

# SNOMED CT

## Articulating Stakeholder Value

# SNOMED CT

The global  
language of  
healthcare



# EXECUTIVE SUMMARY



In 2020, SNOMED International released its 2020-2025 Strategy, with goals identified for products and services, adoption and innovation. The annual work plan to implement the Organization's Strategy identifies the need to revisit the value proposition for key stakeholder groups, namely: Members, policy makers, care providers, patients, researchers & knowledge producers, implementers, vendors, and collaboration partners.

This project has expanded and extended our existing Value Propositions to include this broader range of stakeholders.

Amid competing priorities and scrutinized budgets of Members and Affiliates, government decision makers are looking for qualitative and quantitative evidence to support their investments, including achieved outcomes and benefits narratives. Following from the value propositions, SNOMED International is also developing an innovative yet

succinct Case for Investment in both the organization and its products. Building off the business case work completed in 2014, SNOMED International will complement the updated stakeholder value propositions with evidence that SNOMED CT adds measurable value to a broad range of primary and secondary processes that use SNOMED CT encoded data to deliver improved patient outcomes.

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### Learn More

# Where to Start

# OUR VISION

*By 2025 Clinical Terminologies will be used globally, which will result in better health and improved patient outcomes, supported by one language of health*

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# Interpreting the SNOMED International Vision for Stakeholders

The vision is outward-looking so refers to clinical terminologies generally.

The vision sees a continuation of the ecosystem of clinical terminologies, where SNOMED CT is an integral part. As a core reference terminology SNOMED CT has a leading role within the ecosystem, but by itself cannot be the ‘one language of health’.

The vision is an integrated hub-and-spoke model for clinical terminologies, with SNOMED CT being a hub. As a result, there is a need for strong collaboration among the various sponsors of the different clinical terminologies and classification systems to enable the integration required.

The vision is also about **‘better health and improved patient outcomes’**. Improved patient outcomes include both ‘improved patient service outcomes’ as well as ‘improved patient health outcomes’.

Better Health is viewed as a patient/citizen perspective on health and Improved Patient Outcomes is seen as the health care system perspective (e.g. the view of care providers and policy makers) on health.





# SNOMED CT

The global language of healthcare

# SNOMED CT Value Framework



# The Theoretical Underpinning

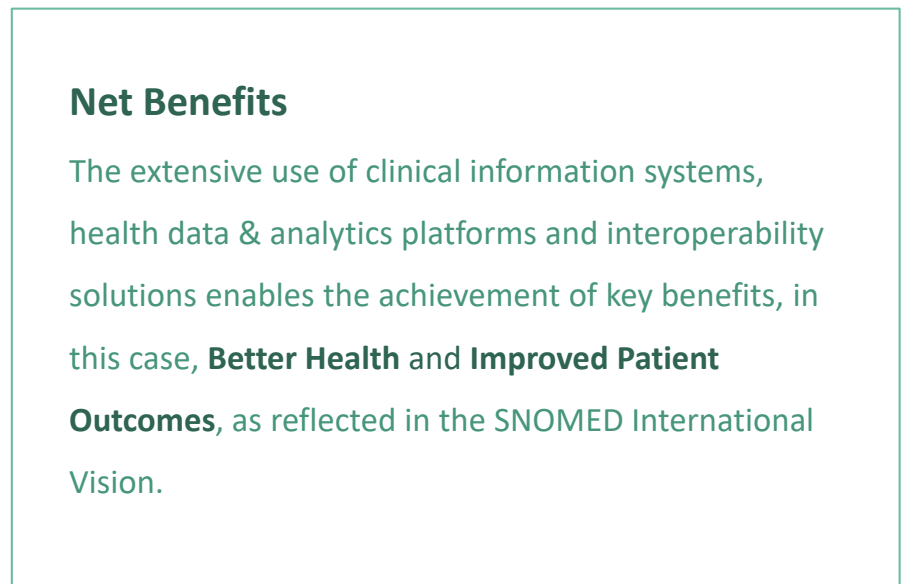
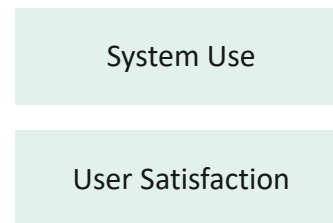
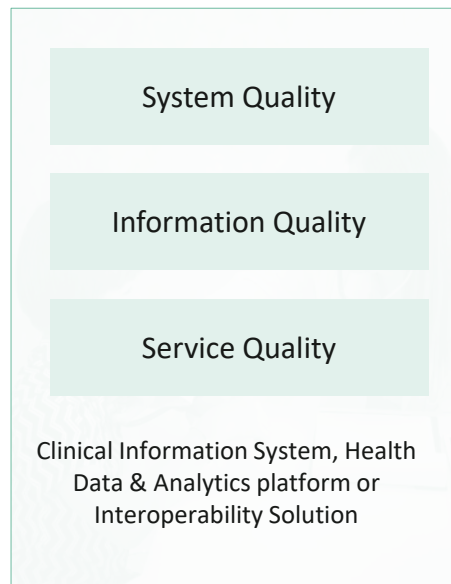
SNOMED International has used the Delone and McLean IS Success Framework as the theoretical underpinning for the development of the value propositions.

The rationale is that the pathway to realizing the full value of SNOMED CT is when it is embedded in a computer system, typically a clinical information system, a health data & analytics platform, or an interoperability solution.

The logic is that SNOMED CT improves the information quality in these systems, and when coupled with other features, increases user adoption and satisfaction.

SNOMED CT >

*Adapted from the Delone and McLean IS Success Framework*



# Where is SNOMED CT used?



### Research

Conducting clinical research, laboratory research and scientific research.



### Data Entry and Integration

The recording and integration of SNOMED CT in clinical information systems and health data & analytics platforms.



### Clinical Information Sharing

The electronic exchange of clinical data and documents among Care Providers along the continuum of care, often using interoperability solutions.



## Where is SNOMED CT used?

SNOMED CT–embedded Clinical Information Systems, Health Data & Analytics Platforms and/or Interoperability Solutions

### Management Analytics

Conducting trend & comparative analysis and health system value analysis.



**Population Analytics** Conducting trend & comparative analysis, pharmacovigilance and clinical audit.



### Point-of-Care Analytics

Creating historical summaries, doing point-of-care reporting and using clinical decision support.



# An End-to-End Perspective

## Collaboration Partners

Provide best-in-class clinical knowledge, classification and interoperability solutions to extend the value of SNOMED CT

## Researchers and Knowledge Producers

Use a data/analytics platform to create data, information, evidence and knowledge for point-of-care analytics, population analytics, management analytics and research used by Policy Makers, Care Providers and others

## Care Providers

As a team, provide clinical interventions throughout the Patient Journey to achieve Improved Patient Outcomes

## Patients/ Citizens

Through self-care and working collaboratively with their Care Providers to achieve **Better Health**

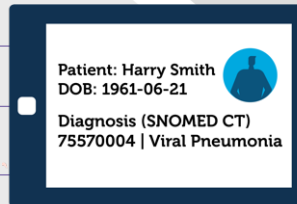
## Policy Makers

Provide policy direction and oversee the management of a **High-Value Health Care System**



Integrated with SNOMED CT

Health Data & Analytics Platforms  
Clinical Information Systems  
Interoperability Solutions



The Patient Journey

## Net Benefits

- Better Health
- Improved Patient Service and Patient Health Outcomes
- Increased Health System Value

## Members

Holder of the national SNOMED CT license that enables free use of the clinical terminology by all stakeholders within the country

## Implementers

With a vision for high quality clinical information, they successfully deploy SNOMED CT, usually as part of vendor clinical information system, health data & analytics platform and interoperability solutions deployments.

## Vendors

Sell and deploy SNOMED CT embedded clinical information systems, data/analytics platforms and interoperability solutions to support Care Providers and Patients/Citizens throughout the Patient journey, as well as Researchers and Knowledge Producers in their analytics and research activities.

SNOMED CT  
The global language of healthcare

# The End-to-End Perspective Explained



SNOMED International works with **Collaboration Partners** to refine, extend and integrate the SNOMED CT product with their own expertise, classifications schemes and standards.



**Members** hold the national license for SNOMED CT making the clinical terminology free for use in their respective countries.



**Vendors** and **Implementers** embed SNOMED CT in the interoperable clinical information systems that are used by **Care Providers** in different care settings as they provide quality care and achieve improved health outcomes for their patients.



**Patients/Citizens**, can view their clinical information to achieve better health through information empowerment, opportunities for self-care, care provider collaboration, as well as health record portability and sharing.



**Researchers & Knowledge Producers** use interoperable SNOMED CT-embedded health data and analytics platforms to create information, evidence and knowledge that is used by Policy Makers, Care Providers, Patients/Citizens and other stakeholders for their respective decision making.



**Policy Makers** provide policy direction and management oversight of a health care system and want to see the improvements in net benefits that SNOMED CT-embedded information systems, health data & analytics platforms and interoperability solutions can bring.

# The Value Propositions

*Understanding how different stakeholders provide and obtain value from SNOMED CT  
is critical to its continued evolution.*

# SNOMED CT Stakeholder Landscape

## Policy Makers

SNOMED CT allows Policy Makers to be more informed when making policy and management decisions, accelerating their analytical and decision-making process.

## Members

SNOMED CT allows Members to ensure that high-quality clinical information is available to all stakeholders in their country, as required.

## Patients/Citizens

SNOMED CT enables patients/citizens to control their health information and be knowledgeable about their health and their self-care options. SNOMED CT also enables a collaborative relationship with their Care Providers to receive the best care available.

## Care Providers

SNOMED CT allows Care Providers to improve patient outcomes by being knowledgeable about their patient's health and their options for care. This allows for a more informed and collaborative relationship with patients when making critical care decisions, and to provide the best care possible, in association with the rest of the care team.

## Vendors

SNOMED CT allows Vendors to sell their products using a global standard that is deployed in over 80 countries, opening new markets for their software products.

## Implementers

SNOMED CT is the most comprehensive, scientifically validated, health care terminology available globally, allowing Implementers to collect data once and reuse it for a diverse range of clinical, analytical and research purposes, and enabling them to support the information needs of a variety of stakeholders, including care providers, policymakers, patients/citizens and others.

## Collaboration Partners

Professional Associations who contribute clinical knowledge to ensure that the evolution of SNOMED CT maintains its clinical integrity. Standards Organizations contribute their artefacts so that together with SNOMED CT the 'one language of health' can be created.

## Researchers and Knowledge Producers

SNOMED CT allows Researchers and Knowledge Producer to create 'the one language of health' and accelerate data, information, evidence and knowledge creation. Supporting a wide range of analytics and research activities, use of SNOMED CT benefits the decision-making of policymakers, care providers, patients/citizens and other health care stakeholders.



# Policy Makers

Using SNOMED CT accelerates the data analysis and decision-making process for Policy Makers... decisions about policies, funding, programs, services, procedures, treatments, and health system use... so that patient outcomes and health system value can be improved. Policy Makers rely on Researchers and Knowledge Producers to undertake the population and management analytics and the research necessary to support them, making more informed policy and management decisions.

## The SNOMED CT Value for Policy Makers:

- SNOMED CT allows you to be more informed when making policy and management decisions.
- SNOMED CT accelerates your analytical and decision-making process.

## Data Points for Policy Makers

1

Countries using SNOMED CT were able to conduct data analysis, develop mitigation strategies, and report on COVID-19 in a consistent manner, starting at the end of January 2020, long before the WHO declared COVID-19 a global pandemic.

2

As a result of implementing a SNOMED CT-embedded clinical information system the University of Cambridge Hospitals NHS Foundation Trust was able to reduce Sepsis mortality by 42%, thereby saving 64 lives in 2018.

3

SNOMED CT-enabled order sets allowed the North York General Hospital in Toronto, Canada to save over CAD\$31 million during a six-year period by eliminating errors through proper medication reconciliation.



# Members

The national licensing of SNOMED CT allows Members to ensure that high-quality clinical information is available to all stakeholders (e.g. Care Providers, Patients/Citizens), as required. Members make sure that SNOMED CT is easily accessible and free-to-use within their country for a wide variety of patient care, system management, analytics, research and interoperability purposes. Members have full access to the SNOMED CT product set, including regular updates, translation or localization assistance, as well as education and tooling to support local Implementers. Finally, Members can impact the future direction of SNOMED CT by being fully engaged in SNOMED International activities, requesting and prioritizing changes to the SNOMED CT product and by interacting with the other Member countries through forums, Expos and other events.

## The SNOMED CT Value for Members:

- SNOMED CT enables you to ensure that high-quality clinical information is available to all stakeholders in your country, as required.

## Data Points for Members

- 1 | At the time of publication, forty countries hold national Member licenses for SNOMED CT, enabling collaboration and learning opportunities.
- 2 | Since inception in 2007 there has been a 25% annual growth in the number of new SNOMED International Members.
- 3 | The Case for Investment for SNOMED CT deployments shows a benefits to cost multiple of 1.8 to 4.1 times, and an Internal Rate of Return of 17% to 51%.



# Collaboration Partners



Collaboration Partners contribute their best-in-class clinical knowledge to ensure that SNOMED CT maintains its clinical integrity. Collaboration Partners also provide coding schemes (e.g. ICD-10), interoperability products (e.g. HL7 FHIR) and other artefacts to integrate with SNOMED CT and together create ‘the one language of health’, which is of immense value to all stakeholders.

## The SNOMED CT Value for Collaboration Partners:

- Professional Associations contribute clinical knowledge to ensure that the evolution of SNOMED CT maintains its clinical integrity.
- Standards Organizations contribute their artefacts so that together with SNOMED CT can create ‘the one language of health’.

## Data Points for Collaboration Partners

1

SNOMED International has already developed collaborative relationships with leading global medical, physician, nursing, dental, genomics and research associations and organizations.

2

SNOMED International has integrated SNOMED CT with ten globally-adopted standards, including five different ICD classification schemes, the Global Medical Device Nomenclature, LOINC, ICNP (International Classification for Nursing Practice), Orphanet (rare diseases), and MedDRA (regulatory information for medical products).

# Researchers & Knowledge Producers

Leveraging the unique power of clinical concepts and defining relationships, SNOMED CT helps Researchers and Knowledge Producers integrate other classification schemes and quickly create data, information, evidence, and knowledge. These artefacts can then support point-of-care analytics, population analytics, management analytics, as well as research to benefit the decision-making of Policy Makers, Care Providers, Patients/Citizens and other stakeholders. Using SNOMED CT also allows Researchers to accelerate the publication of their research and the actioning of their findings.

## The SNOMED CT Value for Researchers & Knowledge Producers:

- SNOMED CT allows you to create ‘the one language of health’ and accelerate data, information, evidence and knowledge creation.
- SNOMED CT allows you to support a wide range of analytics and research activities to benefit the decision-making of policy makers, care providers and other health care stakeholders.

## Data Points for Researchers & Knowledge Producers:

1

OHDSI, one of the world’s largest health care research collaborations, with access to over 100 databases and half a billion patient records sourced from 19 countries, uses SNOMED CT as a key terminology in its data platform.

2

The MyHarmony data platform in Malaysia uses natural language processing to transform unstructured data from hospitals and clinics to SNOMED CT-structured data for national reporting, dashboard and ad-hoc analytics, GIS, as well as research and statistical analysis.

# Implementers



Implementers (e.g. CMIO, health informaticians) use SNOMED CT to ensure that Policy Makers, Care Providers, Patients/Citizens and other stakeholders can all leverage the high-quality clinical data for self care, patient care, health information sharing, analytics, research and management decision-making purposes, as required. SNOMED CT enables Implementers to deploy the most comprehensive, scientifically validated, health care terminology available globally. Implementers work closely with Vendors and Care Providers to support the adoption and use of SNOMED CT during the deployment of clinical information systems, health data & analytics platform and interoperability solutions.

### The SNOMED CT Value for Implementors:

- SNOMED CT is the most comprehensive, scientifically validated, health care terminology available globally.
- SNOMED CT allows you to collect data once and reuse it for a diverse range of clinical, management and research purposes.
- SNOMED CT enables you to support a diverse range of stakeholders, including care providers, patients/citizens and others.

### Data Points for Implementors

1

Over 95% of the HIMSS Stage 7 global hospitals use SNOMED CT-embedded clinical information systems.

2

The vast majority of HIMSS Davies Award winners which recognize healthcare organizations that demonstrate sustainable improvements in patient outcomes use SNOMED CT-embedded clinical information systems and health data & analytics platforms.

# Vendors



SNOMED CT helps Vendors open global markets and expand market share by enhancing the information quality in their clinical information systems, health data & analytics platforms and interoperability solutions. SNOMED CT enables Vendors to implement a stable, multi-lingual, quality-assured, clinical terminology with a consistent release cycle that allows clinical data to be entered once but used many times. SNOMED CT allows vendors to easily enhance their products with advanced analytics features so they can support the highest growth segment in the clinical information systems and health data platform markets.

### The SNOMED CT Value for Vendors:

- SNOMED CT allows you to sell your product using a global standard that is deployed in over 80 countries.
- SNOMED CT helps you open new markets for your software products.

### Data Points for Vendors:

- 1 Over 70% of the inpatient and outpatient clinical systems products in Europe and North America use SNOMED CT.
- 2 The launch of a new SNOMED CT-enabled EMR for primary care, the only one of its kind in New Zealand, has allowed the vendor to capture 20% market share within 3 years.
- 3 Given its power to support analytics, vendors of leading commercial and open source health data & analytics platforms are already leveraging SNOMED CT. Without SNOMED CT, Vendors will struggle to launch competitive health care analytics solutions.

# Care Providers

Developed by clinicians, SNOMED CT helps Care Providers access a comprehensive source of high-quality patient information and evidence to improve patient outcomes. When embedded in clinical information systems with point-of-care and population analytics, SNOMED CT enhances the quality and timeliness of the clinical data that is available to Care Providers to make patient care decisions. Furthermore, Care Providers, when using interoperability solutions, can more easily share clinical information and documents with both the extended health care team and patients, both locally and across borders.

## The SNOMED CT Value for Care Providers:

- SNOMED CT allows you to improve patient outcomes by being knowledgeable about your patient's health and their options for care.
- SNOMED CT allows you to have a more informed and collaborative relationship with your patient for critical care decisions.
- SNOMED CT allows you to provide the best care possible, in association with the rest of the care team.

## Data Points for Care Providers

1

By introducing a SNOMED CT-embedded clinical information system the University of California (SF) Medical Centre was able to reduce ED triage time, by 53%, and allow 17% more high acuity patients to be seen within recommended timeframes, with no impact on quality.

2

Using SNOMED CT-embedded CPOE and evidence-based order sets the North York General Hospital in Toronto, Canada was able to reduce mortality from pneumonia and COPD exacerbation by 56%.

# Patients/ Citizens

SNOMED CT helps Patients/Citizens achieve better health by being more knowledgeable about their health and their self-care options. Through an informed and collaborative decision-making relationship with their Care Providers, Patients/Citizens can also select the best options for care. Further, SNOMED CT- embedded clinical information systems support the patient’s clinical information being placed into the Patient/Citizen’s personal health record and used by the Patient/Citizen to support information empowerment, information sharing with their Care Provider, patient/citizen self-care, and overall health data portability.

## The SNOMED CT Value for Patients/Citizens:

- SNOMED CT allows you to control your health information and be knowledgeable about your health and your self-care options.
- SNOMED CT enables you to collaborate with your Care Providers so that you can receive the best care available.

## Data Points for Patients/Citizens

1

Kaiser Permanente (US) completed its SNOMED CT-embedded Epic clinical information systems deployment in 2010, and its ‘My Health Manager’ patient portal in 2012. A recent 2020 research study showed that diabetes patients who used the Kaiser Permanente patient portal and mobile phone app improved medication adherence and blood glucose levels (i.e. patient outcomes).

2

Patients/Citizens at Barts Health NHS Trust in London, England, which is a SNOMED CT-enabled health organization, were able to enroll in a COVID - 19 clinical trial within one hour of having tested positive for the virus.

# Learn More

Visit the **Value of SNOMED CT** for more information on our stakeholder value propositions. In the second half of 2021, a set of case studies, economic benefits analysis and the SNOMED CT case for investment will be released.

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