



HSA Annual Report

FY2024/2025



CHAIRMAN'S MESSAGE



“
Together, we are forging
a vision to be even more
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and resilient as an
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community.”

Professor
Benjamin Ong
Chairman

The year 2024 marked many significant moments in HSA's history with the groundbreaking of our new state-of-the-art facility as one of the highlights. This new building embodies our vision for healthcare regulation, blood services, and scientific excellence for the future. It symbolises more than a shared physical space; it represents how we are shaping our future environment—one built on catalysing collaboration, driving breakthroughs, and serving with purpose.

This milestone also coincided with a leadership transition as we warmly welcome Adjunct Professor (Dr) Raymond Chua as our Chief Executive Officer (CEO), taking the helm from Dr Mimi Choong. Together, we are forging a vision to be even more agile, forward-looking, and resilient as an organisation—one that continues to earn the trust of the public, our partners, and the global community.

Elevating Excellence Through Innovation

I am happy to share that this past year, we were able to advance on all fronts—from regulatory operations to forensic science and digital transformation. Our forensic investigations have been enhanced with the use of laser scanning to conduct Driver's 3D Field of View Analysis, reducing human error in traffic accident measurements; while sophisticated kinship statistics software extends identification to distant relatives, strengthening our ability to solve complex cases through DNA analysis.

In collaboration with the Maritime and Port Authority of Singapore, we qualitatively assessed laboratories' testing competency in determining polymer contaminants in bunker fuel oil, facilitating the maritime regulator's efforts in ensuring bunker fuel quality supplied at the Port of Singapore.

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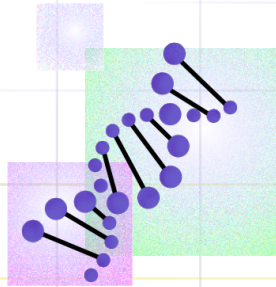
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Digitalising Customer Experience

We have transformed our services for better accessibility and user experience. Industry partners can now submit and track Cell, Tissue and Gene Therapy Product (CTGTP) applications easily through our new Singapore Health Product Access Regulatory E-system (SHARE) portal. This one-stop platform offers real-time status updates and more efficient regulatory processing.

We have introduced a new queue management system for blood donors, allowing them to check their queue status online. Improved algorithms help smooth donor flow and give staff more flexibility during busier periods. Across all Bloodbanks, enhanced real-time analytics now track key metrics like queue times, service quality, and attendance, enabling quicker operational responses. At mobile blood drives, switching to digital forms and a hybrid data system minimised paperwork, allowing nurses to focus more on caring for donors.

A Trusted Global Contributor

We led collaborative efforts in INTERPOL's Disaster Victim Identification (DVI) Genetic Workgroup to contribute to the harmonisation of kinship analysis for DVI, and developed new international performance standards for detection of albumin in urine by in vitro diagnostic devices. HSA is one of only three institutions worldwide with reference methods for urinary albumin, highlighting our global leadership in laboratory standards through a key study led by the International Federation of Clinical Chemistry and Laboratory Medicine and the US National Institute of Diabetes and Digestive and Kidney Diseases.

Our long-standing excellence in transfusion medicine is reflected in our continuous designation as a World Health Organization (WHO) Collaborating Centre since 1992. This sustained recognition over three decades validates our expertise in blood services and reinforces our position as a trusted partner in global healthcare initiatives.

Shaping the Future Together

As we look ahead, three strategic priorities will shape our future trajectory:

- **Relentless Innovation** – Staying ahead of scientific and technological frontiers allows us to anticipate and tackle emerging health challenges.
- **Strong Organisational Resilience** – By investing in our people and capabilities, we ensure HSA remains ready for an increasingly complex world.
- **Deep Strategic Partnerships** – Whether with the public, industry, or international stakeholders, meaningful collaboration multiplies our collective impact.

Under the leadership of our CEO, Adjunct Professor [Dr] Raymond Chua, and with the dedication of our talented teams, we are entering a new era of transformation—one that seeks not only to adapt to change, but be at the leading edge. Together, we will IGNITE the future of HSA and advance the health and safety of Singaporeans.



CEO'S MESSAGE



“
Advancing as a unified
organisation, we continue
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”

Adj Prof (Dr)
Raymond Chua
Chief Executive Officer

This year marks my first as CEO of the Health Sciences Authority—and what a meaningful journey it has been. I have had the privilege to witness first-hand the dedication, ingenuity, and resilience of all our staff that define HSA. As we look ahead, I am filled with excitement and determination to work hand in hand with all of you—our staff and our partners—to IGNITE the future of our work, our workplace, and the impact we make together.

We are living through one of the most transformative periods in public health. The pace of change and innovation—driven by artificial intelligence (AI), machine learning, automation, personalised medicine, cell therapy, and digital therapeutics—has intensified dramatically. In this era of disruption and possibility, HSA stands at a critical juncture: as both a trusted gatekeeper of safety and an enabler of innovation.

Amidst these shifts, expectations of regulatory authorities like HSA have grown. We are called to respond faster, think bolder, and lead with greater agility—without ever compromising on the public trust we have worked so hard to earn.

To rise to this moment, we have charted a clear course anchored by our five-year strategic roadmap, guided by the “5P Framework” – Products, Platforms, People, Partnerships, and Profiling. These pillars define our priorities as we strengthen our position as a science-driven, future-ready organisation that protects and advances public health.

Innovating Our Products

As a regulatory and scientific authority, we are reimagining how we assess, test, and serve. This year, we celebrated several breakthroughs that exemplify our commitment to excellence and innovation:

- Our risk classification process for Immediate Class B Route (IBR) medical devices has been enhanced through the implementation of machine learning and keyword detection solutions, resulting in improved processing efficiency, enhanced evaluation consistency, and an expedited application process.

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■ The deployment of a Solid Phase Extraction system in our laboratories has automated the detection of harmful alkaloids in health products, processing over 50 samples simultaneously at a time—a significant leap forward in speed and accuracy.

■ Newly established microbiology testing facilities have enabled us to provide comprehensive assessment on quality and safety of the health products sold in Singapore. In the fight against emerging drugs, we continue to expand our repertoire of instruments with the addition of a liquid chromatography coupled with high-resolution mass spectrometry system for the identification and characterisation of structurally complex drug compounds.

■ The Killer Cell Immunoglobulin-like Receptor (KIR) genotyping was launched to further optimise haematopoietic stem cell transplant outcomes in Singapore's healthcare system. It brings renewed hope by enabling transplant physicians to select the most optimal donor who can produce the best transplant outcome for their patients.

These are not just technical milestones—they are tangible steps towards a healthier and safer Singapore.

Digitising Our Platforms

Digital transformation is no longer a future aspiration—it is happening now, and it is happening across HSA.

From the ground up, our teams have developed innovative solutions to streamline work and amplify impact, driven largely by ground-up initiatives from our staff. One such example is "Automated Solution for Package Insert Retrieval and Evaluation" (ASPIRE)—an AI-driven tool that uses large language models in combination with a retrieval augmented generation architecture that paves the way for efficient

retrieval and evaluation of information within and across product labels to simplify and broaden the scope of regulatory investigations. For this, we earned the SuperStar Builders Award from Amazon Web Services—a proud testament to our in-house ingenuity.

Our AI-powered human resource (HR) chatbot, "MoMo", helps resolve HR queries in real time, while our strategic partnership with Synapxe allows us to prototype AI-based screening tool for medical device evaluations.

These platforms free us up to focus on what matters most: deep thinking, critical evaluation, and impactful decisions.

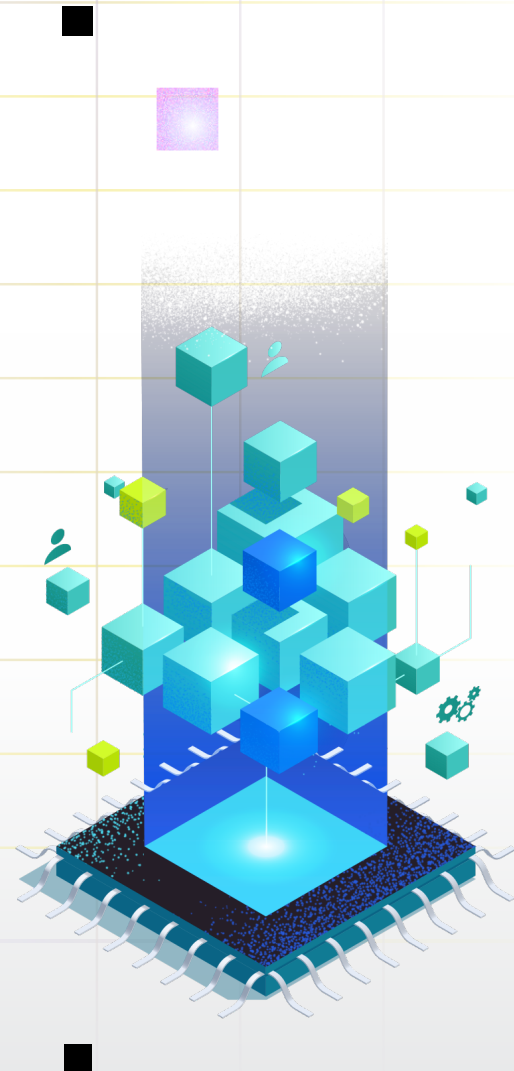
Empowering Our People

Behind every innovation is a passionate HSAian.

HSA's success stems from continual staff development and exposure to new technologies and methodologies. Through GovTech-led workshops, expert coaching, and hands-on training sessions, we have enhanced our teams' capabilities in AI and Data Systems. For example, the Prompt Royale X Tournament not only raised awareness in Generative AI technologies, but also encouraged HSAians' practical experimentation with emerging tools.

Nurturing growth among HSAians remains paramount, as demonstrated by initiatives like the HSA Learning Festival. Held over two days in October 2024, this flagship event exemplified our commitment to continuous learning and professional growth, featuring diverse learning opportunities and knowledge-sharing sessions.

We also extended our knowledge beyond our walls. Our forensic experts launched Singapore's first training programme for non-forensic dentists in disaster victim identification—with crucial identification skills which strengthen our nation's preparedness for mass casualty incidents, while



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simultaneously contributing to international efforts to standardise kinship analysis practices.

This year, we were also honoured to receive the HR Partner Award from the Public Service Division—an affirmation of our efforts to invest in our people, build strong people systems, and shape a progressive, values-based workplace culture. Similarly, HSA was happy to clinch the Gold category for Best HR Digital Transformation Strategy in 2025's Employee Experience Awards.

We believe that when we empower people, possibilities multiply.

Strengthening Our Partnerships

Science and safety know no borders. That is why HSA continues to lead and collaborate across the region and beyond. Our global influence continues to strengthen through leadership roles in key international bodies.

We are proud of our active leadership in international scientific communities, including the Asian Forensic Sciences Network, where we maintain a Board position and have nine HSA experts serving in key technical workgroups and committees.

We deepened regional ties through collaboration with the Vietnam Metrology Institute, improving measurement standards and quality infrastructure in ASEAN. This partnership has facilitated valuable knowledge exchange and joint research initiatives that enhance regional quality infrastructure.

At home, we have worked with the Attorney-General's Chambers and the Central Narcotics Bureau to improve case management in forensic testing and prosecution. Cooperation with the Singapore Police Force, Criminal Investigation Department, and Immigration and Checkpoints Authority has disrupted a major e-vaporiser distribution network through coordinated efforts. These inter-agency partnerships demonstrate how leveraging complementary strengths can maximise impact while optimising resource utilisation.

Elevating Our Profile

We have continued to grow our public voice as a scientific authority and purpose-driven employer.

Building on our established presence in mainstream media, we strategically expanded our digital footprint on LinkedIn. In addition, we launched HSA's Instagram channel to reach new audiences and showcase our people, science, and enforcement stories in fresh, visual ways. Through our expanding digital footprint, we are connecting more meaningfully with the public, our partners, and future talent.

Our stories of breakthroughs, enforcement successes, and staff achievements are resonating more than ever with a growing global audience.

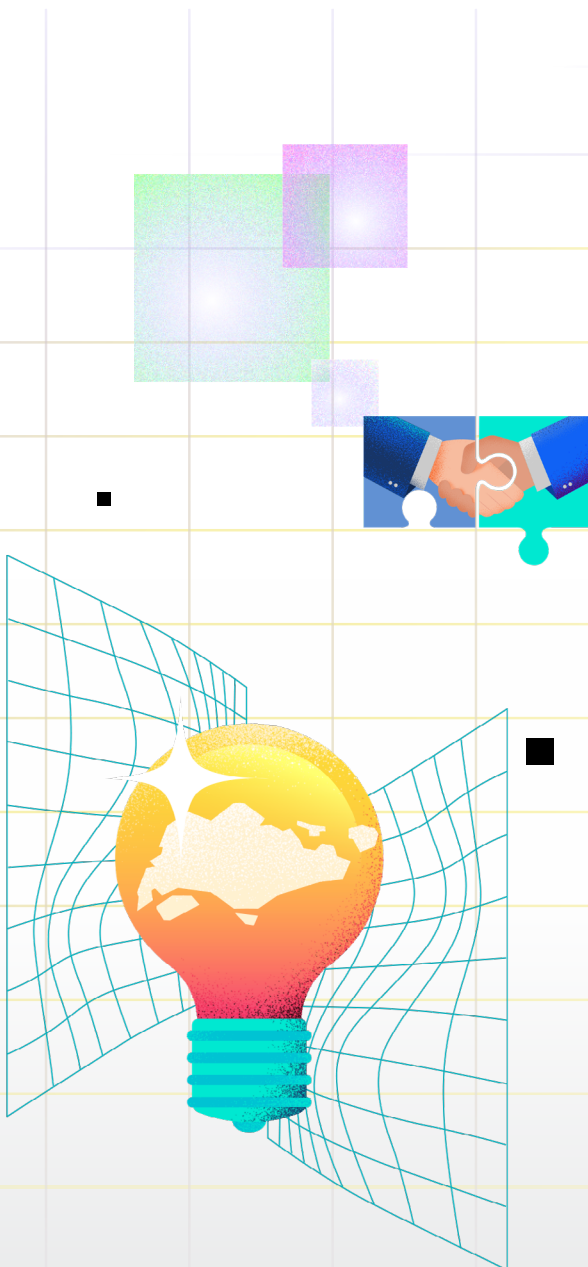
Looking Ahead: IGNITE the Future Together

As I reflect on my first year as CEO, I am deeply grateful for the foundation that has been built by those before me—and I am energised by the opportunity to shape what lies ahead.

With our "5Ps" as our compass, we are not just transforming processes—we are reimagining our possibilities. Together, let us IGNITE:

- Innovation in how we protect health
- Growth in our people and potential
- Networks across our local and international stakeholders
- Inspiration to lead with purpose
- Trust at the heart of all we do
- Excellence in our service to Singapore and beyond

This is more than a strategy—it is our shared mission. Advancing as a unified organisation, we continue to deliver excellence in service to Singapore and our stakeholders, building towards an increasingly impactful future for HSA. Let us continue to push boundaries, uplift each other, and stand ready to maintain our status as a leading global authority in protecting and advancing public health and safety.



BOARD MEMBERS



1. Prof Benjamin Ong

Chairman
Health Sciences Authority

2. Prof Tai Lee Siang

Deputy President
Chief Innovation and
Enterprise Officer
Singapore University of
Technology and Design

3. Mr Jimmy Phoon

Chief Executive Officer
Seviora Holdings Pte Ltd

4. Ms Aileen Tan

Group Chief People and
Sustainability Officer
Singtel

5. Mr Robert Chew

Managing Partner
iGlobe Partners

6. Prof Lim Chwee Teck

NUS Society Professor
Department of Biomedical
Engineering
Director
Institute for Health Innovation and
Technology (iHealthtech), NUS
Founding Director
Singapore Health Technologies
Consortium

7. Mr Terence Quek

Chief Executive Officer
Singapore Institute of Directors

8. Mr Lin Qinghui

Principal Private
Secretary to Prime
Minister

9. Prof Chen Tsuhan

Deputy President
Innovation and Enterprise
National University of Singapore

10. Ms Kala Anandarajah

Head, Competition &
Antitrust and Trade
Rajah & Tann Singapore
LLP and Asia

11. Ms Lisa Yeoh

President
International Coaching
Federation (ICF)
Singapore Chapter
Career Coach
Ingeus Pte Ltd

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AWARDS AND ACCOLADES



NEW ISO 9001:2015 CERTIFICATION

- **Sep 2024** Therapeutic Products Branch
- **Oct 2024** Innovation Office and Clinical Trials Branch
- **Nov 2024** Medical Devices Cluster



NEW ISO 17025 ACCREDITATION

- Biologics Laboratory has successfully attained ISO 17025 accreditation from SAC-SINGLAS in May 2024, one year after commencing operations in May 2023.
- This accreditation demonstrates the laboratory's commitment to technical excellence and expanding expertise, providing stakeholders with assured quality and integrity in testing services to safeguard public health and support Singapore's growing biologics sector.

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SINGAPORE HEALTH QUALITY SERVICE AWARDS (SHQSA) 2025

29 outstanding individuals from various departments in HSA were presented with the Silver, Gold, and Star awards at the SHQSA Ceremony on 13 February 2025 at the University Cultural Centre for their exceptional service in the healthcare sector.

■ **3 STAR** ■ **20 Gold** ■ **6 Silver**



HSA OUTSTANDING SERVICE TO CUSTOMERS AWARD (OSCA) 2024

HSA staff who exemplified excellent customer service, were presented with awards during the Staff Forum in May 2025.

■ **7 GOLD AWARDS** ■ **18 SILVER AWARDS** ■ **32 BRONZE AWARDS** ■ **11 TEAM AWARDS**

NATIONAL VOLUNTEER & PHILANTHROPY CENTRE'S CHAMPION OF GOOD AWARD

- Recognises HSA's exemplary efforts in advancing its corporate purpose, inspiring others and demonstrating a strong commitment to make a positive impact.
- Played a pivotal role during the COVID-19 pandemic by ensuring timely access to essential health products, diagnostic test kits and vaccines.
- Reinforced Singapore's position as a global biomedical leader through science-based regulation, earning recognition as a WHO Stringent Regulatory Authority and attracting international pharmaceutical and biotechnology development to the country.



GROWING PARTNERSHIPS



MOU WITH VIETNAM METROLOGY INSTITUTE (VMI)

- Strengthened collaboration between HSA and VMI through knowledge exchange, joint research and the development of regional quality infrastructure.
- Facilitated VMI's participation in the Asia Pacific Metrology Programme's public health project.
- Formalises the shared vision for advancing scientific measurement and metrology in the Asia-Pacific region.



ASIAN FORENSIC SCIENCES NETWORK

- Re-elected as a Board Member for the term 2024 to 2026.
- HSA is represented by Dr Angeline Yap, Assistant Group Director, Forensic and Analytical Science.
- Nine of HSA's forensic experts assumed key leadership roles in various technical workgroups and committees.



WORLD HEALTH ORGANIZATION (WHO) COLLABORATING CENTRE

- Re-designated as a WHO Collaborating Centre for Transfusion Medicine from 2025 to 2028.
- Affirms HSA's expertise across all aspects of blood services, from donor management, blood supply management, laboratory services to clinical transfusion practices.



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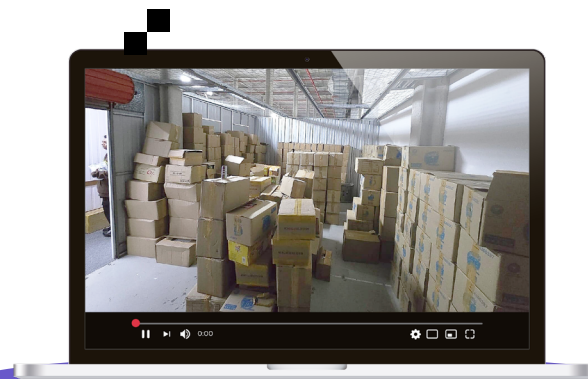
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HARMONISATION OF KINSHIP ANALYSIS FOR DISASTER VICTIM IDENTIFICATION (DVI)

- Partnered with the National Institute for Criminalistics and Criminology of Belgium and the University of Copenhagen to investigate inter-laboratory differences in kinship analysis practices among members of the INTERPOL DVI Genetic Sub-working Group.
- Facilitated the sharing of practices, knowledge and experiences of different jurisdictions, leading to constructive dialogue on the challenges in the conduct of kinship analysis for DVI.



MULTI-AGENCY PARTNERSHIP TO DISRUPT E-VAPORISER SUPPLY NETWORKS

- Worked with the Singapore Police Force (SPF), Criminal Investigation Department (CID) and Immigration and Checkpoints Authority (ICA) to disrupt one of the largest e-vaporiser distribution networks in Singapore.
- Over 750,000 e-vaporisers and components, worth more than \$11 million, were seized in April and June 2024.
- Major joint operation with the SPF led to the seizure of more than 600kg of smokeless tobacco, worth over \$100,000, and the arrest of 27 offenders.



HSA-SYNAPXE AI COLLABORATION FOR AI SOLUTIONS

- From late-2024 to 3rd quarter 2025, HSA and Synapxe collaboratively prototyped AI solutions to enhance the medical device evaluation process.
- AI was employed to analyse and identify gaps in supporting documents.
- Significantly reduces manual and repetitive tasks, enabling staff to focus on critical decision-making and higher-value work.



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HSA-MPA COLLABORATION

- Worked with Maritime & Port Authority of Singapore (MPA) to strengthen Singapore's capability in determining and regulating polymers in marine fuel oil, which is crucial for ensuring safety and efficiency of maritime operations.
- Leveraged complementary expertise of both agencies to address challenges in the maritime industry.



INTER-AGENCY TASKFORCE FOR CASE MANAGEMENT

- Partnered with Attorney-General's Chambers and Central Narcotics Bureau to formulate and implement policies related to the growing demand for forensic drug and DNA testing since June 2023.
- HSA's Illicit Drugs Division implemented 11 improvement initiatives to streamline its laboratory processes, saving approximately 1,000 man-days.
- Three additional initiatives were later developed by the Biology Division to offer a projected reduction of up to 30 days turn-around-time for drug trafficking cases.

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DIGITAL INNOVATIONS



SINGAPORE HEALTH PRODUCT ACCESS REGULATORY E-SYSTEM (SHARE)

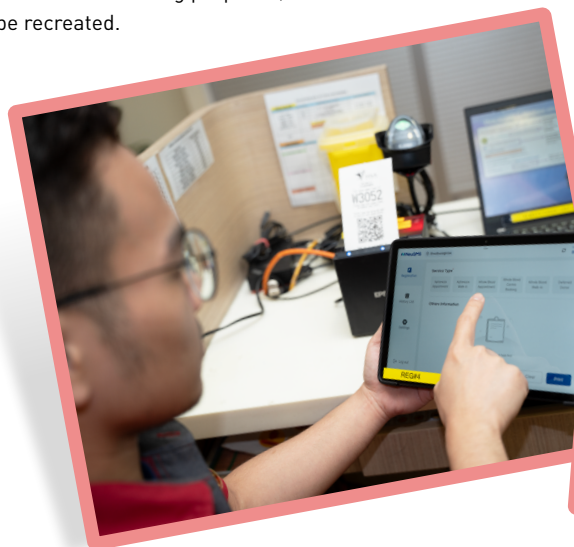
- New one-stop digital portal for handling Cell, Tissue and Gene Therapy Product (CTGTP) applications.
- Covers CTGTP Dealer's Notice, Licensing and Certification, as well as Class 1 CTGTP Notification and Class 2 CTGTP Registration.
- Enhances efficiency and transparency in processing submitted applications.

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3D PRINTING TECHNOLOGY

- 3D printing technology enables the rapid fabrication of customised items by transforming digital 2D designs into functional 3D objects.
- Laboratories can print low-cost, customised laboratory tools that are otherwise too costly or unavailable commercially.
- Physical models of bones and evidence for explaining trauma and mode of injury to the police, as well as for teaching purposes, can also now be recreated.



NEW QUEUE MANAGEMENT SYSTEM

- New donor features include queue tracking using QR Codes and seamless modification of donation details.
- Enhanced analytic capabilities enable real-time tracking of queueing times, service delivery, and missed appointments across all Bloodbanks and more flexible administrative interface.

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INCREASED EFFICIENCY OF MOBILE BLOOD DRIVE OPERATIONS

- Implemented digital forms (FormSG) to capture various operations-related data of mobile blood drives and a hybrid data submission system to enhance reporting accuracy and operations.
- Enhancements allow Bloodbank staff to focus on providing quality donor service, reduce administrative burden, and enable better decision making.
- Since April 2024, 350 forms have been processed, saving close to 194 man-days annually.



AUTOMATED RISK CLASSIFICATION FOR MEDICAL DEVICES

- Implemented for Immediate Class B Route (IBR) Medical Devices.
- Employs machine learning algorithms and macro-enabled keyword detection to streamline the IBR medical device application verification process.

LEVERAGING ROBOTIC PROCESS AUTOMATION (RPA)

- RPA is used to automate the performance verification of lab instruments, verification of billing reports, scanning of journal websites, and other work processes.
- This helped to enhance work quality as manual errors were reduced and staff productivity was improved.
- Onboarded VITAL's Central RPA Platform to explore potential RPA use cases that require unattended bots, and UiPath's document understanding capabilities.

DRIVING AI ADOPTION IN HSA

- Developed a three-year AI roadmap to guide HSA's exploration of AI use cases to enhance work processes.

DATA GOVERNANCE AI BOT – DATAWIZ

- Launched in January 2025, DataWiz provides HSA staff with instant, reliable answers to common data governance questions, from data classification to sharing protocols.
- Fosters a culture of informed self-help and strengthens data governance awareness across HSA.

AI-POWERED HR ASSISTANT – MOMO

- MoMo serves as HSA's AI-powered HR assistant, designed to improve accessibility to HR information relating to pay, benefits and performance.
- Enhance staff's experience in navigating HR information by providing quick responses to staff queries.



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SCIENTIFIC ADVANCEMENTS



NEW MICROBIAL TESTING CAPABILITY

- Established microbial testing capability, which was accredited by SAC-SINGLAS in Q4 2024.
- Provides comprehensive solutions to support regulators in ensuring health product quality and safety standards in Singapore.



ALBUMIN IN URINE STANDARDISATION

- Contributed to the international standardisation programme for albumin in urine assays led by the National Institute of Diabetes and Digestive and Kidney Diseases and the International Federation of Clinical Chemistry and Laboratory Medicine.
- Co-organised a comparison to standardise reference measurement procedures for albumin in urine assays with the National Institute of Standards and Technology and the University of Minnesota.
- Developed the first and only Joint Committee for Traceability in Laboratory Medicine-approved albumin in urine certified reference material.
- Published results have led to the recommendation of new performance goals for in vitro diagnostic medical devices.
- HSA's Chemical Metrology Laboratory is one of the only three institutes capable of measuring albumin in urine using reference measurement procedures.



CITRININ DETECTION IN RED YEAST RICE PRODUCTS

- Implemented a highly sensitive test method for Citrinin determination using Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) for sample clean-up and advanced Liquid Chromatography-Tandem Mass Spectrometry for Citrinin detection.
- Deployed in a market survey on Citrinin in locally marketed red yeast rice products.



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EVALUATION OF ACTIVITY-RELATED DNA TRANSFERS

- Developed a capability for evaluating hypotheses involving activity-related DNA transfers.
- Studies on shedder status and the persistence of DNA in the local environment improved the understanding of the relevance of DNA recovered from crime scenes.
- Performed research on the likelihood of DNA transfers between mock exhibits in personal bags, vehicles, and in a household setting to address plausible scenarios that may be raised in court.



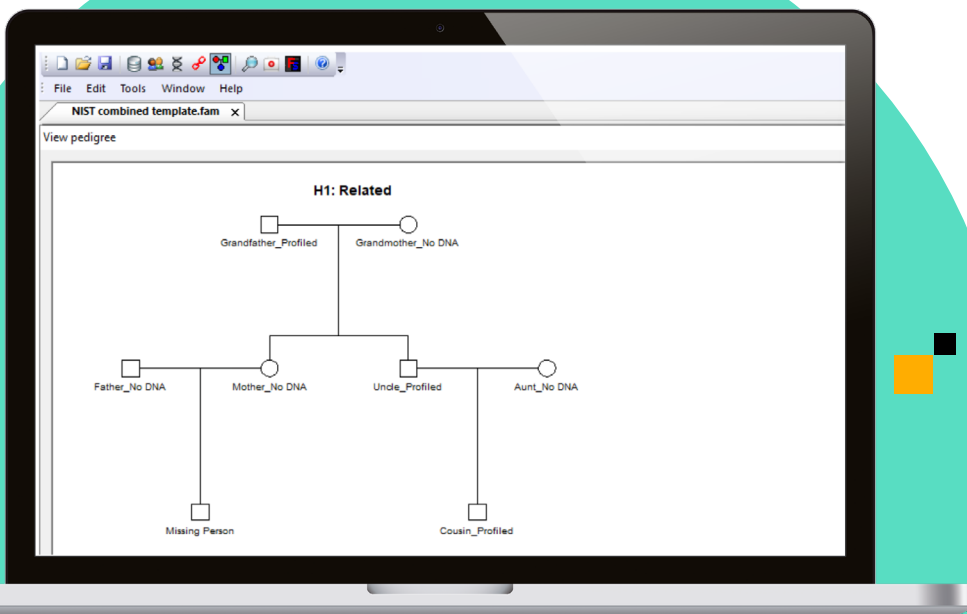
ENHANCED DECEASED IDENTIFICATION CAPABILITIES

- Implemented a new complex kinship statistics software which permits kinship determination using DNA from distant relatives when next-of-kin, such as parents, children or siblings, are not available.
- Better able to assist the Police and Coroner in identifying individuals whose bodily remains are fragmented or decomposed.



ENHANCED IDENTIFICATION CAPABILITY FOR EMERGING DRUGS OF ABUSE

- Liquid chromatograph coupled with high-resolution mass spectrometer was successfully validated for the structural elucidation and identification of emerging drugs of abuse.
- Enables identification of thermal labile drugs which are not suited for analysis using the routine gas chromatography-mass spectrometry method.



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VEHICLE SPEED ANALYSIS WITH ADVANCED SENSOR SYSTEM

- Implemented a vehicle-mounted optical speed sensor system that replaces hand-held radar guns.
- New system features real-time continuous speed monitoring, consistent performance across diverse terrains and speeds, seamless vehicle system integration, and enhanced capabilities for evaluating current speed estimation methods.



KILLER CELL IMMUNOGLOBULIN-LIKE RECEPTOR (KIR) GENOTYPING

- Officially implemented KIR genotyping in February 2025 and received the first sample for testing the following month.
- New test assists clinicians in selecting the most suitable donors for haplo-identical haematopoietic stem cell transplants, in the absence of fully matched donors.



DRIVER'S 3D FIELD OF VIEW (FOV) ANALYSIS

- 95% reduction of on-site man-hours through elimination of manual FOV mapping.
- Improves accuracy by reducing human error and subjectivity through capturing precise driver's eye position and vehicle geometry coordinates.
- Enhances staff welfare by minimising staff exposure to adverse weather conditions.



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PROCESS TRANSFORMATION



SEARCH AND INFORMATION RETRIEVAL TOOL

- Developed under GOVTECH's Launch! AI Incubator Programme.
- The tool employs large language models in combination with a retrieval augmented generation architecture to simplify and broaden the scope of regulatory investigations.
- Received SuperStar Builders Award from Amazon Web Services (AWS) for our Search and Information Retrieval Tool of Package Inserts of Medicines initiative.
- The team is working towards developing the tool's proof-of-value before it can be scaled and hosted on a secure, cloud-based environment for widespread use.



AUTOMATED SOLID PHASE EXTRACTION (SPE) SYSTEM

- Implemented a fully automated SPE system for extraction of natural alkaloids from complementary health products.
- SPE can process over 50 samples autonomously, as well as simultaneously handle four samples in 30 minutes, with annual savings of approximately 60 man-hours.
- Lab productivity and staff morale have been enhanced.



AUTOMATED SAMPLE PREPARATION

- Introduced automated sample preparation for the analysis of new psychoactive substances in urine.
- Full automation of process including enzyme hydrolysis, sample extraction, elution, and reconstitution for instrumental analysis, resulting in annual savings of approximately 364 man-hours.
- The man-hours savings allow the lab to handle increasing sample testing volumes without additional manpower resources.



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NEXT-GEN BLOOD SUPPLY MANAGEMENT SYSTEM (NBSM)

- Implemented NBSM, a web-based blood ordering and inventory system, across all public hospitals, to enhance patient safety, raise productivity, and provide better visualisation of blood inventory.
- New Phase Jitter Modulation (PJM) high frequency Radio-Frequency Identification (RFID) labelling of each blood product allows for real-time location tracking of inventory, as well as better management of stock management.
- Digitalised workflow replaces traditional processes, thereby improving operational efficiency and accuracy.



IMPLEMENTATION OF RESTRAINING PATENT

- Published information detailing the scope of patents and the patent declaration process under the revised Regulation 23 to provide the necessary clarity.
- Facilitates registration applications and minimises indiscriminate use of the mechanism under Regulation 23 of Health Products Regulations 2016.



ENHANCING REGULATORY WORKFLOWS THROUGH AI AND AUTOMATION

- Built a Python search tool to facilitate efficient retrieval of past case information for product classification.
- Optimised processing of Voluntary Notification System (VNS) applications and document submissions.
- Developed AIBots to draft replies to consumers and industry stakeholders using existing regulatory guidelines and advisories.



VIRTUAL QUALITY MANAGER

- Successfully developed and implemented ChatQM, an internal chatbot that assists staff with quality-related queries and document management.
- Utilises GovTech's AIBots platform to provide instant standard operating procedure clarification, text improvement suggestions for enhanced clarity of documents, and inter-dependency analysis.



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FUTURE-READY PEOPLE AND WORKFORCE

BUILDING TOMORROW'S HSA

- The groundbreaking ceremony was held in October 2024, celebrating the start of construction of the new HSA building.
- Comprising a 13-storey office tower and nine-storey laboratory complex, it will unite all operations in an integrated facility.
- State-of-the-art scientific facilities and modern infrastructure will enhance our operational capabilities and service delivery.
- Drawing from our experiences during COVID-19, the building incorporates enhanced pandemic-resilient features, while meeting the Green Mark Platinum certification.



PROFESSIONAL DEVELOPMENT IN AI AND DATA SYSTEMS

- Participated in multiple GovTech-led workshops on topics such as large language models.
- Built up experience in Retrieval-Augmented Generation (RAG) systems through expert coaching and practical training sessions.
- Strengthened prompt engineering expertise through intensive preparation for Prompt Royale X (PRx@HSA 2024), the inaugural tournament designed to raise awareness of generative AI capabilities and advance prompt engineering excellence across the agency.



- Organised HSA digitalisation series to create awareness in Gen AI tools such as AIBoT and AISAY.
- HSA Learning Festival was held on 15 and 16 October 2024 to reinforce the culture of lifelong learning among employees.

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HSA FORENSIC ODONTOLOGY SCHOLARSHIP

- Dr Meng Haoyuan became the second dental trainee to be awarded a scholarship for the MSc Forensic Dentistry programme at the University of Dundee, United Kingdom.



DISASTER VICTIM IDENTIFICATION (DVI) FOR DENTISTS

- Conducted inaugural Disaster Victim Identification (DVI) training course for non-forensic dentists.
- Trained seven dentists to support mass fatality incident response in Singapore.



TOP 250 BEST EMPLOYERS 2025

- Recognised as one of Singapore's Best Employers in a survey conducted by Statista in partnership with The Straits Times.
- Reflects our dedication to:
 - Fostering excellence in the workplace
 - Enabling our employees to protect and advance national health and safety
 - Serving our community better

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HSA CARES

HAIR FOR HOPE

- Collaborated with the Ministry of Health (MOH) and Health Promotion Board (HPB) to organise the 4th Hair for Hope satellite event at HSA Outram in May 2024.
- 25 volunteers from HSA, MOH and HPB shaved their heads to show their support to children battling cancer.
- More than \$58,000 was raised for the Children's Cancer Foundation.



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HSA TEAM SHINES IN CANCER FUNDRAISING RELAY CHALLENGE

- 40 HSA staff joined the MOH family in the Relay for Life 100KM challenge from 8 to 9 March 2025.
- Achieved a total distance of 366.4 km, doubling our previous year's record.
- Successfully raised over \$29,000 for the Singapore Cancer Society to support various cancer-related services including screenings, welfare aid, and palliative care.



HSA RECYCLES AND SUSTAINS

BISHAN-ANG MO KIO PARK CLEAN-UP

- 34 volunteers consisting of HSA staff and their families gathered in July 2024 to clean up Bishan-Ang Mo Kio Park.
- This was in support of the SG Clean Day movement to promote environmental stewardship in public spaces.



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STAFF SHOWCASE

“
Transformative solutions begin with understanding tomorrow’s needs today. The Advanced Contactless Evidence Submission/Collection System (ACCESS) represents HSA’s commitment to innovation in public service delivery. By reimagining evidence management for the digital age, we have created a new standard for operational excellence in forensic services. This system, developed through close collaboration with our stakeholders, demonstrates how we can harness technology to enhance both efficiency and reliability in our critical work.”



Moy Hooi Yan
Laboratory Director
Analytical Toxicology Division,
Applied Sciences Group

“
A vibrant workplace culture is built on trust, open dialogue, and the courage to challenge conventions. By fostering an environment where teams feel empowered to challenge conventions and explore new solutions, we have achieved significant milestones. This includes creating HSA’s first digital workplan portal. This approach has not only enhanced our efficiency but has also strengthened the bonds within our teams, proving that the best solutions often emerge when we create space for both professional growth and personal connections.”



Gabriel Yeo
Director
Strategy and Business
Transformation,
Corporate Services Group

“
In health products regulation, excellence means staying ahead of the curve. Through the Digital-All-in-one System (DASH) MVP, we have demonstrated how emerging technologies can enhance regulatory processes while maintaining the highest standards of safety and quality. Our AI-powered medical device classification tool, built on verified data, exemplifies this approach—harnessing machine learning to provide instant, reliable guidance. This is how we are building a smarter, more responsive regulatory environment that serves our stakeholders better.”



Wong Woei Jiuang
Assistant Group Director
Medical Devices Cluster,
Health Products Regulation Group

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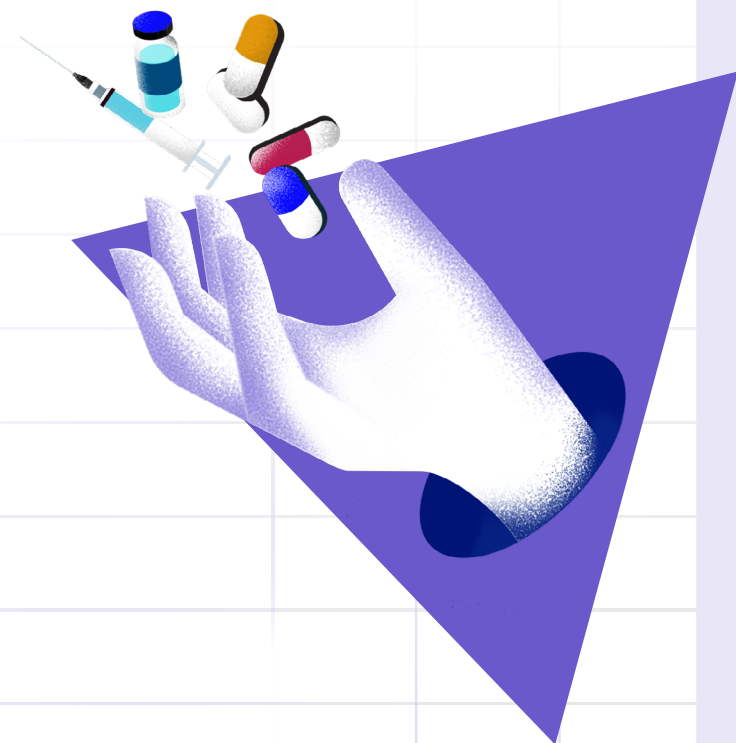
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Health Products Regulation Group

Key statistics as at end-March 2025



Medicinal Products Pre-market Cluster

Therapeutic Products

- **42**
Products Containing
New Chemical/Biological
Entities Approved
- **231**
Registrations Approved
(New Drug Applications and
Generic Drug Applications)
- **5,483**
Variation Applications
Approved
- **5,098**
Approved Products
on the Register of
Therapeutic Products

Cell, Tissue and Gene Therapy Products

- **257**
New Class 1 Products
Notified
- **1,808**
Class 1 Products
Notification Updates
- **21**
Class 2 Products Variation
Applications Approved
- **1,424**
Class 1 Products
Notified
- **7**
Approved Products on the
Register of Class 2 Products
- **1**
New Class 2 Products
Approved

Chinese Proprietary Medicines

- **1,159**
New Medicines Listed
- **13,665**
Medicines Listed

Cosmetic Products

- **48,297**
New Products Notified
- **174,075**
Products Notified

Clinical Trials

- **135**
New Applications Processed
- **125**
New Applications Approved

Medical Devices Cluster

▪ 1,393 Registrations Approved	▪ 74,691 Listings Notified	▪ 3,479 Change Notification Applications Approved	▪ 1,615 Licences for Importers	▪ 1,554 Licences for Wholesalers
▪ 20,147 Approved Products on the Singapore Medical Device Register	▪ 771 Applications for Import for Personal Use Processed	▪ 292 Licences for Manufacturers	▪ 259 Certificates for Exporters	▪ 685 Field Safety Corrective Actions Assessed
▪ 1,112 Adverse Events Assessed	▪ 361 Post-market Feedback Received (Relating to Potential Contravention of Medical Devices Regulations)	▪ 4 Witness and Compliance Audits Conducted		

Vigilance, Compliance and Enforcement Cluster

▪ 369 Licences/Certificates for Manufacturers of Health Products* Approved	▪ 1,729 Licences/Certificates for Importers of Health Products* Approved	▪ 715 Licences/Certificates for Wholesalers of Health Products* Approved	▪ 340 Licences for Retail Pharmacies Approved	▪ 368 Licences/Certificates for Exporters of Health Products* Approved
▪ 408 Site Audits Conducted for Good Manufacturing & Good Distribution Practices and Pharmacies	▪ 16,455 Applications and Enquiries for Import of Medicinal Products for Personal Use Processed	▪ 2,685 Medical Advertisement Permits Approved	▪ 20,457 Spontaneous Adverse Drug Reaction Reports Captured	▪ 69 Safety Signals (Therapeutic Products and Cell, Tissue and Gene Therapy Products) Assessed
▪ 258 Therapeutic Product Defects Assessed	▪ 3,207 Post-market Feedback Received (Relating to Potential Contravention of Health Product Legislation)	▪ 457 Tobacco Retail Licences Approved	▪ 4,329 Licensed Tobacco Retail Outlets	▪ 13,991 E-Vaporiser Cases Handled by HSA

* except medical devices

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Blood Services Group

Key Statistics as at end-December 2024



■ **79,365**
Blood Donors

■ **128,019**
Whole Blood Donations

■ **8,355**
Apheresis Donations

■ **415,374**
Blood Components Processed

■ **1,449,529**
Laboratory Tests Conducted

Applied Sciences Group

Key Statistics as at end-March 2025



Pharmaceutical Division

■ **2,117**
Analytical Cases

■ **5,257**
Analytical Tests

Analytical Toxicology Division

■ **15,775**
Forensic Cases

■ **25,086**
Forensic Exhibits

Biology Division

■ **14,078**
Forensic Cases

■ **21,331**
Forensic Exhibits

Forensic Science Division

■ **299**
Forensic Cases

■ **1,488**
Forensic Exhibits

Illicit Drugs Division

■ **1,872**
Forensic Cases

■ **6,424**
Forensic Exhibits

Forensic Medicine Division

■ **4,966**
Coroner's Cases

■ **1,236**
Coroner's Autopsies

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Statement of Financial Position

	FY24/25	FY23/24	Increase / (Decrease)	
	\$'000	\$'000	\$'000	%
Property, Plant & Equipment	78,414	80,136	(1,722)	(2)
Intangibles	11,072	8,847	2,225	25
Right-of-Use Assets	12,721	12,879	(158)	(1)
Current Assets	299,124	287,967	11,157	4
Total Assets	401,331	389,829	11,502	3
Equity	293,542	281,285	12,257	4
Non-current Liabilities	13,295	11,277	2,018	18
Current Liabilities	94,494	97,267	(2,773)	(3)
Total Equity and Liabilities	401,331	389,829	11,502	3

Statement of Comprehensive Income

The Authority achieved an overall net surplus of \$17.3m for FY24/25.

	FY24/25	FY23/24	Increase / (Decrease)	
	\$'000	\$'000	\$'000	%
Operating Income	175,960	167,247	8,713	5
Operating Expenditure	(290,602)	(267,493)	23,109	9
Deficit Before Government Grants	(114,642)	(100,246)	14,396	14
Government Grants	135,584	124,442	11,142	9
Surplus Before Contribution to Consolidated Fund	20,942	24,196	(3,254)	(13)
Contribution to Consolidated Fund	(3,560)	(4,115)	(555)	(13)
Net Surplus	17,382	20,081	(2,699)	(13)
Other Comprehensive Income	(77)	36	(113)	(314)
Net Surplus and Comprehensive Income for the Year	17,305	20,117	(2,813)	(14)

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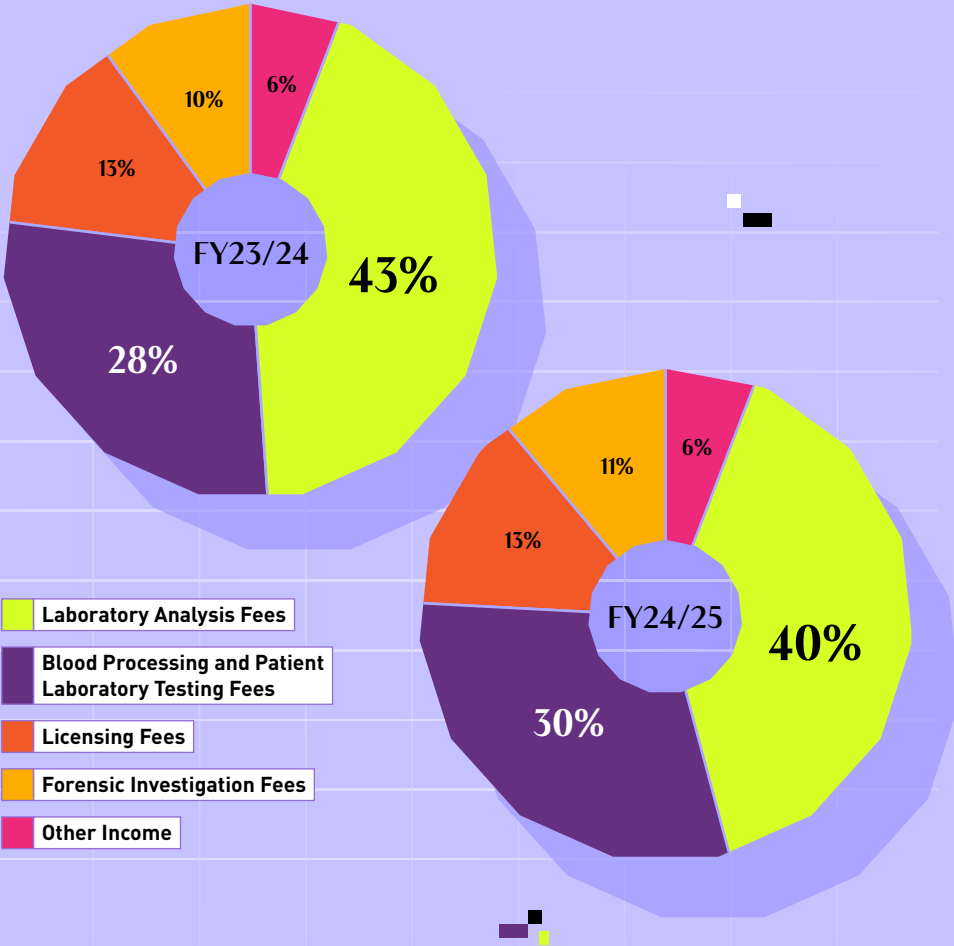
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Operating Income

The Authority earned a total operating income of \$176.0m in FY24/25, an increase of \$8.7m (5%) from FY23/24's revenue of \$167.2m.

	FY24/25	FY23/24	Increase / (Decrease)	
	\$'000	\$'000	\$'000	%
Laboratory Analysis Fees	70,688	72,086	(1,398)	(2)
Blood Processing and Patient Laboratory Testing Fees	53,025	46,077	6,948	15
Licensing Fees	23,566	21,216	2,350	11
Forensic Investigation Fees	18,601	17,580	1,021	6
Other Income	10,080	10,288	(208)	(2)
Total Operating Income	175,960	167,247	8,713	5



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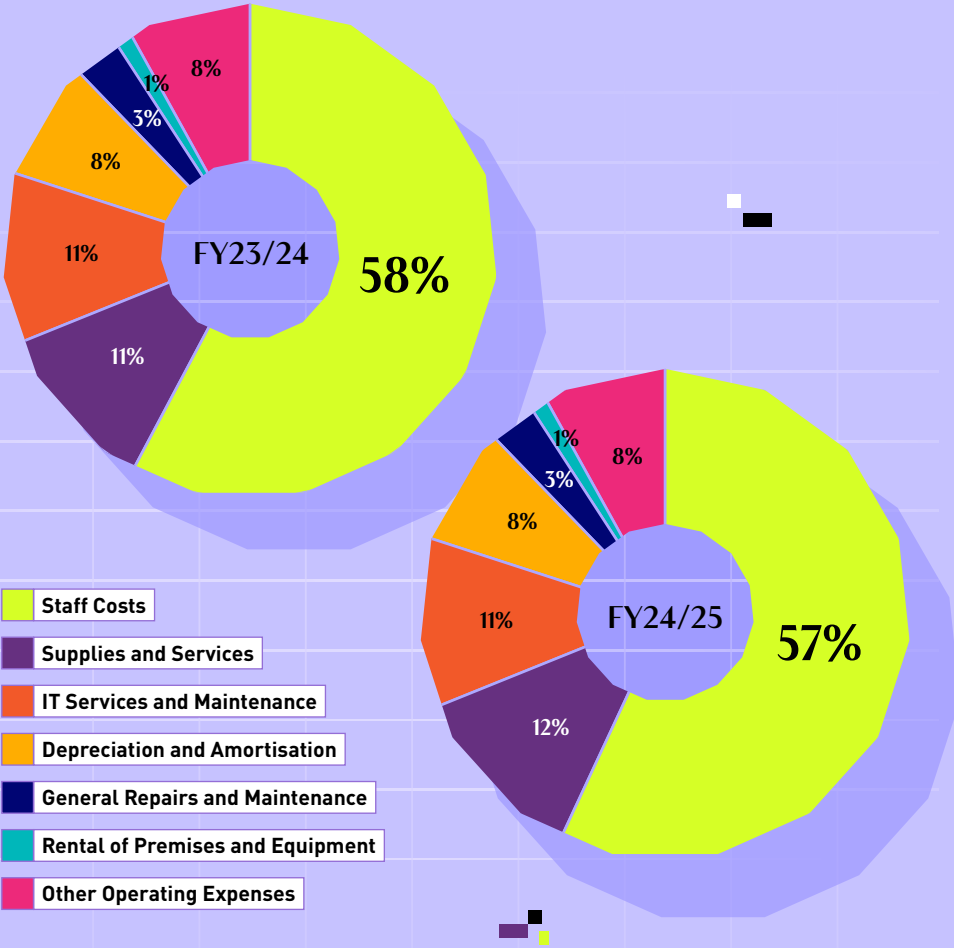
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Operating Expenditure

The Authority incurred a total operating expenditure of \$290.6m in FY24/25, an increase of \$23.1m [9%] from FY23/24's expenditure of \$267.5m.

	FY24/25	FY23/24	Increase / (Decrease)	
	\$'000	\$'000	\$'000	%
Staff Costs	165,717	155,757	9,960	6
Supplies and Services	34,826	28,365	6,461	23
IT Services and Maintenance	32,752	28,761	3,991	14
Depreciation and Amortisation	22,928	22,404	524	2
General Repairs and Maintenance	9,184	8,757	427	5
Rental of Premises and Equipment	2,970	2,284	686	30
Other Operating Expenses	22,225	21,165	1,060	5
Total Operating Expenditure	290,602	267,493	23,109	9



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