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Organisers

Using SNOMED CT subset for pathology data retrieval

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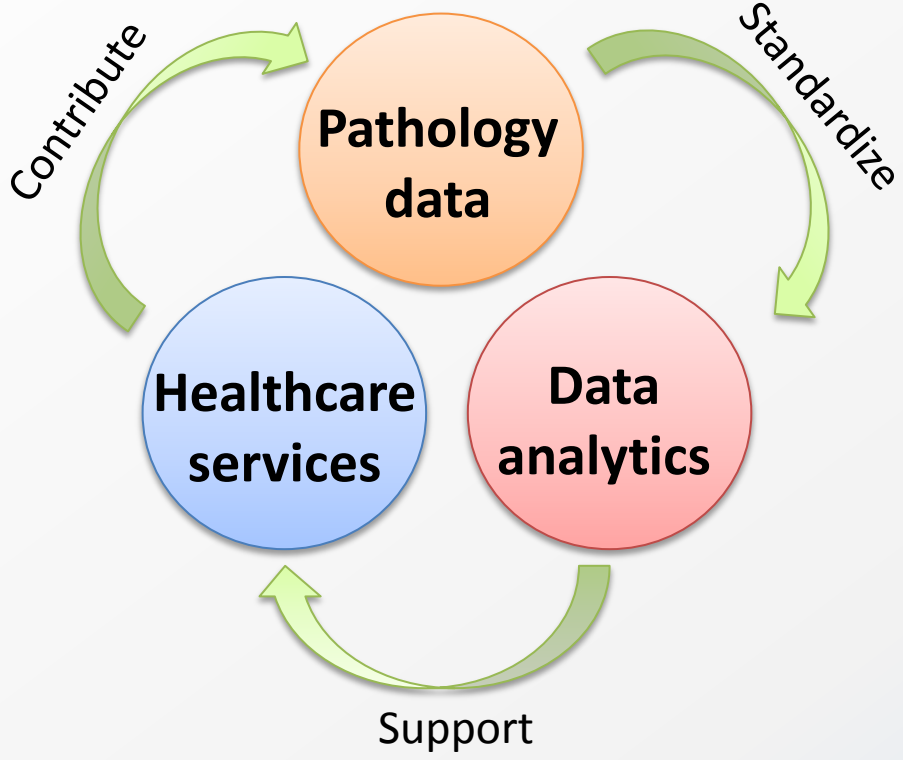
醫院管理局
HOSPITAL AUTHORITY

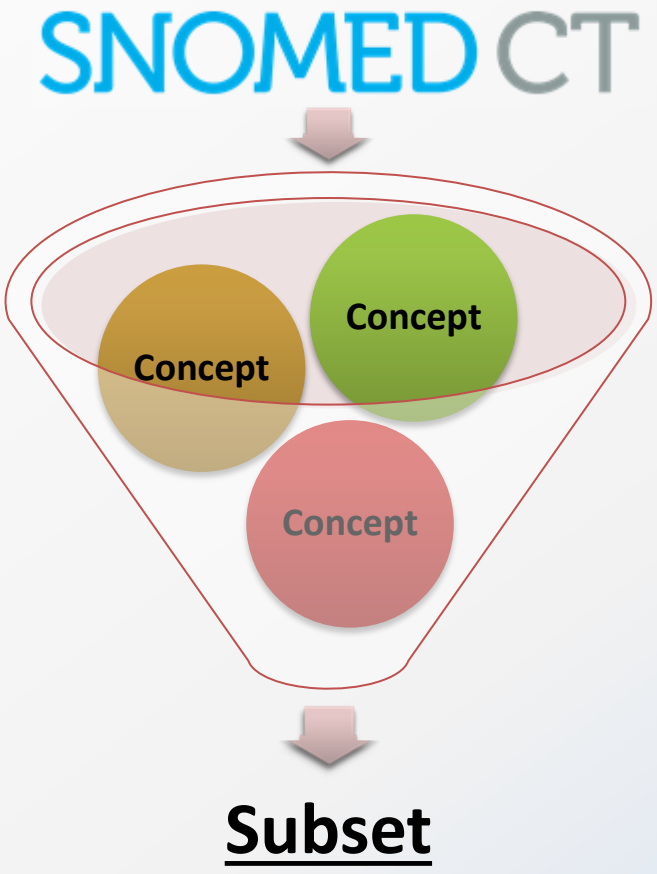
Introduction

- Need for secondary use of pathology data
- SNOMED CT subset to facilitate data retrieval
- Support patient care, decision support, data analytics



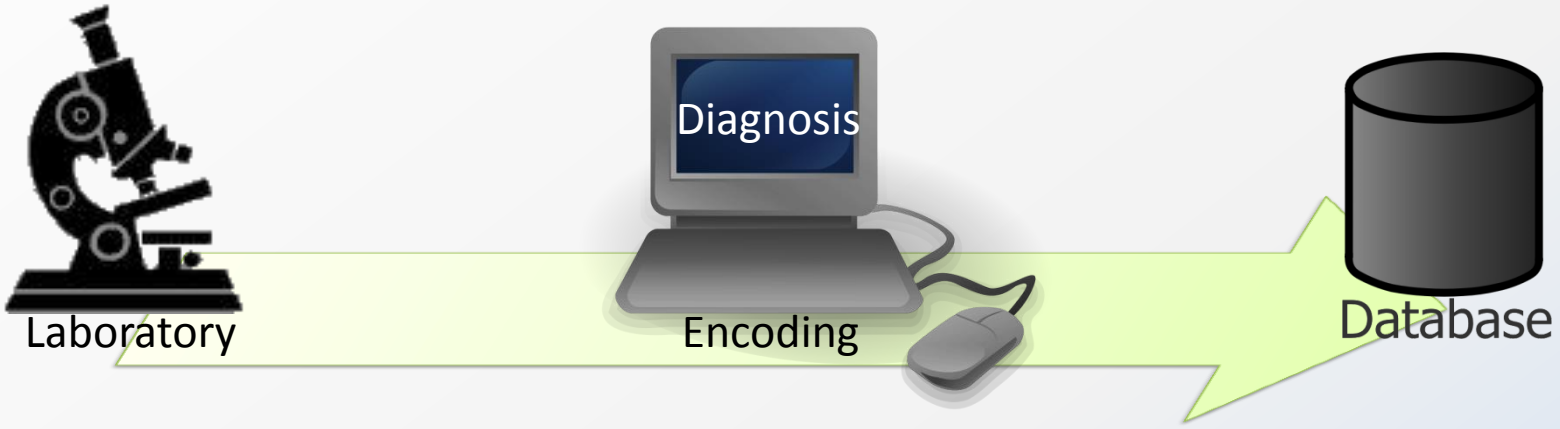
What is a subset?

- A set whose members are all contained in another set.
- A SNOMED CT subset is a collection of concepts from an edition of SNOMED CT.



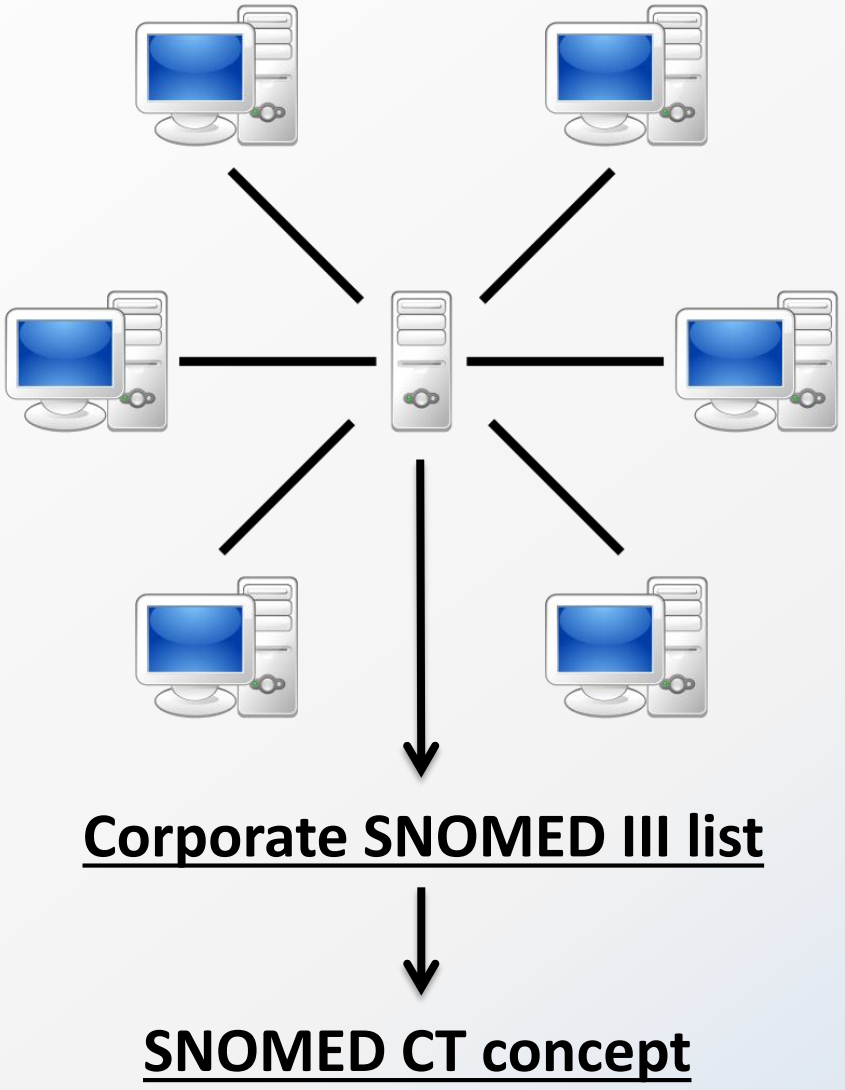
Background

- 11 anatomical pathology systems in the Hospital Authority
- Auto-encoding with SNOMED III and local code by matching keywords in the diagnosis result
- Encoded data for cancer related programs
  e.g. Cancer registry, cancer case notification system, data analysis

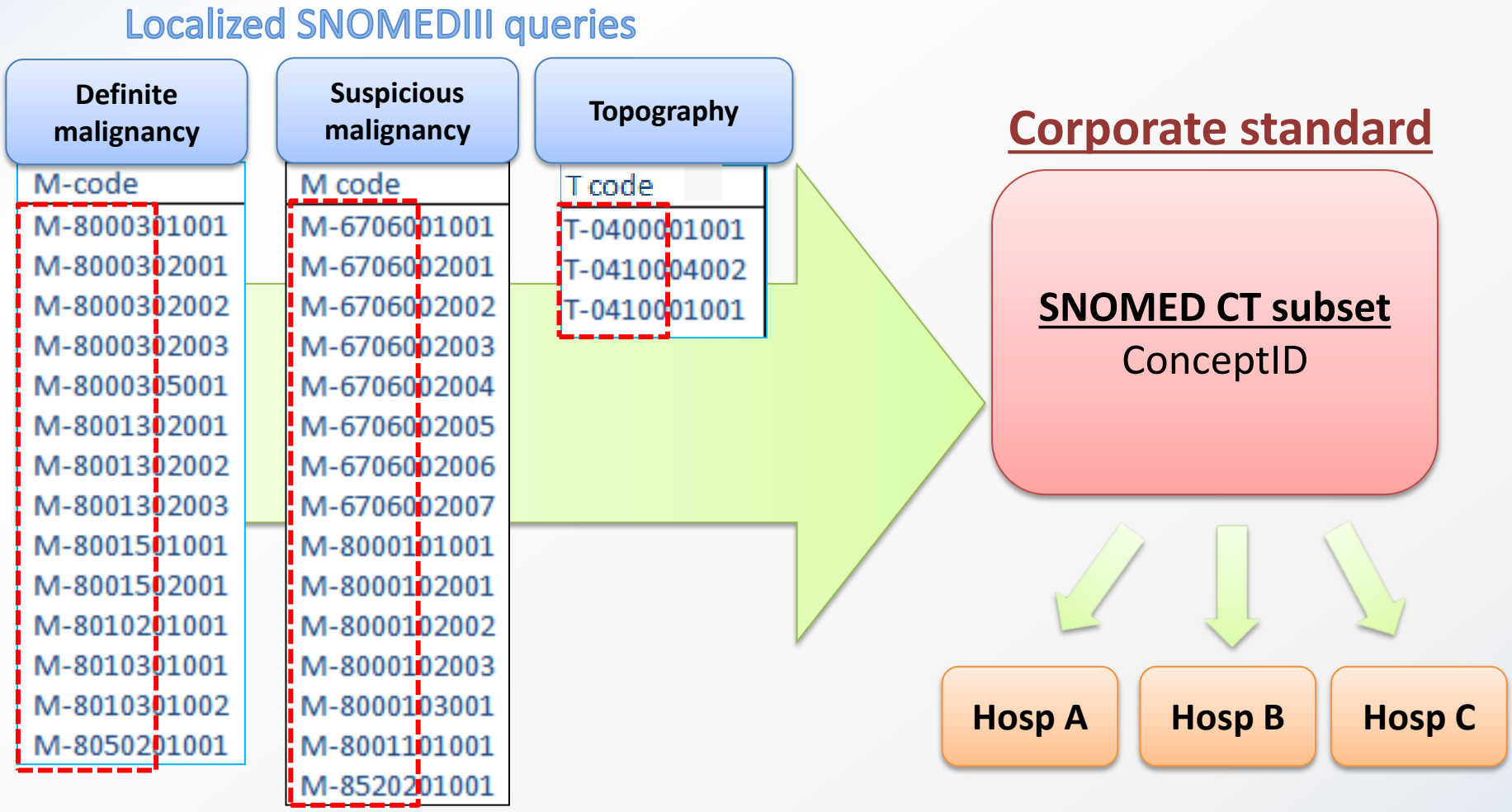


Background

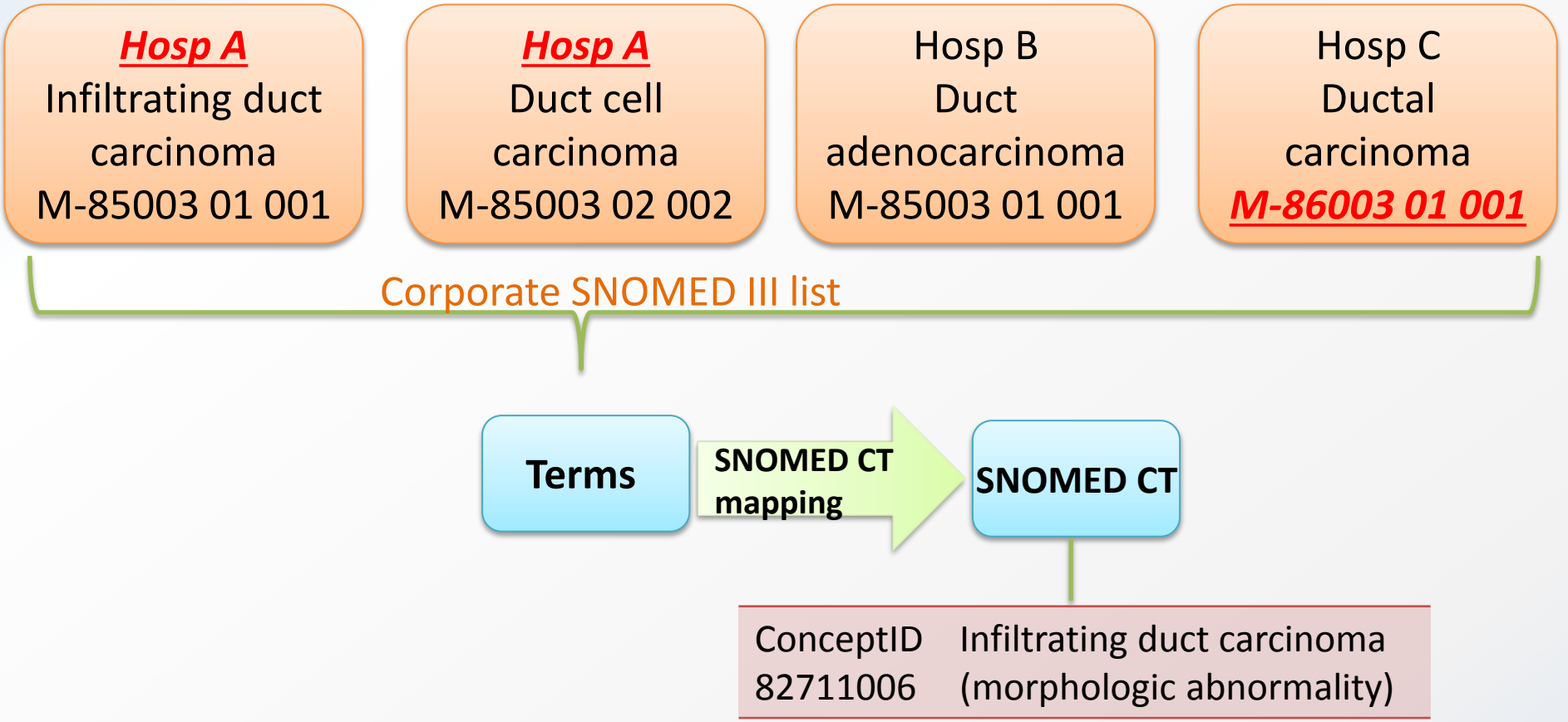
- Localized SNOMED III were lack of maintenance
- Keywords for diagnosis, localized SNOMED III and local code were consolidated as a corporate SNOMED III list
- Corporate SNOMED III list to SNOMED CT concept mapping
- Facilitate SNOMED encoding and data retrieval program



Design


Localized SNOMEDIII queries
Definite malignancy
Suspicious malignancy
Topography
M-code
M-8000301001
M-8000302001
M-8000302002
M-8000302003
M-8000305001
M-8001302001
M-8001302002
M-8001302003
M-8001501001
M-8001502001
M-8010201001
M-8010301001
M-8010301002
M-8050201001
M code
M-6706001001
M-6706002001
M-6706002002
M-6706002003
M-6706002004
M-6706002005
M-6706002006
M-6706002007
M-8000101001
M-8000102001
M-8000102002
M-8000102003
M-8000103001
M-8001101001
M-8522001001
T code
T-04000001001
T-04100004002
T-04100001001
Corporate standard
SNOMED CT subset
ConceptID
Hosp A
Hosp B
Hosp C

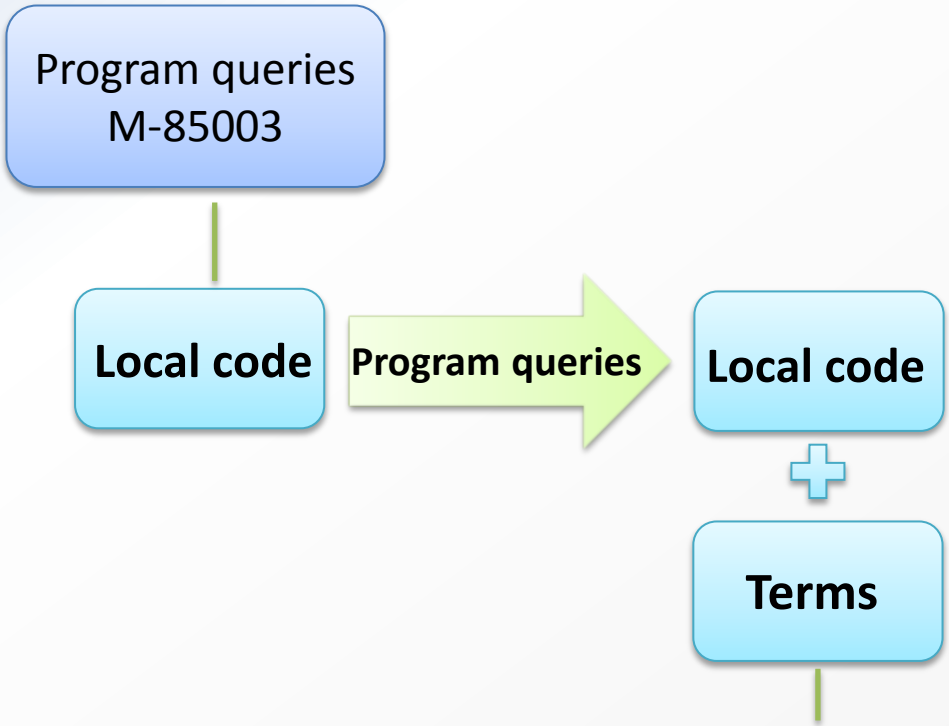
Corporate SNOMED III list to SNOMED CT mapping



- SNOMED CT concept to corporate SNOMED III list mapping has been endorsed by Anatomical Pathology Working Group in 2015

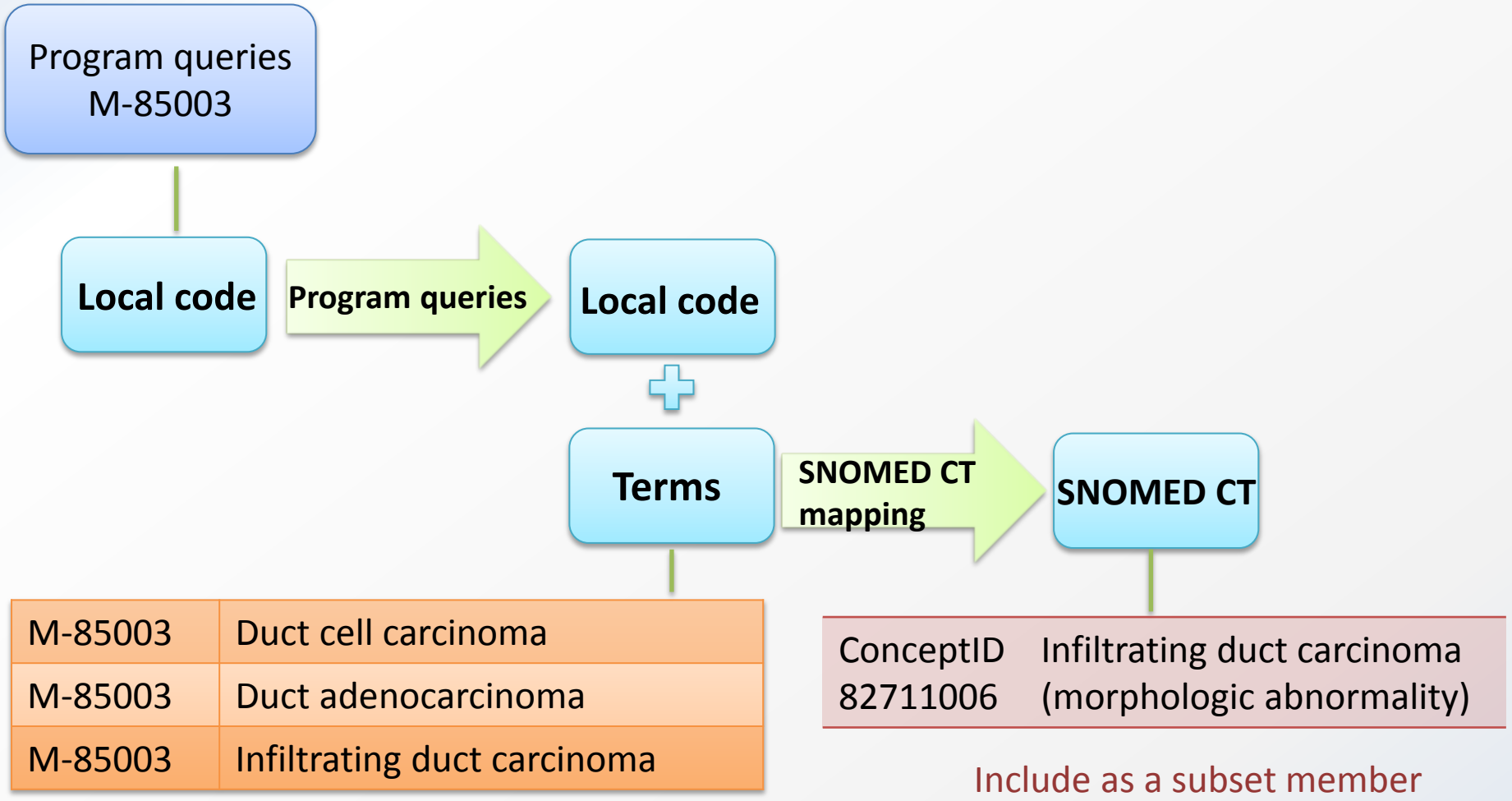
BUILDING
THE SNOMED CT SUBSET

Apply program queries to retrieve terms

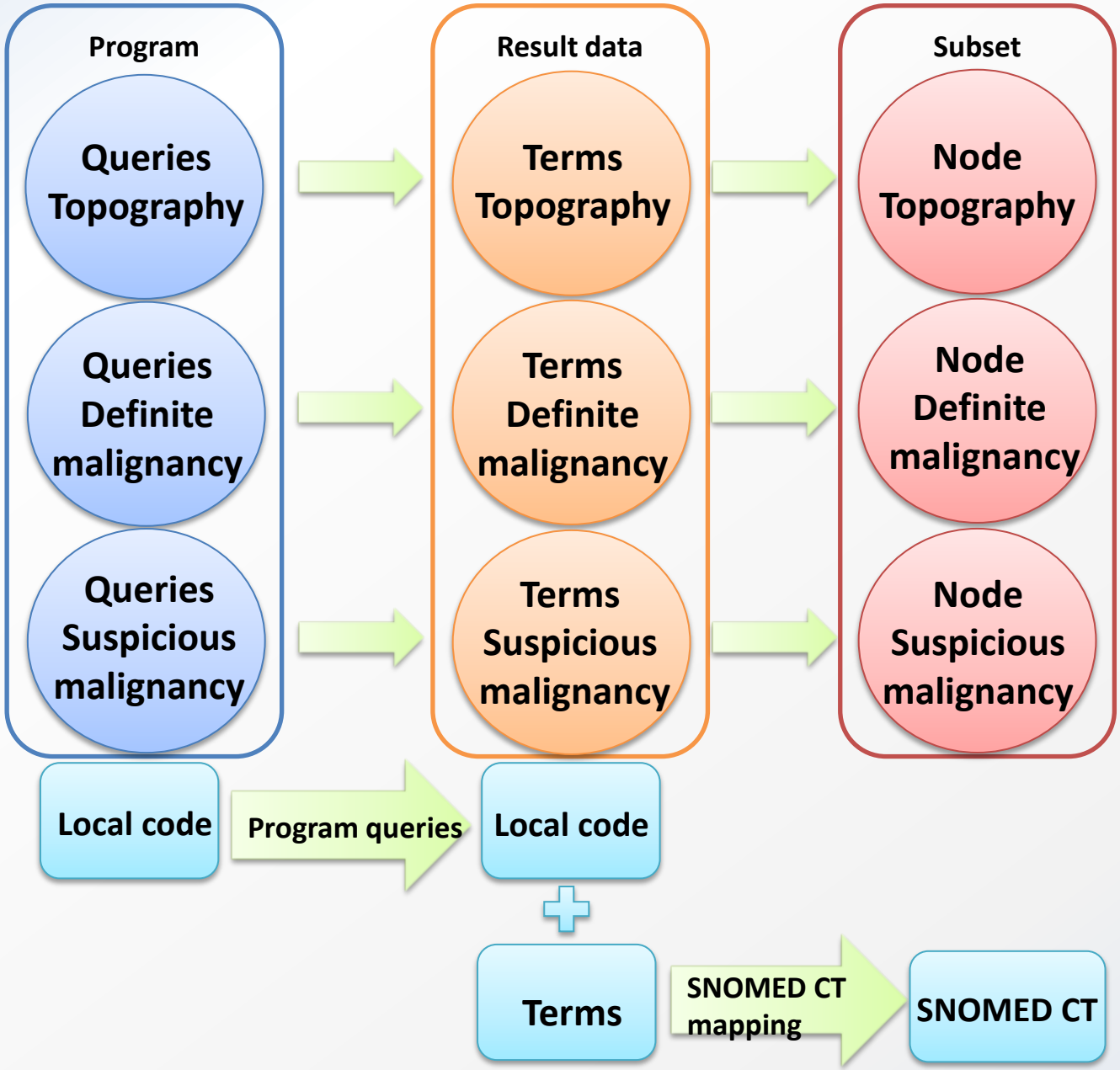


M-85003	Duct cell carcinoma
M-85003	Duct adenocarcinoma
M-85003	Infiltrating duct carcinoma

Mapping terms with SNOMED CT

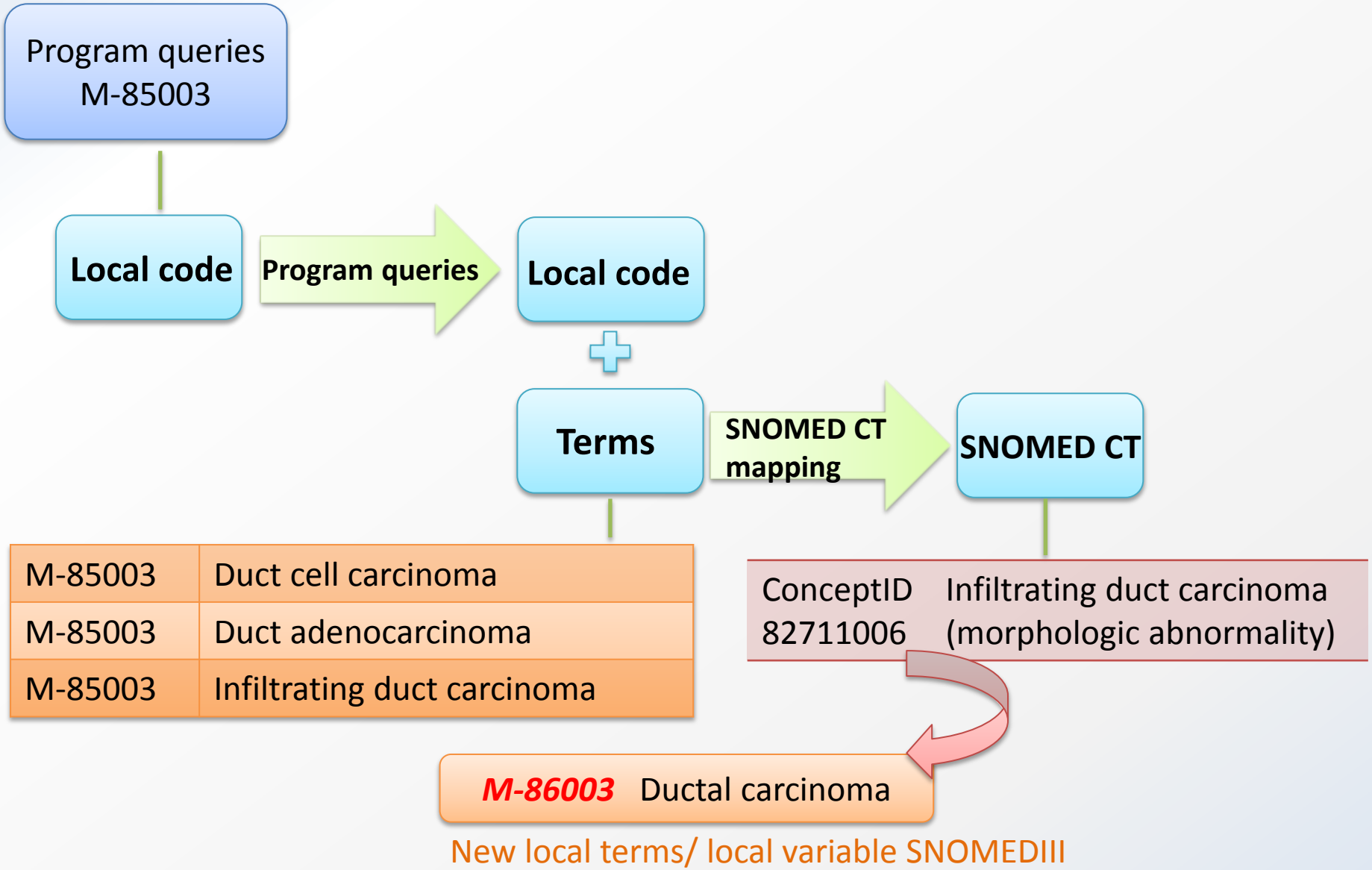


Migrate program queries to SNOMED CT subset

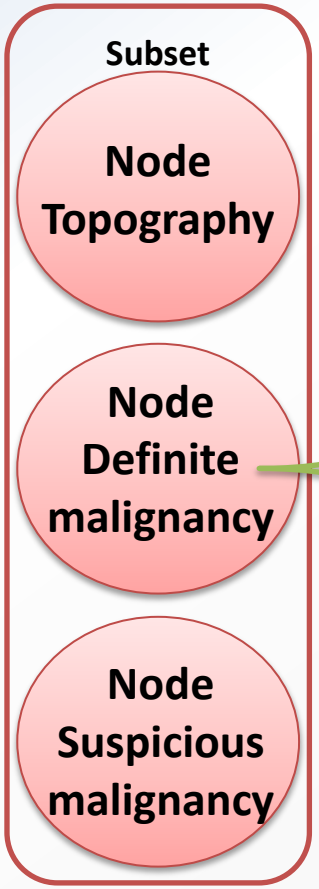


for using SNOMED CT subset?

Retrieval result by SNOMED CT subsets is more complete



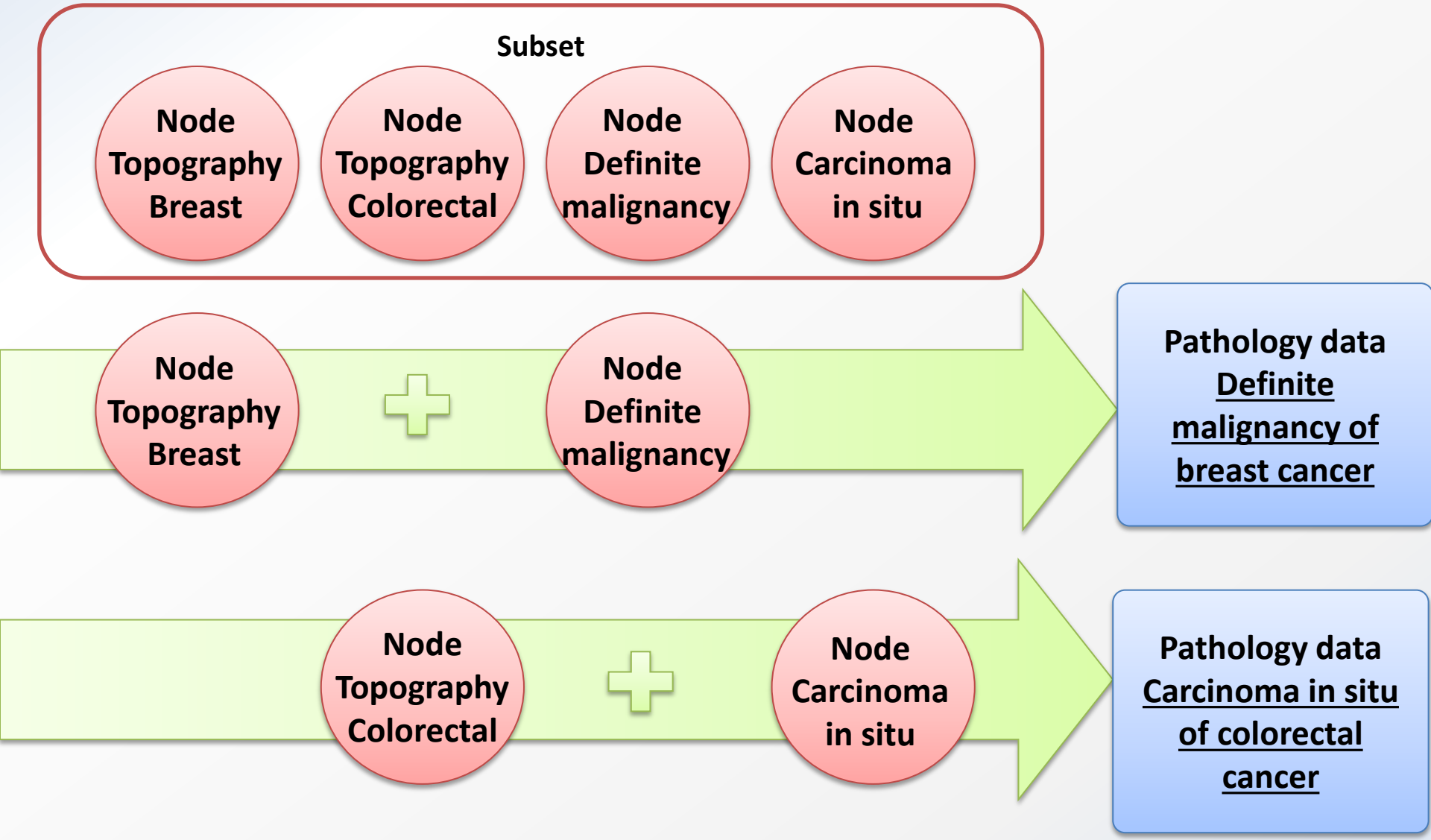
Use SNOMED CT hierarchy for data analysis and quality assurance



SNOMED CT conceptID	Fully specified name	Descendants of 'malignant neoplasm' ?
82711006	Infiltrating duct carcinoma (morphologic abnormality)	✓
35232005	Infiltrating duct and lobular carcinoma (morphologic abnormality)	✓
89740008	Lobular carcinoma (morphologic abnormality)	✓
88400008	Tumor cells, malignant (morphologic abnormality)	✓

- any SNOMED CT concepts under the parent concept 'malignant Neoplasm (Morphology)', conceptID 367651003, represents a malignant disease

Flexible queries by SNOMED CT subset



Different localized snomed III queries

Hosp A Breast Ca

Definite malignancy
M-code
M-8000301001
M-8000302001
M-8000302002
M-8000302003
M-8000305001
M-8001302001
M-8001302002
M-8001302003
M-8001501001
M-8001502001
M-8010201001
M-8010301001
M-8010301002
M-8050201001

Suspicious malignancy
M code
M-6706001001
M-6706002001
M-6706002002
M-6706002003
M-6706002004
M-6706002005
M-6706002006
M-6706002007
M-8000101001
M-8000102001
M-8000102002
M-8000102003
M-8000103001
M-8001101001
M-8520201001

Topography
T code
T-0400001001
T-0410004002
T-0410001001

Hosp B Breast Ca

Definite malignancy
M-code
M-8000301001
M-8000302001
M-8000302002
M-8000302003
M-8000305001
M-8001302001
M-8001302002
M-8001302003
M-8001501001
M-8001502001
M-8010201001
M-8010301001
M-8010301002
M-8050201001

Suspicious malignancy
M code
M-6706001001
M-6706002001
M-6706002002
M-6706002003
M-6706002004
M-6706002005
M-6706002006
M-6706002007
M-8000101001
M-8000102001
M-8000102002
M-8000102003
M-8000103001
M-8001101001
M-8520201001

Topography
T code
T-0400001001
T-0410004002
T-0410001001

Hosp C Breast Ca

Definite malignancy
M-code
M-8000301001
M-8000302001
M-8000302002
M-8000302003
M-8000305001
M-8001302001
M-8001302002
M-8001302003
M-8001501001
M-8001502001
M-8010201001
M-8010301001
M-8010301002
M-8050201001

Suspicious malignancy
M code
M-6706001001
M-6706002001
M-6706002002
M-6706002003
M-6706002004
M-6706002005
M-6706002006
M-6706002007
M-8000101001
M-8000102001
M-8000102002
M-8000102003
M-8000103001
M-8001101001
M-8520201001

Topography
T code
T-0400001001
T-0410004002
T-0410001001

Corporate standard

- retrieve data in all hospitals
- control and maintenance

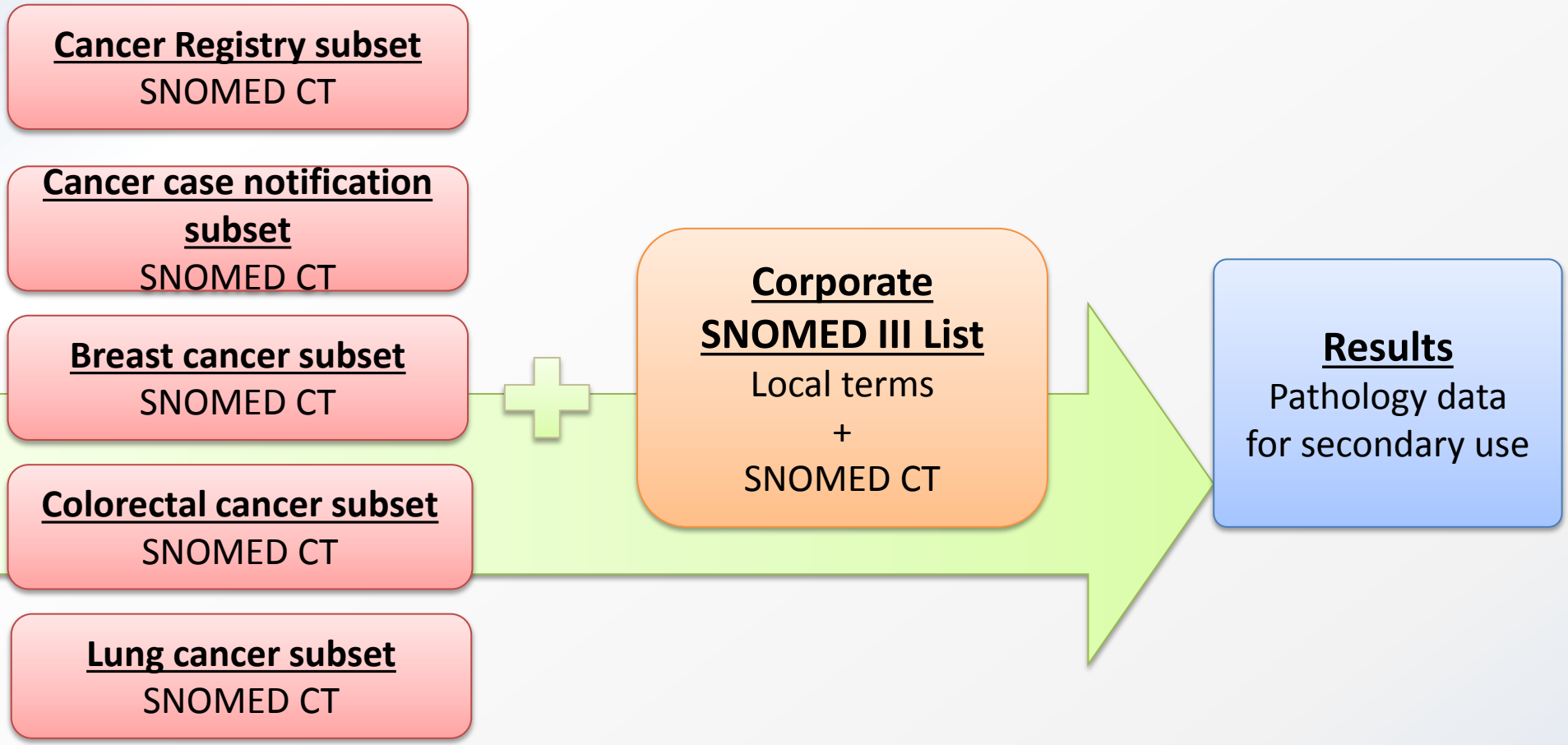
Corporate Breast Ca subset
SNOMED CT conceptID

Hosp A Breast Ca

Hosp B Breast Ca

Hosp C Breast Ca

Using SNOMED CT subset for data retrieval



Using SNOMED CT subset for data retrieval

Cancer case notification subset
SNOMED CT

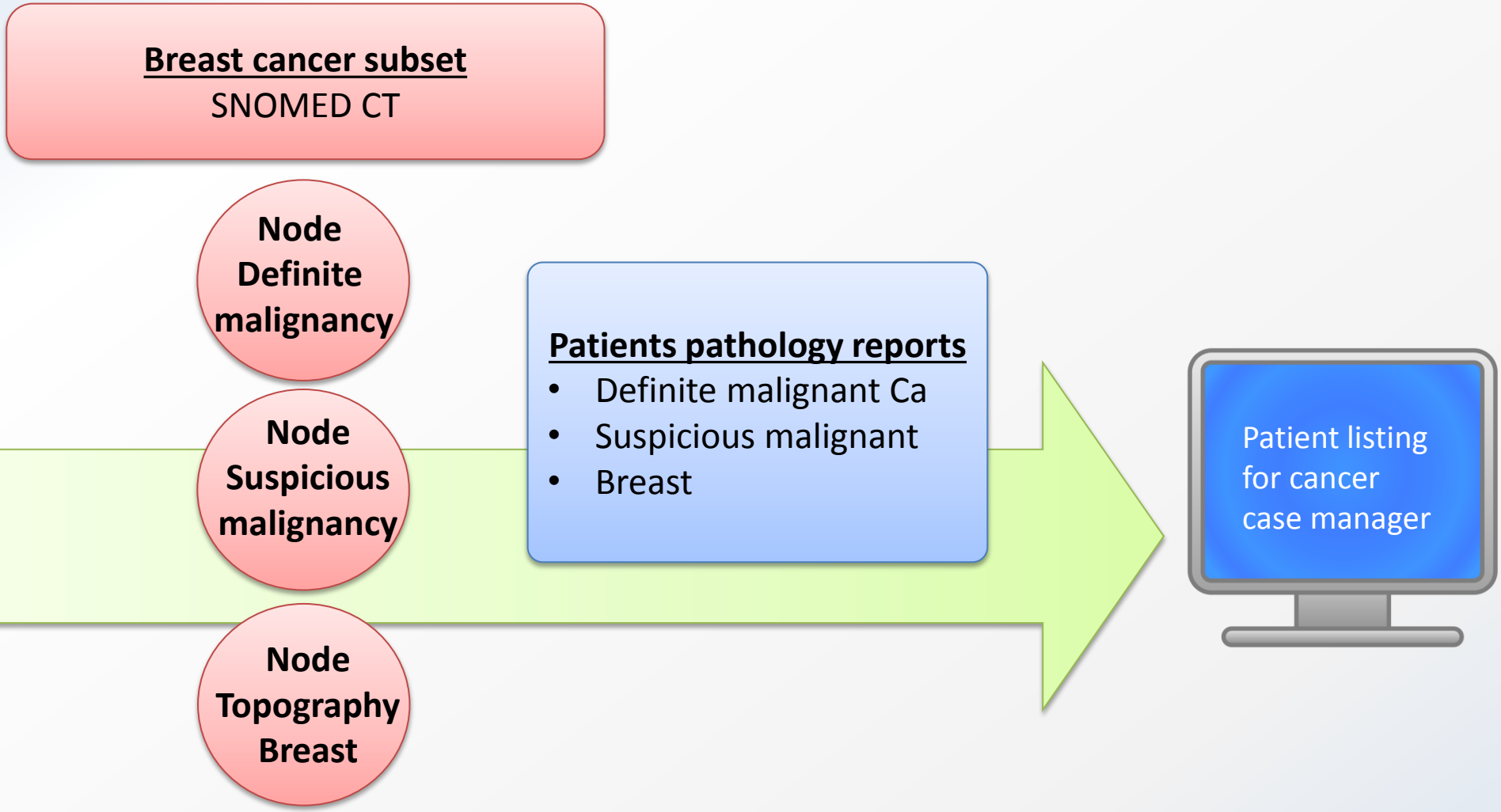
Node Definite malignancy

Node Suspicious malignancy

Patients pathology reports
- Definite malignant Ca
- Suspicious malignant

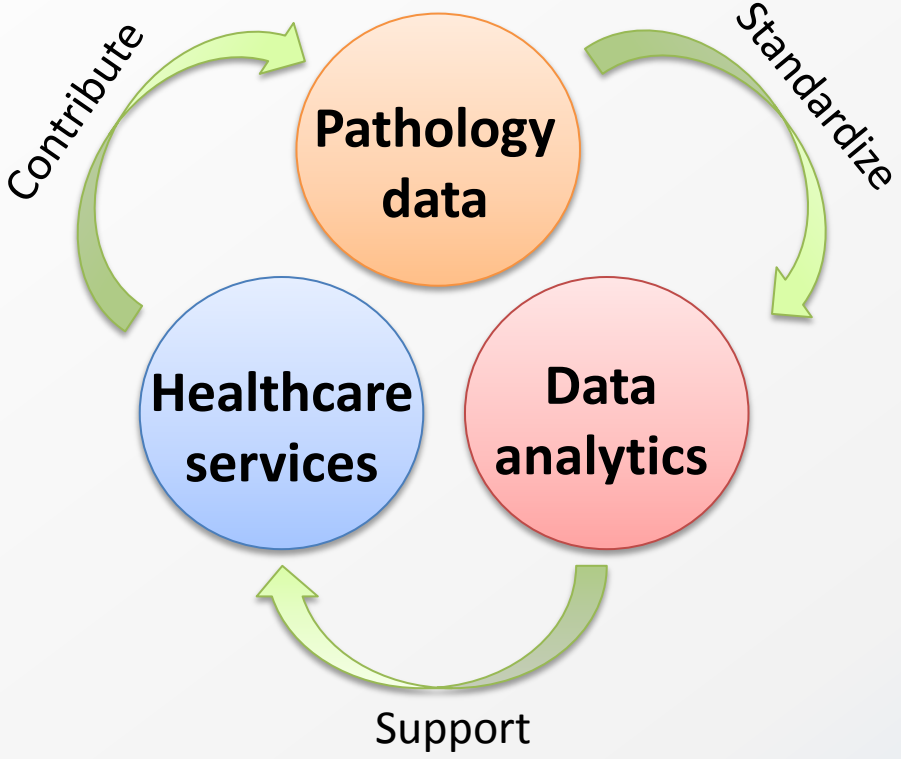
- Watermark alert
- Extra copy

Using SNOMED CT subset for data retrieval



Conclusion

- SNOMED CT has become the primary key for data retrieval.
- SNOMED CT subset is the corporate standard for data retrieval.
- Re-use pathology data to support frontline operation and accurate data analysis.



Thanks to:

Information Technology & Health Informatics Division, Head Office, Hospital Authority

- **Mr. Kent TSUI Chi Fung (Medical Technologist)**
- **Mr. John MOK Hon Man (Health Informatician)**
- **Ms. Vicky FUNG Hei (Senior Health Informatician)**

Anatomical Pathology Working Group, Hospital Authority

- **Dr. K C Lee (Chairman)**
- **and all APWG members**

與民攜手 Helping People Stay Healthy
保健安康


Thank you


Q&A