



SNOMED  
International



# SNOMED International Annual Report

## A Global Effort to Drive Change

[snomed.org](http://snomed.org)

 [linkedin.com/company/ihtsdo](https://www.linkedin.com/company/ihtsdo)

 [twitter.com/SnomedCT](https://twitter.com/SnomedCT)

# 2019



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## Our Vision

By 2020 clinical terminologies will be used globally, which will result in better health, supported by one language of health.

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## Our Mission

SNOMED International produces and enhances the vocabulary that enables the clear exchange of health information for all.

## About SNOMED International

SNOMED International\* is a not-for-profit organization that owns and maintains SNOMED CT, the world's most comprehensive clinical terminology. We play an essential role in improving the health of humankind, by determining standards for a codified language that represents groups of clinical terms. This enables healthcare information to be exchanged globally for the benefit of patients and other stakeholders. We are committed to the rigorous evolution of our products and services, to support the growing needs of our Members and deliver continuous innovation for the global healthcare community.

\*SNOMED International is the trading name of the International Health Terminology Standards Development Organisation (IHTSDO)

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# Message from the General Assembly Chairs, Management Board Chair, and CEO

2019 was a watershed year for our organization and our Members. We successfully closed out the 2015-2020 strategy and collectively charted a course for SNOMED International over the next five years. A Member-led initiative, the next strategic phase of the organization reflects the real needs of the global healthcare landscape as it relates to care delivery, policymaking, public health, research and public health priorities.

As a result of this, the 2019 Annual Report, *A Global Effort to Drive Change*, focuses on SNOMED International's dedication to evolving, strengthening and developing our product and related services for the benefit of patients through our Members, clinicians, vendors and SNOMED CT users.

In line with our vision, SNOMED CT has contributed positively to reducing clinical patient risk and improving outcomes. In prevalent areas such as mental health, social determinants of health, and medication management, to name a few, enhancing and releasing SNOMED CT content has enabled an improvement in the documentation of clinical activities, the tracking of outcomes, and the identification of at-risk

populations. These clinical activities are joined by the ability to improve patient safety by enabling access to improved information for clinicians at the point of care. The next evolution will benefit our Members and their governments and stakeholders by enabling advanced analytics capabilities and technologies such as Artificial Intelligence, Natural Language Processing, and Machine Learning to leverage the quality content, structure and delivery strengths of SNOMED CT.

Throughout this evolution, the core tenet of being a Member focused organization has remained at the forefront as the community has continued to grow. In 2019, we welcomed Kazakhstan, Finland and Armenia to the global collective of 40 SNOMED International Members.

This past year's accomplishments and our vision for the future have only been attainable due to the tremendous dedication, hard work and passionate nature of the SNOMED CT community. Together we look forward to implementing the 2020-2025 SNOMED International strategy and achieving the benefits it will yield for our Members, and ultimately the global population.



Lady Barbara Judge CBE  
Chair, Management Board



Lies van Gennip  
Chair, General Assembly (2019)



Alex Elias  
Vice-Chair, Chair (Oct 2019)  
General Assembly



Don Sweete  
CEO, SNOMED International

# Our Strategy

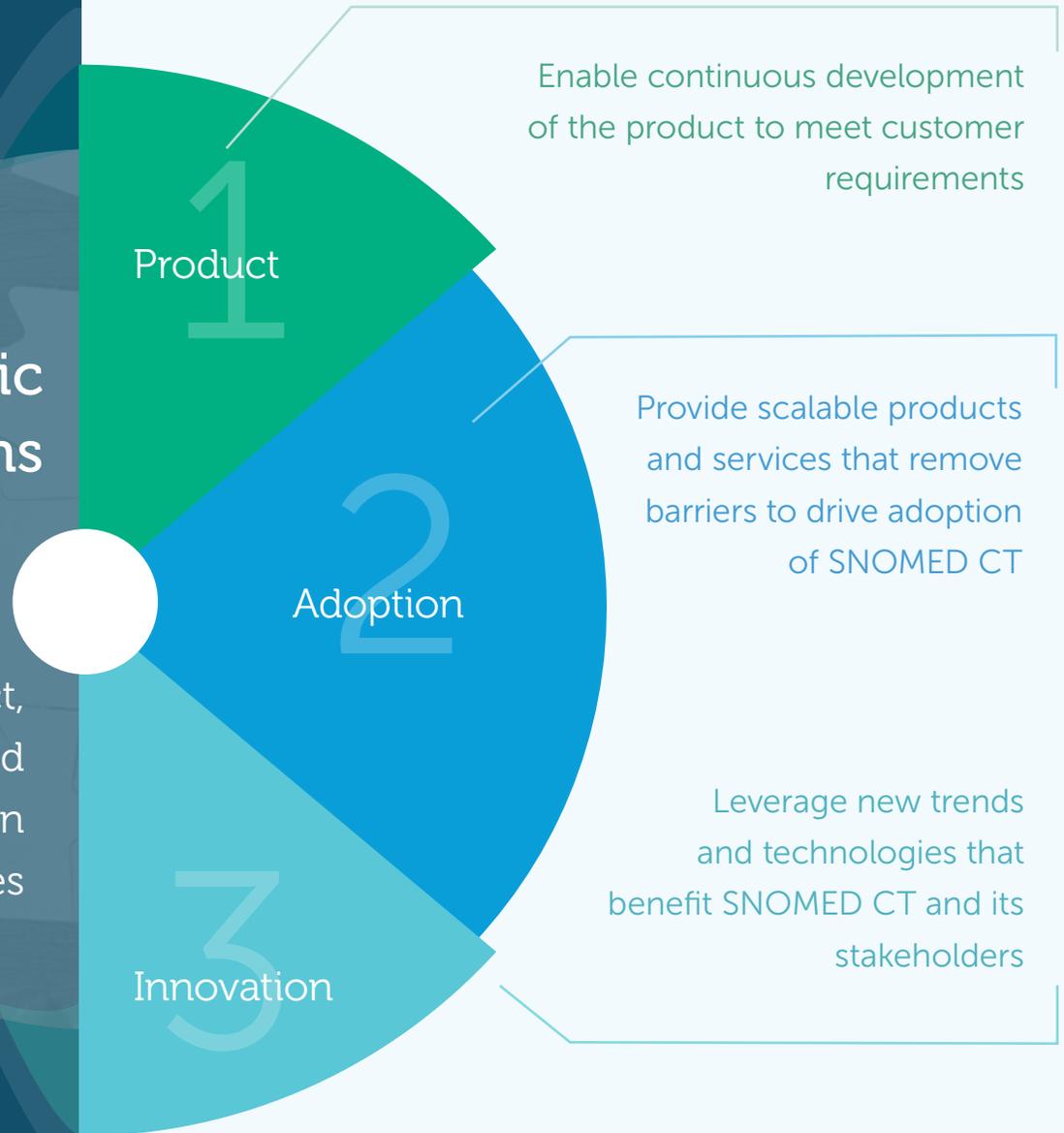
## Growth through Strategy

SNOMED International and its core product SNOMED CT, have both grown, evolved and matured over the course of the 2015-2020 strategy. Supported by an agile approach to clinical content, technical services and tooling and customer relations, great gains have been made in the quality of the product and level of support we are able to extend to our Community of Practice.

With 2019 marking the last year of the organization's 2015-2020 strategy, Product, Adoption and Innovation strategic directions have enabled our consistent growth over the past five years.

### Strategic Directions

A focused strategy through product, adoption and innovation activities



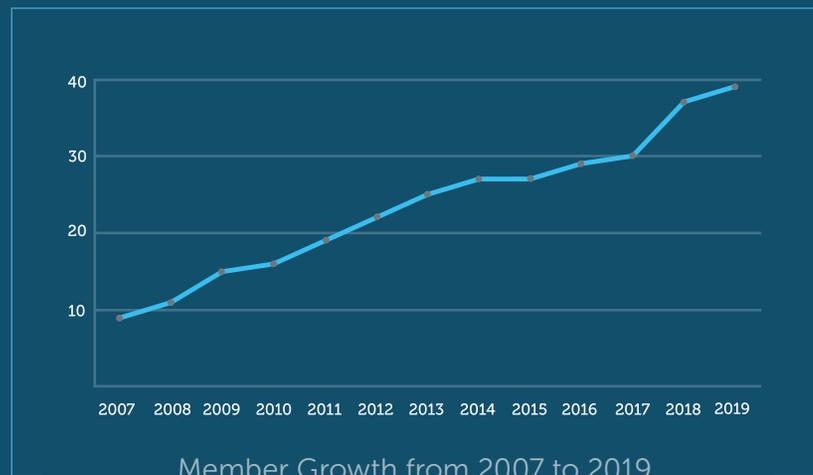
Explore our feature section recapping the 2015-2020 strategy on pages 16-19. 

# Our Members

## Core to our Community

Members continue to be our greatest ambassadors and the reason for the continued evolution of SNOMED CT. With a globally unique membership model, our core work focuses on maximizing the value we offer our Members, and by extension the global community.

With growth in our Member base from 28 Members at the start of 2015 to 40 at the close of 2019, SNOMED CT now represents approximately one third of the global population. Adding to that complement with our affiliate licensees, SNOMED CT is now used in more than ninety countries globally.

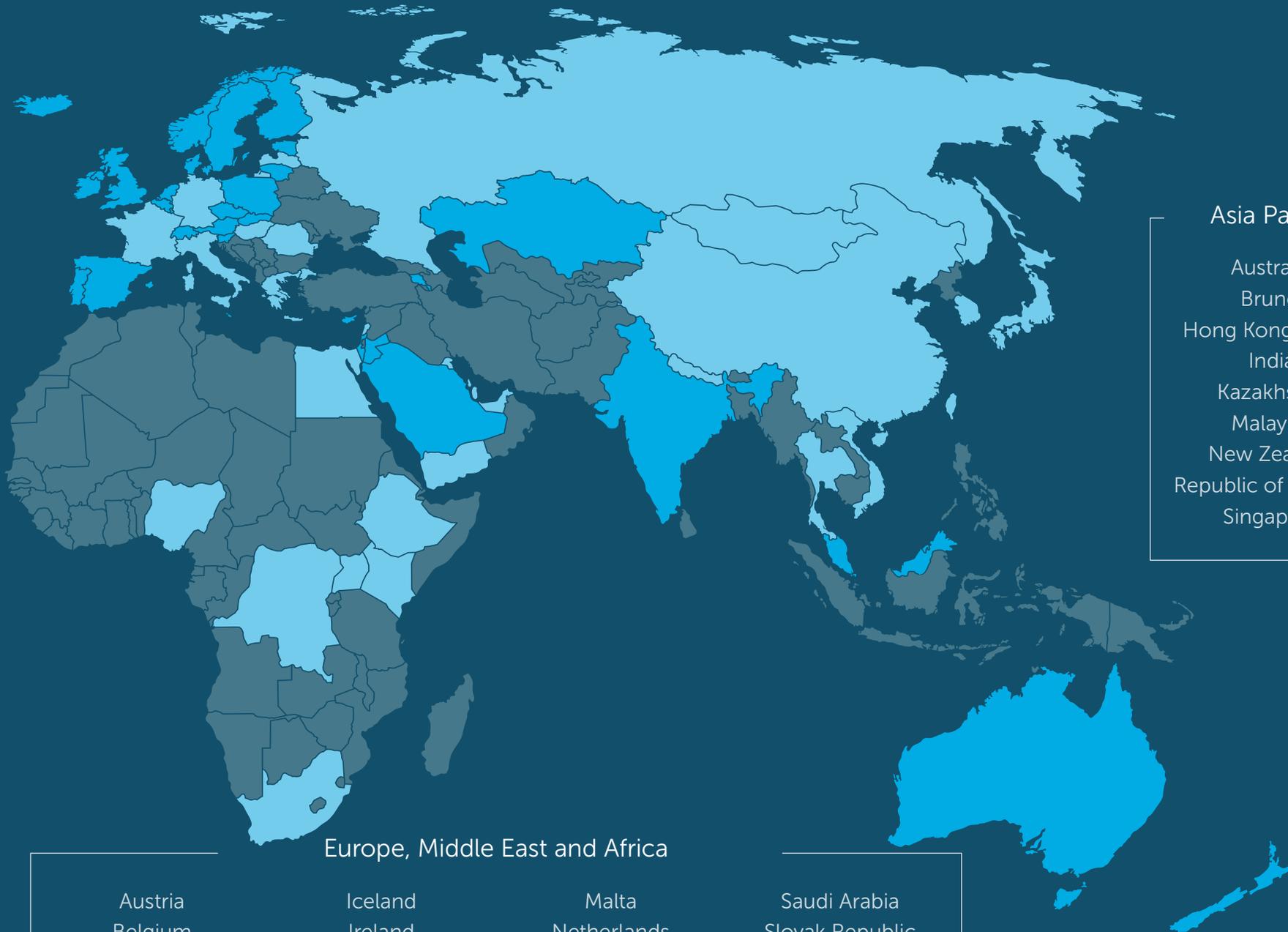


Member Growth from 2007 to 2019

In 2019 we welcomed Kazakhstan, Finland and Armenia to the organization as Members.

### Americas

- Argentina
- Brazil
- Canada
- Chile
- United States
- Uruguay



### Asia Pacific

- Australia
- Brunei
- Hong Kong, China
- India
- Kazakhstan
- Malaysia
- New Zealand
- Republic of Armenia
- Singapore

### Europe, Middle East and Africa

- |                |            |                      |                 |
|----------------|------------|----------------------|-----------------|
| Austria        | Iceland    | Malta                | Saudi Arabia    |
| Belgium        | Ireland    | Netherlands          | Slovak Republic |
| Cyprus         | Israel     | Norway               | Spain           |
| Czech Republic | Jordan     | Poland               | Sweden          |
| Denmark        | Lithuania  | Portugal             | Switzerland     |
| Estonia        | Luxembourg | Republic of Slovenia | United Kingdom  |
| Finland        |            |                      |                 |

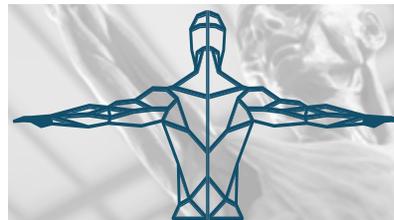
# Our Product

Content, mapping and delivery of SNOMED CT to our Members and stakeholders is the raison d'être for SNOMED International and the means by which we impact the health of patients globally.

The nature of the SNOMED CT terminology provides a common language to enable a consistent way of indexing, storing, retrieving, and aggregating clinical data across specialties and sites of care.

## Content Enhancements

Some highlights of content enhancements to SNOMED CT in 2019 include:



### Anatomy

- Over 500 batch changes implemented for sensory, hematological, immune and lymphoreticular systems.
- Revision of the cardiovascular, digestive and genitourinary systems completed for the July 2019 release.



### Devices

- Devices Working Group formed and initiated work on test modeling breast implant and shunt concepts and drafting of text definitions.



### Dentistry

- Completed the update of the General Dentistry and Odontogram Refsets.
- New concepts added in support of DICOM dentistry photographic image content.
- Concepts added to support post-coordination of the new AAP Periodontal Classification Guidelines.



## Drugs

- Remodeled product role grouper concepts and prototyped content required to transition to product-based role modeling.
- Vaccine Working Group established to address the development, documentation, and implementation of editorial guidelines for modeling and naming of vaccine related concepts in the substance and product hierarchies.

## SNOMED CT is not just a coding system of diagnosis

It also covers other types of clinical findings like signs and symptoms, encompassing tens of thousands of surgical, therapeutic and diagnostic procedures. It includes observables, as well as concepts representing body structures, organisms, substances, pharmaceutical products, physical objects, physical forces, specimens and many other types of information that may need to be recorded in or around a patient's health record.

10,499  
concepts added in  
2019 for a total of

352,568  
active concepts

## SNOMED CT & OWL



The July 2019 SNOMED CT International Edition release contained one of the biggest enhancements to date to the structure of SNOMED CT since RF2, or Release Format 2, with the move away from stated relationships to OWL or Web Ontology Language.

A tremendous amount of work was dedicated to ensure conversion of content to OWL is correct and quality assured. Activities throughout the course of 2019 required a rebuild of most of the tools involved in authoring, including the terminology server, the authoring user interface and the release management processes.



# Global Patient Set

Launched in September 2019, the Global Patient Set (GPS) is a managed collection of existing reference sets, licensed under the Creative Commons Attribution 4.0 International License and available to any user at no cost. The GPS serves many purposes including the use of clinical terminology within a developing health system, the sharing of patient summary information across borders with existing SNOMED International Member countries or affiliates, as well as promoting use in specification development and research.

The GPS has impacted global regions in different ways. For some, the benefit of the GPS comes from having access to reference sets routinely in use by neighbouring countries they often receive patients from. For others, the GPS represents a first step in exploring the role that structured clinical terminology can play in care delivery, clinical data analysis and health information management. For all, it represents the start of a conversation with our Member community and the SNOMED International resource base.

## Existing reference sets that make up the GPS

- General Dentistry Diagnoses
- Dentistry Odontogram
- International Patient Summary
- Family/General Practice health issues and reasons for encounter
- Renal Disorders
- Nursing Activities
- Nursing Health Issues
- DICOM
- IHE Clinical Profiles



Learn more about the GPS at [gps.snomed.org/](https://gps.snomed.org/)



Since its launch, the GPS has been downloaded 85 times by 20 non-Member countries.





## Our Content Partners

SNOMED International makes it a priority to ensure the interoperability of SNOMED CT with other health informatics standards in support of our Members and affiliates, and their efforts to deliver integrated and informed care.

SNOMED International uses collaboration and licensing agreements to structure the addition of content into SNOMED CT.

Notable 2019 content highlights included:

### Convergent Medical Terminology

Addition of 1360 authored CMT concepts.



### Global Medical Device Nomenclature

60 GMDN concepts were added to SNOMED CT throughout the year and subsequently added to the map.

The updated Production Release of the SNOMED CT - GMDN Simple Map is being prepared for release by the end of March 2020.



### MedDRA

Completed 2 maps based on a priority set of MedDRA, MedDRA to SNOMED CT, and SNOMED CT to MedDRA concepts, with mapping conventions jointly developed and mutually agreed.

Tooling underwent an update in support of map development.



### DICOM

All requested content was included in DICOM, with the derivative set now managed in the RefSet tool.



### World Health Organization

ICD-O: Additions, changes and revisions to concepts based on difference between ICD-O-3.1 and latest version, ICD-O-3.

ICD-10: 1501 new concepts mapped, pushing the total map count to 122,771 concepts.

ICD-11: Mapping principles are being documented. Alternative strategies for using technology to complete the map are being explored. Content: > 220 concepts added to support alignment.



### Academy of Nutrition and Dietetics

Established a project group working to incorporate National Care Process Terminology (NCPT) into SNOMED CT terminology.



### International Classification of Nursing Practice

The ICNP Equivalence Tables were published in March 2019 - Nursing Diagnoses and Nursing Interventions now managed in the RefSet tool.



### INSERM - Orphanet

Approximately 3500 Orphanet concepts were authored and added.

5721 concepts have been identified for inclusion in the map product. Clinical validation of the proposed maps has been completed by INSERM.

The project remains on track for publication of an alpha release of the map product in April 2020.



Learn more about our collaboration partners at [snomed.org/snomed-international/our-partners](https://snomed.org/snomed-international/our-partners)

## A Commitment to Quality

Maintaining the quality of SNOMED CT is of core importance and rigorously undertaken by the organization on an ongoing basis through our Quality Initiative (QI). QI represents the application of a consistent modelling approach to ensure that the correct parents are assigned in the inferred view, enabling an efficient authoring style allowing the classifier to automatically maintain the hierarchy.

In 2019 the Quality Initiative focused on clinical findings, e.g. congenital disorders. The work is supported by the development of templates to support consistent modeling.



Continued improvement to the SNOMED International Authoring Platform to support templates, authoring using OWL instead of stated relationships, and the reporting platform which feeds directly into the SNOMED CT Quality Initiative.  
[snomed.org/snomed-ct/why-snomed-ct](https://snomed.org/snomed-ct/why-snomed-ct)

## Member Success Story

# SNOMED CT Driving Data Decisions in New Zealand's Canterbury District Health Board

The Canterbury District Health Board (CDHB) has wholeheartedly embraced the seamless integration of SNOMED CT structured data within most parts of their integrated health system. Applying SNOMED CT to text fields and free-text unstructured clinical data enables full text indexing of clinical content within each record, enabling search capabilities based on keywords, medical concepts, clinical codes, and colloquial terms. Data, documents, and patients are quickly located, with relevant text highlighted for quick identification and review.

Progressing the sophistication of their SNOMED CT use, CDHB also comprehensively uses its clinical data to drive real time data analytics and reporting on population trends, length of stay and population health to make the experience a better, safer and more efficient experience for their patients.

Leveraging SNOMED CT within the CDHB has saved clinicians' time, enabled real time resource planning and decision making, and highly minimized safety concerns for patients.

# 2015-2020 Strategy Recap

2019 marked the last year of SNOMED International's five year strategy set out in 2015 and has illustrated the evolution of the organization.

## Growth

From 28 to 40 Members

## Rebrand & Relocation

From IHTSDO to SNOMED International, and Copenhagen, Denmark to London, United Kingdom

## Resources

The size of our resource base has doubled since 2015 to balance growing Membership and corresponding priorities

## Results Product

**DEVELOP AND EXECUTE** a roadmap for the completion of relevant content/mapping work for SNOMED CT that gives SNOMED International the direction to market with all stakeholders

**Developed and executed a three year content roadmap** that has 54,500 new concepts since 2015 and more than 91,000 changes to existing concepts. Major advances made to content areas include: Drugs domain to harmonize with the ISO Identification of Medicinal Products (IDMP); concepts representing rare disease for Orphanet, ICD-11, LOINC, and Nursing concepts for ICN.

**Customer guidance for requesting changes** to SNOMED CT was published and delivered to the community in 2017 supported by a new version of the Customer Request Service. Content priorities are also determined by negotiated SNOMED International collaboration agreements.

FACILITATE THE RAPID ADOPTION and use of SNOMED CT internationally from clinical, implementer and industry perspectives by the provision of more proactive and responsive support mechanisms, clear implementation guidance and support, and tools designed for vendors and other implementers



**Developed and launched SNOMED CT Certification** with initial offering delivering Authoring Level 1 certification.

**Developed tools for implementers, NRCs and vendors**, including documentation and specifications.

**Distributed guidance and best practice artifacts** allowing Members to leverage each other's successful adoptions through education and product support services, implementation pathways and technical guides.

**Continued building scalable services** in education, documentation and translation through education delivery agreements and translated SNOMED CT starter sets.

**Developed and executed a clinical engagement strategy** in 2017 allowing the community to further speed the development of content and eliminate gaps, particularly Genomics content.

**Harvested and communicated Member successes** via SNOMED in Action.



Learn  
more

In 2020 SNOMED International released a new strategy that evolved the organization's direction as well as its supporting vision and mission for the next 5 years.  
[snomed.org/our-organization/strategy-objectives-and-results](https://snomed.org/our-organization/strategy-objectives-and-results)

# 2015-2020 Strategy Recap

## Adoption

**INFLUENCE, LEVERAGE AND ALIGN** with the other international standards to increase the effective and efficient use of SNOMED CT. Where applicable, facilitate the addition of product to the SNOMED International offerings

**EXECUTE ON THE PROVISION** of products, tools support SNOMED CT to clinical, Member and involving cross-line business work across: Subsets, NRC Toolkits, Continuous Content Publications, that can be reused by Members

## Results

**Completion of strategic partnerships** refreshing or initiating new collaboration agreements with DICOM, GMDNA, HL7, GS1, IHE, and WHO and a long term agreement signed with LOINC in 2013.

**Built a vendor engagement model** that has shared technical and implementation expertise to stimulate adoption of SNOMED CT through our 2015 vendor engagement strategy.

**Enabled key partnerships** that have influenced direction and leveraged content to meet Member country needs. SNOMED International and WHO have demonstrated ongoing commitment to developing new ways of moving forward with existing maps and new revisions (e.g. ICD-11) for the benefit of both Members.

**SNOMED CT tooling strategy** and stable platforms completed, supported by the introduced SNOMED International authoring platform.

**Advanced business models** for stakeholders, services and tools, engaging clinicians, vendors, new Members and governments. Education and product support services (e.g. toolkits and guidance documentation), content request service and open source tools are available in addition to onboarding and regional support.

**Established a Regional Implementation Support Model** through globally dedicated resources.

**Executed development of tools** for areas of interest like clinical data analytics through the health data demonstrator, showcasing the analytical power of SNOMED CT.

and services to industry stakeholders  
Implementation Guidelines,  
and Enterprise-wide tooling

**Development of migration and SNOMED CT implementation tools** through open source technology.

**Leveraging SNOMED International tools** including Managed Service, MLDS, Refset & Translation and the popular SNOMED CT Browser, each developed under open source licenses.

**Development of priority refsets and use cases**, producing free sets for standards development organizations, the majority of which have culminated in the creation of the Global Patient Set.

**Development of technical requirements** and implementation guidance for implementers, including release and usage guidance made available through the SNOMED International document library and release information.

## Innovation

**DRIVE DEVELOPMENT WORK** to position SNOMED International to be the leader in the areas of mHealth, consumer health, genomics, research and “big data” analytics from a vocabulary perspective

## Results

**The organization commissioned a report** entitled ‘SNOMED CT Market Positioning in Emerging Health IT Markets’. Fuelled by this report, SNOMED International explored its innovation capabilities regarding management, operation, tooling, and workforce practices. Through its 2020-2025 Emerging Technologies strategic priority, the organization will explore emerging technologies to drive efficiencies at the point of care.

# Adoption

Our adoption goal is positioned to deliver scalable products and services that remove barriers to drive the adoption of SNOMED CT.

SNOMED International delivers its adoption goal with a stakeholder lens in mind, through SNOMED CT implementation guidance and support, and through tools designed for Members, vendors and the spectrum of other implementers.

## Engaging our Stakeholders

In 2019, significant and wide-reaching stakeholder engagement was carried out globally with our Members and affiliates. In addition to creating and implementing a Member onboarding policy, the organization continued outreach to Members and their National Release Centres for both SNOMED CT content and technical support. Representative examples of our global approach to supporting adoption among our Members and affiliates include:

### Americas

- **Argentina** - Participation at Salta digital health conference as well as engagement with Hospital Italiano in moving data analytics with SNOMED CT ahead in their facilities
- **Brazil** - Delivery of SNOMED CT Developer workshops
- **Canada** - Presenting SNOMED CT overview and current state recap to the Canadian Health Terminologies community
- **Paraguay** - Exploratory discussions held with the Paraguayan Minister of Health
- **United States of America** - Extending SNOMED CT awareness and understanding with the Federal Drug Administration
- **Uruguay** - Delivery of SNOMED CT Developer workshops



## ADOPTION



### Asia Pacific

- **Australia** - Stakeholder engagement at HIC 2019 in Melbourne
- **China** - SNOMED CT presentation delivered at the OHDSI China conference
- **Malaysia** - SNOMED CT 2019 Expo successfully delivered in Kuala Lumpur
- **New Zealand** - Delivery of SNOMED CT Developer workshops
- **South Korea** - Engaged and held discussions with representatives from the South Korean Ministry of Health and affiliated organizations
- **Thailand** - Stakeholder engagement at HIMSS AsiaPac 2019 in Bangkok

### Europe, Middle East and Africa

- **Finland** - Attended and presented at SNOMED CT seminar organized to increase knowledge about SNOMED CT and also to discuss the implementation of SNOMED CT in Finland
- **France** - Participated at a SNOMED CT Francophone Day, a first step in building a common French translation of SNOMED CT and supporting resources usable everywhere in the francophone space of SNOMED International's membership
- **Israel** - Hosted meetings and site visits for Israeli delegation in London, United Kingdom



## Supporting Membership Through Collaboration

SNOMED International's approach to active collaboration extends through all areas of the organization, each sharing a common goal: to ease implementation and adoption among our collection of Members and affiliate licensees. 2019 accomplishments in the collaboration space include:

### **HL7 International**

We entered into an extended agreement to build on the existing initiatives, including bringing together expert stakeholders, focusing on the use of SNOMED CT in FHIR, and management of Terminology Services. Born out of the original agreement, SNOMED International has also provided a freeset of SNOMED CT concepts for use in the HL7 International Patient Summary applications.

### **IHE International**

A new agreement was signed with IHE International for a SNOMED CT freeset for use in up to 32 IHE profiles.

### **American Medical Association**

We have been collaborating with the AMA on a joint demonstration product that will benefit both sets of users.

## A Synergistic Relationship With Industry

SNOMED CT provides the core general terminology for electronic health records. In this vein, SNOMED International places utmost value on the relationship it has with industry.

In 2019, global licensing agreements were signed with Roche and Siemens for the use of SNOMED CT within their global product offerings. SNOMED International continues to seek out meaningful relationships with the vendor community and seek their feedback in maintaining and evolving the SNOMED CT product.

SNOMED International continued to wade into the artificial intelligence and pharma segments of the industry through exploratory discussion and productive partnerships in 2019. Vendors at the forefront of their fields, including Nuance and Goldblatt Systems, leverage SNOMED CT's terminology in their products and act as a necessary advisor to the organization.



Learn more about our collaborations.  
[snomed.org/snomed-international/our-partners](https://snomed.org/snomed-international/our-partners)



# SNOMED CT's Clinical & Research Communities

Clinical and research communities are essential in the continued use and enhancement of SNOMED CT. SNOMED International makes it a priority to invest in this critical relationship each year. 2019's accomplishments in this area include:

## Clinical:

- Active participation through clinical-focused sessions held at the April and October business meetings, with plans in place to grow the clinical community in future years.
- At the end of 2019, SNOMED International supported eight Clinical Reference Groups, with an additional four clinical project groups and three derivative editorial groups.
- Video demonstration of the power of SNOMED CT's clinical data analytics capabilities released entitled 'Powering Clinical Data Analytics with SNOMED CT'. Further, to continue its evolution, the organization has invested in a representative effort to enhance the tool to demonstrate the power of SNOMED CT in analytics for our Members and affiliates.

## Research:

- Introduction of a research engagement initiative to effectively address the needs of the research community in their ability to leverage SNOMED CT as a tool.
- SNOMED International further invested in this important segment of our community through participation and knowledge exchange at the International Conference on Biomedical Ontologies, Joint Ontology Workshop, MedInfo, and Observational Health Data Sciences and Informatics events throughout 2019.

## Member Success Story

# SNOMED CT Implementation in Argentina

Argentina created its SNOMED CT National Release Center in 2018 and has produced three bi-annual releases, based on the International Spanish Edition. Argentina has 635 affiliates, 40% from the public sector and 60% from the private sector.

SNOMED CT has been incorporated in the selection of standards that support the National Digital Health Network, enabling clinical data interoperability between all healthcare providers in Argentina. All clinical documents exchanged in this network should represent clinical meaning using SNOMED CT concepts.

SNOMED CT is also a key component of different national projects including patient summary exchange between different providers, in different provinces; Argentina's National Telehealth Network through referral coding; electronic prescriptions through the National Medications Dictionary; and program billing through the SUMAR national incentives program.

## Broadening our Education Footprint

SNOMED International continues to invest in creating, maintaining and evolving education courses, pathways and certifications for our Members and implementers worldwide.

In 2019, the organization introduced a new model for extending the reach of SNOMED CT focused education. Implementing a new delivery model, SNOMED International has begun partnering with local education delivery organizations to deliver SNOMED CT education in a range of languages to local audiences.

Complementary to SNOMED International's existing delivery through our E-Learning Platform and live tutorials and workshops, education partners are empowered to issue course completion certificates and certifications to students. 2019 education partners included Hospital Italiano (Argentina) and Digital China Health (China).

### Education by the Numbers:

# 8,355

users now registered on the E-Learning Server

# 16,647

unique presentation views

#### SNOMED CT IMPLEMENTATION COURSE

# 32

students completed course

# 519

students completed course since created

#### LEARNING PATHWAYS

# 322

students enrolled in SNOMED CT for Developers

# 425

students enrolled in SNOMED CT for Data Analysts

#### SNOMED CT FOUNDATION COURSE

# 635

students enrolled in the English course

# 279

students enrolled in the Spanish course

# 2,329

students completed course in both English and Spanish since created

#### AUTHORING LEVEL 1

# 47

completed course

# 29

certified through exam

## Supporting our Product

Delivering up to date and ongoing technical guidance is an important element of supporting our Members in their implementation of SNOMED CT.

Throughout the course of 2019, the organization created and updated a number of guides and documents within our document library. Key SNOMED CT support documents included:

- Significant updates to SNOMED CT Glossary
- Development of SNOMED CT in SQL Guide
- Machine Readable Concept Model
- Human Readable Concept Model
- Updates to Release File Specification for 20190731 release
- German and Portuguese translations of the SNOMED CT starter guide published
- Portuguese translation of ICD-10 Map Technical Guide, NRC Guide and Reference Sets Practical Guide published



Access our document library for all our support documents: [snomed.org/doc](https://snomed.org/doc)

## Snowstorm Terminology Server

A terminology server provides software that provides access to one or more terminologies, classifications or code systems through a defined application programming interface.

The SNOMED CT terminology server, Snowstorm, enables full management of SNOMED CT including term-based searches, expression constraint language queries, hierarchy navigation, access to selected concepts and their descriptions and definitions, all in an open source server available to all.

It provides a quick and simple way for organizations to use SNOMED CT without having to drastically change existing software by deploying a fully SNOMED CT compliant terminology server quickly.



## SNOMED International Managed Service

The Managed Service provides an online service that allows subscribed SNOMED International Members to manage and distribute a release of a SNOMED CT local extension from start to finish in a simple, standard manner. 2019 welcomed Members Estonia and New Zealand to the Managed Service, culminating in a total of nine Members now on the service.

Of our existing Managed Service Members, extension releases for Belgium, Denmark, Sweden, US and for the first time for Ireland and Norway were successfully executed in 2019.



Support for FHIR Terminology Services was also developed and deployed on top of SNOMED International's open source terminology server and used as the demonstration vehicle as part of the FHIR DevDays conferences in the USA and Europe throughout 2019.

### User Support Reference Group

Geared towards SNOMED CT Implementation course graduates, Member country representatives, advanced end users, and vendors, the User Support Reference Group was formed in 2019 to collect and better understand user's implementation experiences with the goal of developing potential solutions. The group continues to identify relevant implementation topics for discussion, which has promoted active participation and information exchange.

# Innovation

A key part of our strategy is our innovation goal.

SNOMED International leverages new trends and technology that benefit SNOMED CT and its stakeholders.

## Leveraging the Framework

SNOMED International's Innovation Framework was developed to channel our efforts towards specific projects that create value for our Members that may fall outside of annual operational activities. Using this framework, two proof of concepts were developed and initially pursued in 2019:

**1** **SNOMED CT to ICD-11 Map Generation**, identifying mechanisms to generate the map records between SNOMED CT and ICD-11 through automation instead of manually mapping each record, as far as is feasible.

**2** **SNOMED CT in the User Interface**, to promote best practice and innovative user interface design by clinical applications that use SNOMED CT.



Learn  
more

We completed work on a proof of concept/prototype to create a demo illustrating how SNOMED CT can be implemented in user interfaces, supported by FHIR terminology services.  
[ihtsdo.github.io/snomed-ui-examples/](https://github.com/snomed-ui-examples/)

## Accelerating Genomics Content

SNOMED International continues work within the Global Alliance for Genomics and Health (GA4GH) through the Clinical and Phenotype workstream to ensure that SNOMED CT is included in the development of new genomics standards and specifications.

Alongside this effort, in 2019 the organization completed a genomics pilot in Queensland, Australia, focusing on Genetic Kidney Disease content in SNOMED CT.



Learn more

Building on the success of the Queensland pilot, a subsequent genomics pilot focusing on Cardiovascular Disease across Australia is progressing, with completion slated for July 2020. Learn more about the pilot at: [confluence.ihtsdotools.org/display/GR/Genomic+Pilots](https://confluence.ihtsdotools.org/display/GR/Genomic+Pilots)

### Member Success Story

## Building SNOMED CT Capacity in Europe

SNOMED International's Managed Service has now been adopted by six European countries - Belgium, Denmark, Estonia, Ireland, Norway and Sweden. This has allowed each National Release Centre to develop quickly to meet their own national requirements. These requirements are different for each country, but may include the development and authoring of a national extension, development of SNOMED CT subsets, and translation activities. For example, Ireland published its first national release in October 2019, which included specific SNOMED CT content developed by the Irish NRC.

# Enabling Success

SNOMED International is staffed by a multinational, highly qualified, multidisciplinary and global workforce.

Strong business acumen across content, technical, Member engagement, communications, human resource and financial areas have been contributing factors driving success.

## A Dynamic and Virtual Workforce

Our virtual workforce continues to be a key element in our ability to meet Member needs. In 2019, the organization engaged a third party to conduct an organization review, a necessary element required in crafting the 2020-2025 strategy. Employees offered their insights throughout the process, resulting in the creation of a new cross-functional team enacted to explore organizational and strategic items to contribute to integrated decision-making.

To best position the organization to meet Member needs, we have successfully recruited and onboarded key roles for most lines of business. Evolving the organization structure to bring Content and Technical domains closer together under the Products & Services group was another achievement in 2019.



# Improving our Processes

Many of our lines of business concentrated on process improvement in 2019. Some of the key highlights include:

**1** Improved and continued support for operational activities across the organization, covering communications, finance, collaboration, internal process management, first line user support, and governance groups.

**2** Continued focus by the Finance & Corporate Services Team on LEAN initiatives; reviewed the corporate set up, processes and systems to identify and implement more streamlined ways of working and where possible cost reductions.

**3** Achieved enhanced compliance across employment jurisdictions (completion of registrations in US states and the Canadian province of Ontario; provision of various guides and policies including Code of Conduct, Health and Wellbeing Statement, International Travel Guidance, anti-harassment training).

**4** Launched new financial policies including an Income Deferral Policy and an updated Travel Policy.

**5** Launched a redesigned performance review process, achieving 100% completion by deadline.

**6** Reduced infrastructure cost and upgraded cloud infrastructure, including server upgrades.

A highlight of our process improvement initiatives was the transition to a virtual office arrangement in lieu of the physical office space in London. This has resulted in a significant annual cost savings.



## Connecting With our Community

With the enhanced ability to grow and connect with our SNOMED CT audience through the organization's website, social media and media partners, in 2019 SNOMED International continued to enhance communications and messaging with our Community of Practice, including:

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organization-issued news releases

**40% increase** in the organization's messaging via social media and a growth in audience of **more than 630 followers.**

- Media partnership established with South American industry publication Salud Digital, featuring 4 SNOMED CT articles, interviews and 1 feature issue available in both English and Spanish.
- Over the course of 2019, the organization worked with our Member partners to enable greater collaboration for our General Assembly representatives through the design and creation of a dedicated space on SNOMED International's Confluence platform.

## Celebrating Exceptional Contributions

SNOMED International awards are presented annually to individuals who have provided exceptional contributions to the evolution and ongoing guardianship of SNOMED CT.

The 2019 award winners were:

- Award for Excellence: Dr. Mark Jurkovich
- Lifetime Achievement Award: (presented posthumously) Dr. Stewart Jessamine
- Lifetime Achievement Award: Dr. Lies van Gennip



## Financial Snapshot

The 2019 financial year end was closed out with a clean auditors report supported by robust internal controls, policies and procedures which are reviewed and updated as the organization evolves.

### SNOMED International Income and Expenditure Report

	2019	2018
Income	12,070,169	10,962,531
Cost of sales	(7,250,200)	(7,183,963)
Gross surplus	4,819,969	3,778,568
Administrative expenses	(3,667,521)	(3,436,605)
Operating surplus/(deficit)	1,152,448	341,963
Interest receivable and similar income	295,786	140,219
Surplus on ordinary activities before taxation	1,448,234	482,182
Taxation	0	0
<b>Surplus for the financial year</b>	<b>1,448,234</b>	<b>482,182</b>

*All figures in United States dollars*

The financial information presented within this document does not comprise the statutory accounts of International Health Terminology Standards Development Organisation for the financial years ended 31 December 2019 and 31 December 2018 but represents extracts from them. These extracts do not provide in full, an understanding of the financial performance and position, or financial and investing activities, of the company as the complete Financial Statements.

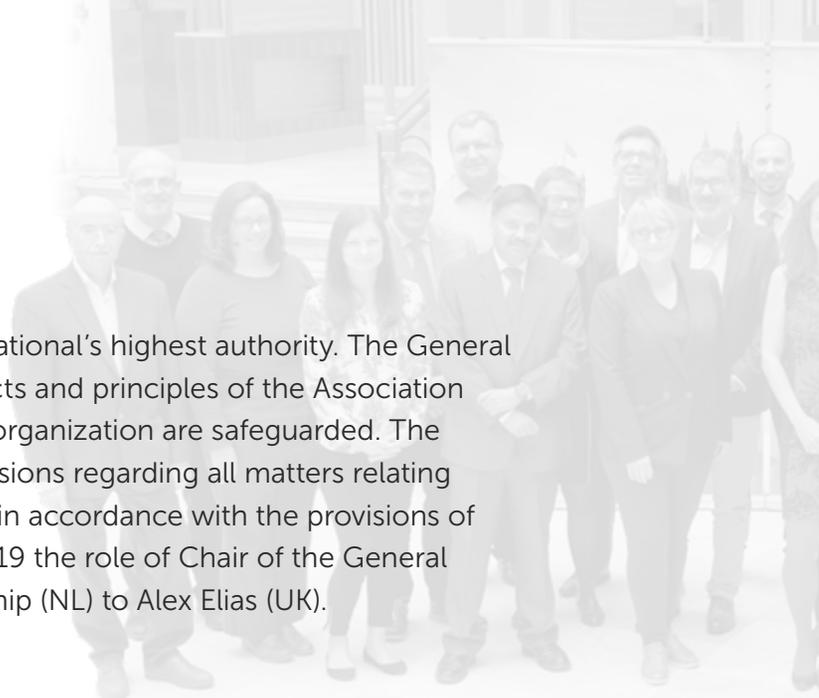
The statutory accounts for those years have been reported on by the company's auditor and delivered to the registrar of Companies House. The reports of the auditor were (i) unqualified, (ii) did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying their report, and (iii) did not contain a statement under section 498 (2) or (3) of the Companies Act 2006. The Financial Statements, including the auditor's report, can be obtained free of charge on request to the company at One Kingdom Street, Paddington Central, London W2 6BD or by email to [invoices@snomed.org](mailto:invoices@snomed.org).

# Governance

SNOMED International is a 'Members-First' organization. More specifically, our Members are national government agencies or other bodies that the national government in question has deemed suitable and whose responsibilities and authority include appropriately establishing, monitoring, promoting or regulating concept-based systems of clinical terminology for that territory or country.

## General Assembly

The General Assembly is SNOMED International's highest authority. The General Assembly ensures that the purpose, objects and principles of the Association are pursued and that the interests of the organization are safeguarded. The General Assembly can make binding decisions regarding all matters relating to SNOMED International, subject to and in accordance with the provisions of the Articles of Association. In October 2019 the role of Chair of the General Assembly transitioned from Lies van Gennip (NL) to Alex Elias (UK).



Argentina	Alejandro Lopez Osornio	Kazakhstan	Olzhas Abishev
Armenia	Anahit Avanesyan	Lithuania	Martynas Bieliauskas
Australia	Steven Issa	Luxembourg	Raffaella Vaccaroli
Austria	Stefan Sabutsch	Malaysia	Md Khadzir Sheikh Ahmad
Belgium	Tom Van Renterghem	Malta	Hugo Agius-Muscat
Brazil	TBD	Netherlands	Nicole Splinter
Brunei	TBD	New Zealand	Alastair Kenworthy
Canada	Michael Green	Norway	Alfhild Stokke (Vice-Chair)
Chile	Alejandra Lozano	Poland	Pawel Masiarz
Cyprus	Vasos Scoutellas	Portugal	Henrique Martins
Czech Republic	Libor Seidl	Saudi Arabia	Eng. Hashem Abubaker
Denmark	Marianne Holdt	Singapore	Low Cheng Ooi
Estonia	Kerli Linna	Slovak Republic	Pavol Rieger
Finland	Juha Mykkänen	Rep. Slovenia	TBD
Hong Kong, China	Vicky Fung	Spain	Arturo Romero Gutiérrez
Iceland	Gudrun Audur Hardardottir	Sweden	Tom Nilstierna
India	Lav Argarwal	Switzerland	Adrian Schmid
Ireland	Niall Sinnott	United Kingdom	Alex Elias (Chair)
Israel	Boaz Lev	United States	Vivian Auld
Jordan	Eng. Feras Kamal	Uruguay	Pablo Orefice



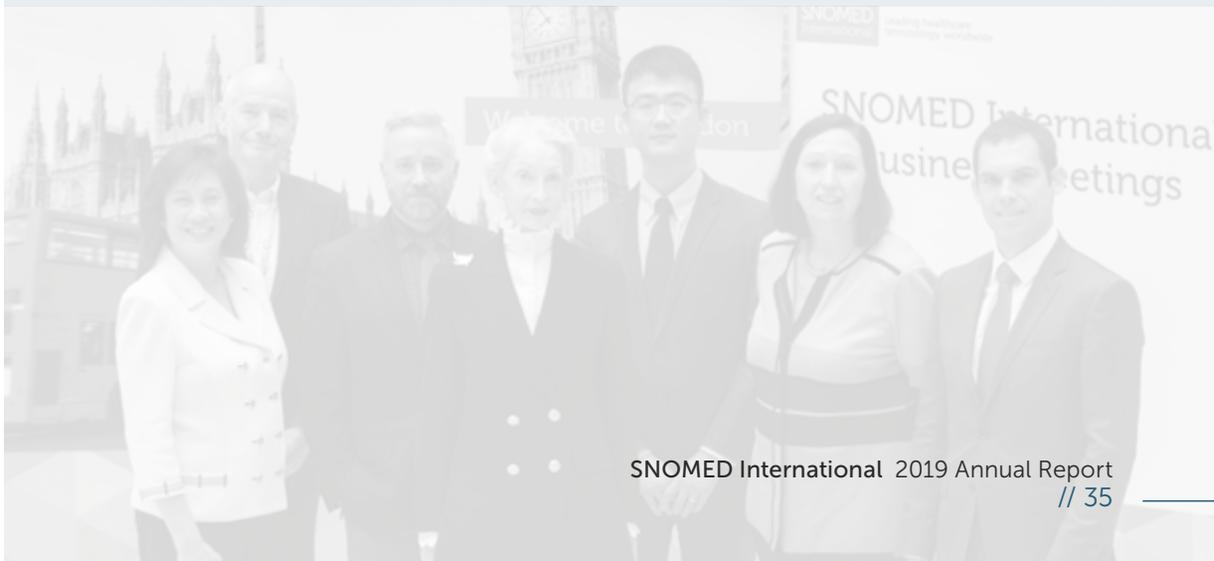
## Management Board

The Management Board has legal and oversight responsibility for the management and direction of SNOMED International. The terms of the appointments are staggered with the longest term being three years and the shortest being one year. Management Board appointments are non-executive director positions which carry legal responsibility for the governance of the organization.

- Lady Barbara Judge CBE (Chair)
- Cheemin Bo-Linn
- Joanne Burns
- Doug Fridsma
- Mengchun Gong
- Matic Meglic
- Duncan McNeil (Company Secretary)

## Our Employees

We provide a professional level of support to the organization's senior stakeholder groups, including the General Assembly and Management Board. This, together with supporting the delivery of the various actions/projects stemming from the governance meetings, enabled good progress to be made by the organization on a number of fronts.



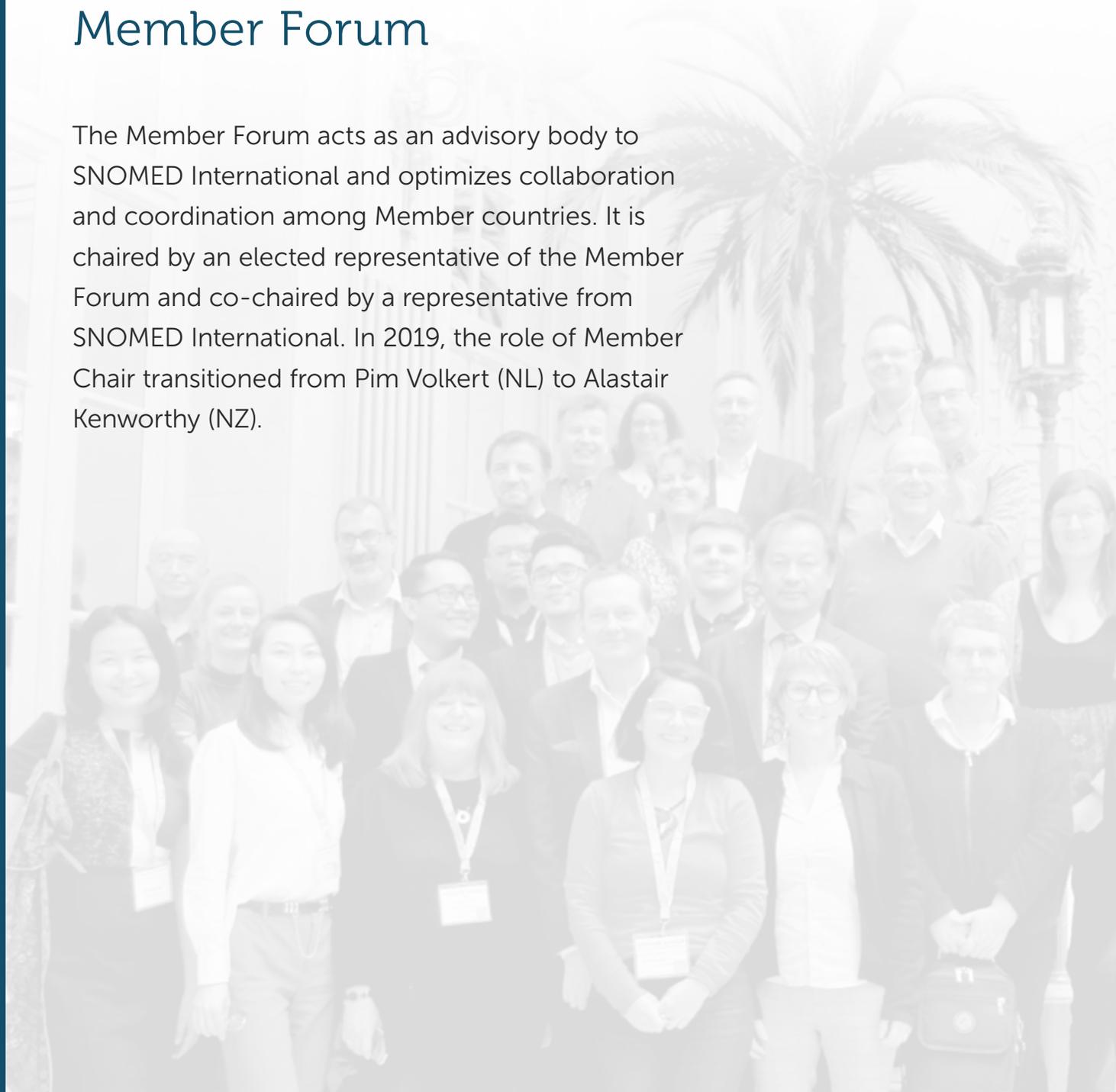
# A Committed Community of Practice

SNOMED International's global Community of Practice is the backbone of our organization.

Appointed representatives and volunteers across all of our advisory and working groups contribute to important discussions and work that ensures SNOMED CT remains the world's most comprehensive, multilingual clinical terminology.

## Member Forum

The Member Forum acts as an advisory body to SNOMED International and optimizes collaboration and coordination among Member countries. It is chaired by an elected representative of the Member Forum and co-chaired by a representative from SNOMED International. In 2019, the role of Member Chair transitioned from Pim Volkert (NL) to Alastair Kenworthy (NZ).



## Advisory Groups

Advisory Groups conduct specific activities across different areas that contribute to SNOMED International's mandate. These agile groups adapt to meet the changing needs and direction of the organization.

- Content Managers Advisory Group (*Monica Harry & Cathy Richardson, co-chairs*)
- E-Learning Advisory Group (*Linda Bird, chair*)
- Modelling Advisory Group (*Peter G. Williams and Yongsheng Gao, co-chairs*)
- SNOMED CT Editorial Advisory Group (*Jim Case, chair*)
- Terminology Release Advisory Group (*Andrew Atkinson, chair*)
- Tooling User Advisory Group and Managed Service User Subgroup (*Terance Shird, chair*)
- Translation User Group (*Feikje Hielkema-Raadsveld, chair*)



# Clinical Reference and Project Groups

Clinical Reference Groups (CRGs) facilitate discussions between clinicians focused on specific clinical specialties or topic areas and SNOMED International. The groups are open and transparent, and support input not limited to just the clinicians from the clinical specialty area, e.g. clinicians, interested vendors and information specialists.

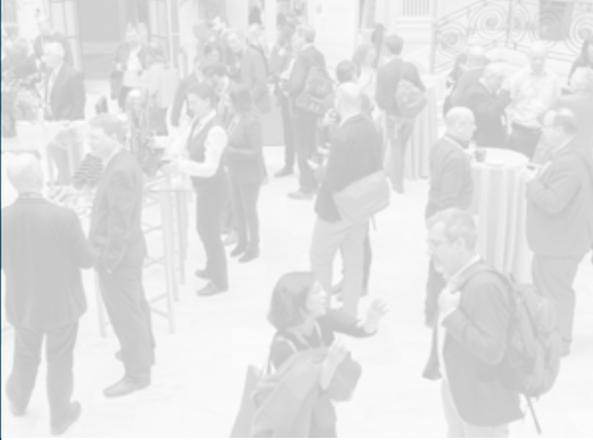
Linked to the CRGs are clinical project groups focused on delivering agreed work items and editorial groups providing clinical validation for derivative products.

## Clinical Reference Groups

- Allergies, Hypersensitivity and Intolerance (*Bruce Goldberg, lead*)
- Anaesthesia (*Patrick McCormick, Andrew Norton, and Andrew Marchant, co-leads*)
- Dentistry (*Mark Jurkovich and Jørn Jørgensen, co-leads*)
- Genomics and Precision Medicine (*Ian Green and Charles Gutteridge, co-leads*)
- General Practice/Family Practice (*Ian Green and Jane Millar, co-leads*)
- Mental and Behavioural Health (*Piper Ranallo and Michael First, co-leads*)
- Nursing (*Roberta Severin, lead*)
- Pathology and Laboratory Medicine (*W. Scott Campbell and Daniel Karlsson, co-leads*)

## Project Groups

- Cancer Synoptic Reporting Project Group (*W. Scott Campbell, lead*)
- Devices Project Group (*Suzanne Santamaria, lead*)
- Diabetes Project Group (*Paul Amos, lead*)
- Drug Project Group (*Toni Morrison, lead*)
- Epilepsy Clinical Expert Project Group (*Helen Cross, lead*)
- Event, Condition and Episode Model Project Group (*Bruce Goldberg, chair*)
- Nutrition Care Process Terminology Clinical Project Group (*Constantina Papoutsakis, lead*)
- Observable and Investigation Model Project Group (*Daniel Karlsson, chair*)
- SNOMED CT Languages Project Group (*Linda Bird, chair*)



 [linkedin.com/company/ihtsd0](https://www.linkedin.com/company/ihtsd0)  [twitter.com/SnomedCT](https://twitter.com/SnomedCT)

2019 Award for  
Excellence:

Mark Jurkovich  
Dentistry CRG

SNOMED CT

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Delivering  
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[snomed.org](https://snomed.org)

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