A total of £11.7m was spent on direct charitable project activities in the year (2024: £15m) with a further £2m paid out on project activities undertaken in-house (2024: £0.8m). General support costs, including core administration, of £3.6m (2024: £4.3m) were also incurred in the year.

Going concern

IVCC has a positive bank balance of £9.1m, investments of £11.9m and no loans outstanding. IVCC's strong asset base is representative of IVCC's significant year-end balance of deferred income on research grants of £8.1m (2024: £8.9m) and income and expenditure reserve of £13.0m.

The organisation benefits from the synergistic relationship with LSTM in terms of high-quality shared services and scientific resources and knowledge.

The Board of Trustees therefore has a reasonable expectation that IVCC has adequate resources to continue in operation for the foreseeable future. Therefore, it continues to adopt the going concern basis in preparing the financial statements.

Reserves policy

IVCC aligns with the group policy of ensuring that unrestricted reserves represent a minimum of 6 months' pay expenditure. Resources are managed and committed within a framework of financial planning that ensures it has both sufficient reserves and liquid resources to fulfil its contractual commitments. Total and free reserves are £13.02m (2024: £11.2m).

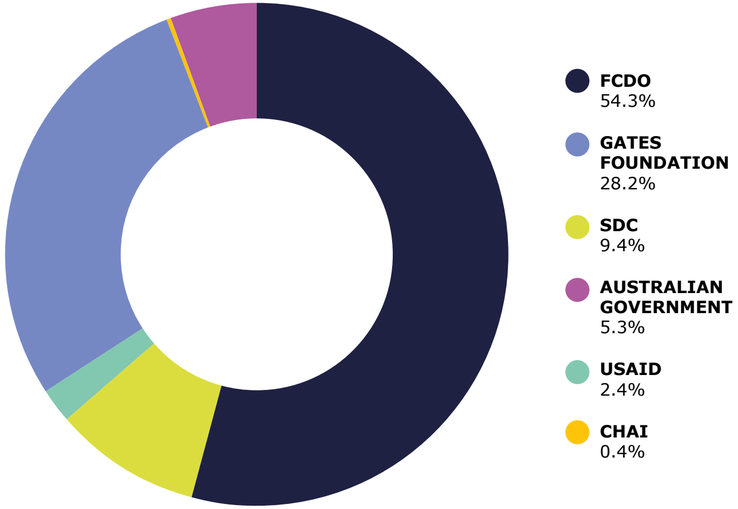
No contract is entered into unless it can be resourced, including staffing, partner contracts and all contracts in the supply chain.

Investments

IVCC continues to adopt a conservative investment strategy. Short-term surplus cash held is invested in high interest-bearing accounts as part of an overall cash pooling arrangement with the LSTM group to maximise potential returns and minimise risk. Medium to longer term cash is invested in low-risk company and government bonds.

Funding developments

Income split by funder 2024/25



The changes in the international funding landscape, which occurred during the year, has created significant uncertainty in the malaria landscape in general. Specifically, for IVCC this included the termination in 2025 of the $10m 5-year Cooperative Agreement, which was awarded by the United States Agency for International Development (USAID) in 2023. Thanks to the stability of IVCC's medium term funding base and clarity in strategic priorities, the organisation has been able to flex, thereby maintaining its strategic focus on core deliverables and sustaining a promising portfolio of innovation.

Income from the Gates Foundation accounted for 28% of the charity's restricted income from charitable activities in the year, down from 55% in 2024. The total amount of grant income that IVCC received from the foundation reduced from £10m in 2024 to £4.8m in 2025. This was primarily due to the priority utilisation of £9.1m of funds that were made available by UK aid from the UK government, which contributed towards the same scope of core activity.

By the end of the financial year, IVCC had fully utilised bridge funding awarded by the foundation, in line with no cost extensions awarded during the year covering the period up to 31 July 2025. As reported in the prior year annual report, a 5-year core grant was awarded by the foundation, providing IVCC with medium-term funding and resource planning visibility. This makes available $85m of funding over the grant term. In August 2025, IVCC received the first tranche of funds and expenditure utilisation commenced.

Income from the Australian Government represents 5% of the charity's restricted income, compared to 3% in 2024.

Other income, including core funding from the Swiss Agency for Development and Cooperation (SDC) makes up 10% of income (2024 – 4%). This includes the first year of expenditure in respect of the core contribution towards 2024-2028 which was awarded in October 2024.

Image credit: Derric Nimmo and LITE

25 years of progress

New research quantifies the lifesaving success of mosquito control and underscores its central role in malaria elimination.

New groundbreaking analysis has confirmed that vector control remains the single most powerful driver in the historic reduction of Africa's malaria burden. Since 2000, malaria control interventions have averted an estimated 1.57 billion cases across the continent. Of these, 1.22 billion cases - 77% - are directly attributable to vector control measures such as insecticide-treated nets (ITNs) and indoor residual spraying (IRS).

The study estimates that vector control alone has prevented approximately 3.5 million malaria-related deaths over the past 25 years; accounting for 58.33% of the total decline in malaria mortality during this period. Protecting people from mosquito bites continues to be the cornerstone of malaria control and elimination in Africa.

A clear picture of progress

For years, the global health community has recognised that controlling the mosquito vector is fundamental to combating malaria. New research from the Malaria Atlas Project provides the most comprehensive evaluation to date of that impact: offering a robust, data-driven picture of malaria control's achievements across Africa from 2000 to the present day.

The analysis updates, and significantly expands upon, a pivotal 2015 study published in Nature (The effect of malaria control on Plasmodium falciparum in Africa between 2000 and 2015, Nature, 526:207–211). That earlier work was groundbreaking but relies on a decade-old dataset not capturing the full picture; particularly the influence of next-generation tools, insecticide resistance, and socio-economic change. The new study closes this evidence gap, providing the clearest and most current assessment of vector control's lifesaving role.

Even when accounting for wider societal progress (such as improved health systems, economic development, and access to care) vector control continues to be the dominant contributor to malaria reduction.

The data shows that vector control alone is responsible for 58.33% of the overall decline in malaria morbidity since the turn of the century.

This underscores its efficacy and the strong return on investment it delivers. Beyond the direct health impact, vector control has reduced the strain on health systems, improved productivity, and strengthened community resilience, contributing to Africa's broader development gains.

Evidence to guide the future

As challenges such as insecticide resistance and shifting transmission patterns emerge, sustained investment in the development, validation, and deployment of new vector control technologies will be essential to maintaining progress. The findings provide both the rationale and a roadmap for guiding future innovation, policy decisions, and strategic action.

Scan to read the full MAP research preprint

Looking ahead

This landmark research quantifies the full contribution of vector control, providing policymakers, funders, and technical partners with the evidence needed to prioritise investment and scale effective interventions.

The message is clear: vector control remains the backbone of malaria prevention in Africa, responsible for saving millions of lives and averting over a billion cases. Maintaining this momentum requires continued innovation, coordinated global support, and unwavering commitment to equitable access.

As the world works toward malaria elimination, the data clearly demonstrates that sustained investment in vector control is essential for maintaining and accelerating progress.

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77.7%
of the 1.6b averted cases are attributed to vector control

3.5m
deaths prevented by vector control alone

47%
drop in malaria mortality

The challenge of climate change

Climate change is increasingly shaping the global landscape of infectious disease, and malaria is no exception.

Rising temperatures, shifting rainfall patterns, and extreme weather events are altering the distribution and seasonality of malaria transmission. Warmer climates expand the geographical range of Anopheles mosquitoes, enabling them to survive and reproduce in regions previously unsuitable for transmission. At the same time, changing rainfall and humidity levels influence breeding sites, often increasing mosquito populations in vulnerable communities. These shifts threaten malaria elimination goals, placing previously unaffected populations at new risk.

IVCC response

IVCC's mission has always centred on the development, evaluation, and deployment of innovative vector control tools. While traditional interventions such as insecticide-treated nets and indoor residual spraying (IRS) remain critical, growing insecticide resistance and shifting mosquito behaviours underscore the need for next-generation solutions. Climate change adds another layer of urgency, requiring tools that are resilient, adaptable, and capable of sustaining efficacy under changing ecological conditions.

Through partnerships with industry, academia, and public health stakeholders, IVCC continues to accelerate innovation across a portfolio of interventions. This includes the development of novel insecticides with new modes of action, the continued availability of improved formulations for IRS and next-generation bed nets that combine multiple active ingredients to counter resistance. Additionally, IVCC is looking to further support the advancement of complementary tools such as spatial emanators and novel outdoor biting interventions.

These innovations will not only overcome resistance but help address the reality that mosquito behaviour is shifting - often biting outdoors or earlier in the evening - beyond the reach of conventional tools.

Pathways to impact

Despite these advances, significant challenges remain. Bringing new products to market requires long development timelines, substantial investment, and robust regulatory pathways. The high cost of innovation, coupled with limited commercial incentives, makes sustained donor commitment essential. Furthermore, achieving impact at scale demands strong health system infrastructure, effective procurement and distribution channels, and community acceptance. Climate change also brings unpredictability, making it more difficult to plan interventions and requiring flexible, responsive approaches to vector control.

As malaria-endemic countries confront the dual pressures of climate change and persistent insecticide resistance, the need for innovation has never been greater. IVCC's role is to bridge the gap between scientific discovery and real-world deployment, ensuring new tools reach communities that need them most. By fostering collaboration and driving investment in the vector control pipeline, IVCC remains committed to safeguarding progress and developing solutions to meet the evolving threat of malaria in a changing climate.

5%

of the global population could become more vulnerable to the risk of malaria with a 2-3°C rise in temperature

The IVCC team

Since 2005, we've brought together expertise across science, product development, market access, partnerships, operations, finance, legal and communications to drive innovation in tackling vector-borne diseases.

Working with industry, researchers, and global health partners, we develop effective, affordable interventions to prevent insect-borne disease in vulnerable communities. Our culture is founded on Partnership, Innovation, and Respect, supported by strong governance through our Board of Trustees. Independent trustees with expertise across business, law, accountancy, politics, and health help keep us focused on outcomes. Marking 20 years of vector control innovation and impact, this report highlights the people driving progress: the IVCC team and partners advancing solutions to prevent disease transmission and support our shared vision – saving lives, protecting health, and increasing prosperity.

Left to right and from back to front:

Chris Boyle, Jason Richardson, Danielle Brennan, Laura Roberts

Tom McLean, Chris Larkin, Sara McManus

David Worrall, Fred Yeomans, Victoria Watson, Sarah Cave

Larry Norton, John Hughes, Justin McBeath, Terri-Lea Allman

Leo Smedley, Derric Nimmo, Nicola Terry, Natalie Lissenden

Frank Mechan, Kath Gleave, Julie-Anne Akiko Tangena, Christen Fornadel

Mike MacDonald, Andrew Saibu, Karen Johnson, Janneke Snetselaar

Mathias Mondy, Vasanthan Paul John, Graham Small

Helen Fletcher, Renaud Govoetchan

Thank you

Thank you to our generous funders, whose partnership over the past 20 years has made life-saving vector control possible.

Gates Foundation

UK International Development
Partnership | Progress | Prosperity

Australian Aid

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

Clinton Health Access Initiative

Unitaid
SAVE LIVES FASTER

The Global Fund

MedAccess

Visit our website to find out more: