

# Partner Content

Lifting the lid on the technology we use to connect our users to your websites

James Humffray

# 1. Technologies we currently use

PoolParty – Software for managing thesaurus

Harvester – Software for ingesting partner content

Alfresco – Content management software

# 2. Semantic future

# Australian Health Thesaurus (AHT) *healthdirect* Australia

Partner  
Forum 2014

Managed through software called PoolParty

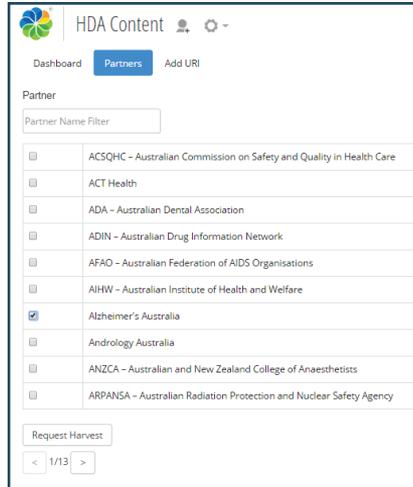
- Australian Health Thesaurus
  - Anatomy (15)
  - Chemicals and Drugs (26)
  - Diseases and Disorders (26)
  - Economics (24)
  - Facilities and Services (2)
  - Information Management (7)
  - Life Sciences (17)
  - Management (16)
  - Organisations (21)
  - Organisms (6)
  - People (17)
  - Population Characteristics (4)
  - Psychology (13)
  - Public Health and Environment (3)
  - Regulation and Control (15)
  - Research and Development (8)
  - Sciences (8)
  - Social Sciences (12)
  - Techniques and Equipment (8)
  - Technology, Industry and Agriculture (20)
  - World (13)
- Lists
- Collections

- Diseases and Disorders (26)
  - Animal Diseases (2)
  - Bacterial and Fungal Diseases (4)
  - Cancer (5)
  - Cardiovascular Diseases (2)
  - Digestive System Diseases (6)
    - Biliary Tract Diseases (3)
    - Digestive System Cancers (4)
    - Gastrointestinal Diseases (10)
    - Liver Diseases (4)
    - Oesophageal Diseases (3)
    - Pancreatic Diseases (3)
  - Disabilities (8)
  - Ear, Nose and Throat Diseases (5)
  - Endocrine System Diseases (6)
  - Eye Diseases (10)
  - Female Diseases (1)
  - General Pathology and Symptoms (5)
  - Haemic and Lymphatic Diseases (2)
  - Immune System Diseases (4)
  - Injury and Poisoning (3)
  - Mental Illnesses (15)
  - Mouth and Jaw Diseases (4)
  - Musculoskeletal Diseases (7)
  - Neonatal Diseases and Defects (4)
  - Nervous System Diseases (8)
  - Nutritional and Metabolic Diseases (3)
  - Parasitic Diseases (4)
  - Respiratory Tract Diseases (9)
  - Skin and Connective Tissue Diseases (3)
  - Urologic and Male Genital Diseases (2)
  - Vector Borne Diseases (8)
  - Virus Diseases (7)

The screenshot displays the Australian Health Thesaurus (AHT) interface. On the left is a hierarchical tree of concepts, with 'Liver Diseases (4)' highlighted in orange. The right side shows detailed information for the selected concept, organized into several sections:

- Broader Concepts:** [Digestive System Diseases](#)
- Narrower Concepts:** [Fatty Liver](#), [Hepatitis](#), [Liver Cancer](#), [Liver Cirrhosis](#)
- Related Concepts:** [Liver](#)
- Preferred Label:** Liver Diseases
- Alternative Labels:** Hepatolenticular degeneration, Portal hypertension
- Hidden Labels:**
- Notation:** C.006.552

Screenshot of AHT showing the information associated with the “Liver Diseases” concept, including broader, narrower and related concepts; and synonyms (alternative labels).



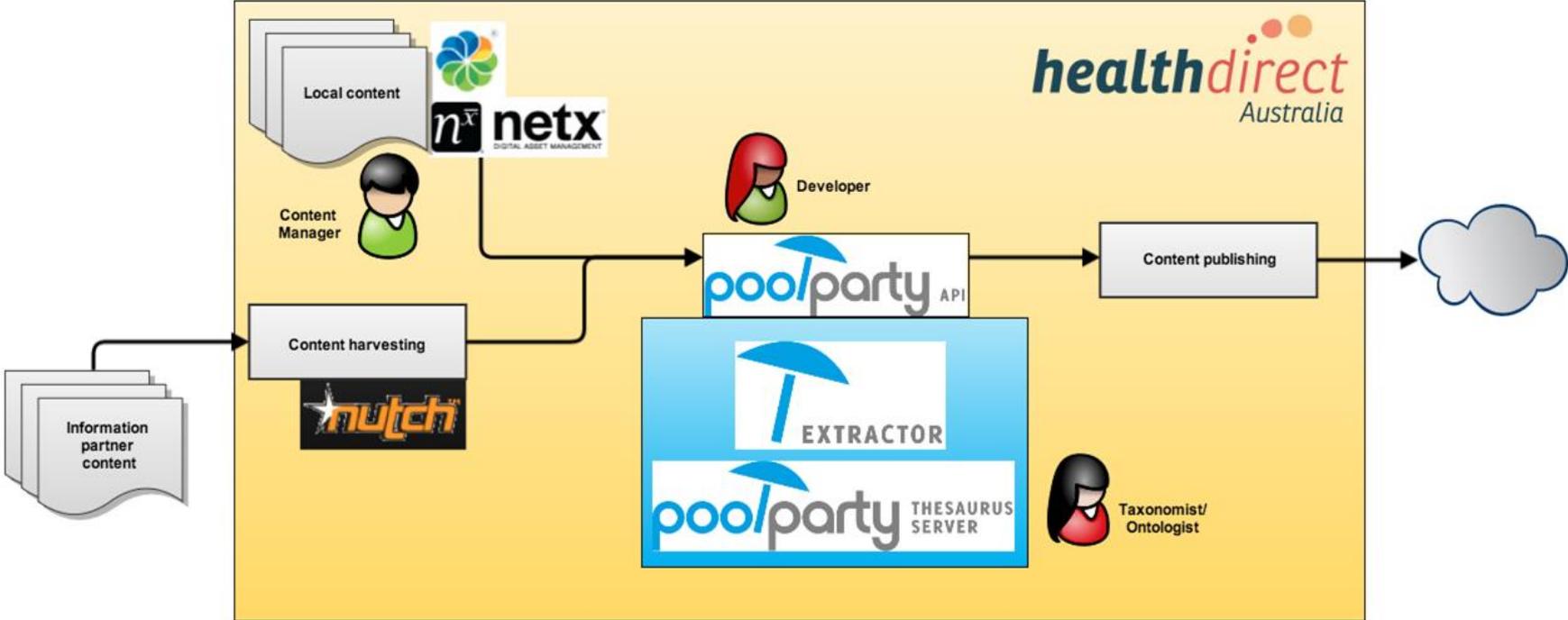
## Harvester ingests;

- Title
- Description
- Body content

## From the source code of a website

```
<meta name="DC.Creator" content="myDr" />
<meta name="DC.Publisher" content="myDr" />
<meta name="DC.Title" content="Exelon Patch 10 Transdermal patch - myDr.com.au" />
<meta name="DC.Description" content="Exelon Patch 10 Transdermal patch- Consumer Medicines Information leaflets of prescription and over-the-counter medicines" />
<meta name="DC.Language" scheme="RFC1766" content="en" />
<meta name="DC.Date.Modified" scheme="ISO8601" content="2014-11-01" />
<meta name="DC.Format" scheme="IMT" content="text/html" />
<meta name="DC.Identifier" scheme="URI" content="http://www.mydr.com.au/medicines/cmis/exelon-patch-10-transdermal-patch" />
<meta name="HI.Status" content="Registered" />
```

# Content publication process



Home My Files Shared Files Sites Tasks People Repository Admin Tools

HDA Content Site Dash

Dashboard Partners Add URI

Search Term  Document Status

Partner	Title	Description	URI	Lifecycle Stage	Current State		
Alzheimer's Australia	Alzheimer's Australia   A	Includes all activities for pa	https://fightdementia...cations/annual-reports	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia   L	The Library and Information Se	https://fightdementia...nd-information-service	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia   I	Support and services for peopl	https://fightdementia...-so-meone-with-dementia	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia Dementia	The Alzheimer's Australia Deme	http://dementiaresearchfo-undation.org.au/	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia   T	Translated Help Sheets in pdf	https://fightdementia...the-r-languages/tagalog	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia   F	Families and Friends support a	https://fightdementia...s/families-and-friends	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia   C	Communication support and serv	https://fightdementia...dementia/communication	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia	Alzheimer's Australia is the n	https://fightdementia.org.au/	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Information in other languages	Alzheimer's Australia is commi	https://fightdementia.../translated-helpsheets	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>
Alzheimer's Australia	Alzheimer's Australia   L	This series of Help Sheets has	https://fightdementia...eet-s/lewy-body-disease	PUBLISH	Published	<input type="button" value="View Content"/>	<input type="button" value="Unpublish"/>

Example of a partner's harvested records showing "Published" status

# Classifications

Concepts	
Concept Preferred Label	Score
Dementia	100
HIV	68
Community	43
Diabetes Mellitus	30
Personnel	25
Disabilities	21
Self Care	18
Carers	18
Family	18
Diagnosis	17

Example of the ten classifications that were applied to an article from an information partner on “dementia”

# Benefits of AHT

How we are using PoolParty

Improves search for users

9 trusted resources for **orbital neoplasm**



## Eye Cancer

[Cancer Council Victoria](#)

Many cancer types can affect eyes. Rhabdomyosarcoma affects eye muscles, intraocular cancers affect the eye itself and include lymphoma, melanoma, retinoblastoma and medulloepithelioma.

Search on “**orbital neoplasm**”  
returns results on “**eye cancer**”

# Benefits of AHT

How we are using PoolParty

## Display related or similar content

[Read more](#)

### 859 trusted resources for **Skin Cancer**



#### Skin cancer

Queensland Health

There are three main types of skin cancer named after the type of cells they start from: basal cell carcinoma and squamous cell carcinoma - known as common skin cancers - and melanoma, the most serious type of skin cancer. Melanoma is the most

#### Related Searches

- ▶ [Ultraviolet Radiation](#)
- ▶ [Suntan](#)
- ▶ [Sunscreens](#)
- ▶ [Melanoma](#)
- ▶ [Skin Diseases](#)
- ▶ [Skin and Connective Tissue Diseases](#)

[Show more](#)

# Benefits of AHT

## How we are using PoolParty

### Provide filters to narrow search

**Refine**

**Keyword**

- Cancer (462)
- Women (308)
- Breast Cancer (306)
- Treatment (283)
- Skin (222)
- Risk (202)
- Breast (193)
- Symptoms (175)
- Blood (143)
- Diagnosis (104)

**859 trusted resources for Skin Cancer**

 **Skin cancer**  
Queensland Health

There are three main types of skin cancer named after the type of cells they start from: basal cell carcinoma and squamous cell carcinoma - known as common skin cancers - and melanoma, the most serious type of skin cancer. Melanoma is the most dangerous skin cancer, because if untreated cancer cells can spread to other parts of the body. Basal Cell Carcinoma (BCC) are the most common form of skin cancer making up approximately 75% of all skin cancer, but are also the least dangerous skin cancer.

[Read more](#)

### Used for Auto-suggestion

Search rheum

Did you mean?

- Rheumatology
- Rheumatism
- Polymyalgia Rheumatica
- Polyarthritis rheumatica
- Juvenile rheumatoid arthritis
- Muscular rheumatism
- Rheumatoid factor

# Benefits of AHT

## How we are using PoolParty

### Concepts mapped to Lifestage facet

#### Life stage

- Women's Health (425)
- Men's Health (96)
- Children (92)
- Pregnancy (82)
- Babies and Toddlers (39)
- End of Life (29)
- Teenagers (20)
- Seniors (18)
- Young Adults (1)



#### SKIN cancer

WA Health

At least two in three Australians will be diagnosed with skin cancer before the age of 70.

[Read more](#)



#### Skin cancer

Cancer Council Victoria

Skin cancer is very common in Australia and is caused by harmful levels of UV radiation from the sun and other sources such as solariums.

[Read more](#)

# Benefits of AHT

## How we are using PoolParty

### Concepts mapped to relevant videos

**Depression: Personal story**

Being diagnosed with a mental health disorder can be both emotionally and practically challenging. Listening to others who have experienced similar situations is often re-assuring and can be helpful for you, your loved ones or when preparing questions for your doctor or a specialist.

Watch this video about a patient's experience after being diagnosed with depression.



**Worried about your health?**

Use our Symptom Checker

Health Videos

Depression and recovery – Andrew's story

[More videos](#)

Information Partners

canberra

# Benefits of AHT

## How we are using PoolParty

### Concepts mapped to promotable websites

offering information, assessment, online diagnosis and treatment programs ("eTherapy") for the anxiety disorders. It can be accessed at [www.anxietyonline.org.au](http://www.anxietyonline.org.au).

Sources: [mindhealthconnect](#) (*Anxiety*), [NHS Choices](#) (UK) (*Generalised anxiety disorder - Treatment*)

#### *Living with*

There are a number of strategies that can be used to deal with anxiety. For example, lifestyle changes that can help include:

- looking at the things that are causing you stress so you can avoid or confront them



# Benefits of AHT

## How we are using PoolParty

### Classification applied to images, using third-party DAM tool



#### ***Dementia – an overview***

A diagnosis of dementia will have a big impact on your life. People with dementia can remain independent for some time but you and your family may worry about how long you can care for yourself, especially if you live alone. Find out more about symptoms, diagnosis, treatments and support services.

[Read more](#) ▶



#### ***Worried about dementia?***

You might be worried you have dementia, a family member might be getting forgetful, and you are worried they have dementia, or you may be worried you can inherit it. Here's who to speak to, why a professional diagnosis is so important and tips on programs that may help delay or reduce the risk of dementia.

[Read more](#) ▶



#### ***Dementia and the home environment***

Making your home safe and comfortable for a person with dementia is very important. Here's advice on how to assess and update each room and space individually – including tips for the kitchen, the bathroom, the living room and outside the house, as well as information about memory aids and how to create a calming home environment.

# Benefits of AHT

## How we are using PoolParty

### Classification mapped to a Symptom Checker flow

## Cough

Share     [Print](#) 



### What is a cough?

Most coughs are caused by viruses which inflame the throat, windpipe or lungs. Coughs caused by viruses can last for up to 3 weeks, but your body will normally fight off the infection without the need for medical treatment.

Antibiotics are only needed if the infection is caused by bacteria. The course of a bacterial infection is usually different from a viral infection.

You tend to become very unwell and your infection seems to get much worse.

*Coughs caused by viruses can last for up to 3 weeks.*

Cough is a common symptom for [colds and the flu](#). It can be difficult to tell the difference between them. In general symptoms are more intense with the flu.

### Self-care of a cough

If you are looking after yourself, the tips below may help relieve the symptoms:

#### Related Pages

 [Coughs and the flu](#)

 **Is it a cold or a flu?**

**Use our Symptom Checker**

# Benefits of AHT

How we are using PoolParty

Australian Health Thesaurus (AHT) and PoolParty are *integral* to our search and content management strategy!

The screenshot displays the healthdirect Australia website interface. At the top, the logo 'healthdirect Australia' is visible on the left, and a search bar on the right contains the text 'Search e.g. asthma, chickenpox'. Below the logo, a navigation menu includes 'Health A-Z', 'Conditions', 'Symptoms', 'Staying Healthy', 'Life Stages', 'Resources', and 'About Us'. The main content area features a search results header for 'Search results for "skin cancer"' with 'Found 854 results'. A 'Share' button with social media icons (Facebook, Google+, Twitter, Email) and a 'Print' button are also present. The results are organized into sections: 'Skin cancer diagnosis' with a brief description and a 'Read more' link; a 'Refine' sidebar with filters for 'Keyword' (Cancer, Women, Breast Cancer, Treatment, Skin, Risk, Breast, Symptoms, Blood, Diagnosis) and 'Life stage' (Women's Health); a list of '854 trusted resources for skin cancer' featuring results from Queensland Government and WA Health; and a 'Related Searches' sidebar with links to 'Ultraviolet Radiation', 'Suntan', 'Sunscreens', 'Melanoma', 'Skin Diseases', and 'Skin and Connective Tissue Diseases'. A 'Show more' link is provided for the related searches. At the bottom right, there is a promotional banner for 'Worried about your health?' with a 'Check your symptoms here' button.

# Semantic directions

Every bit of data is represented by a URI (URL)

## What is semantic?

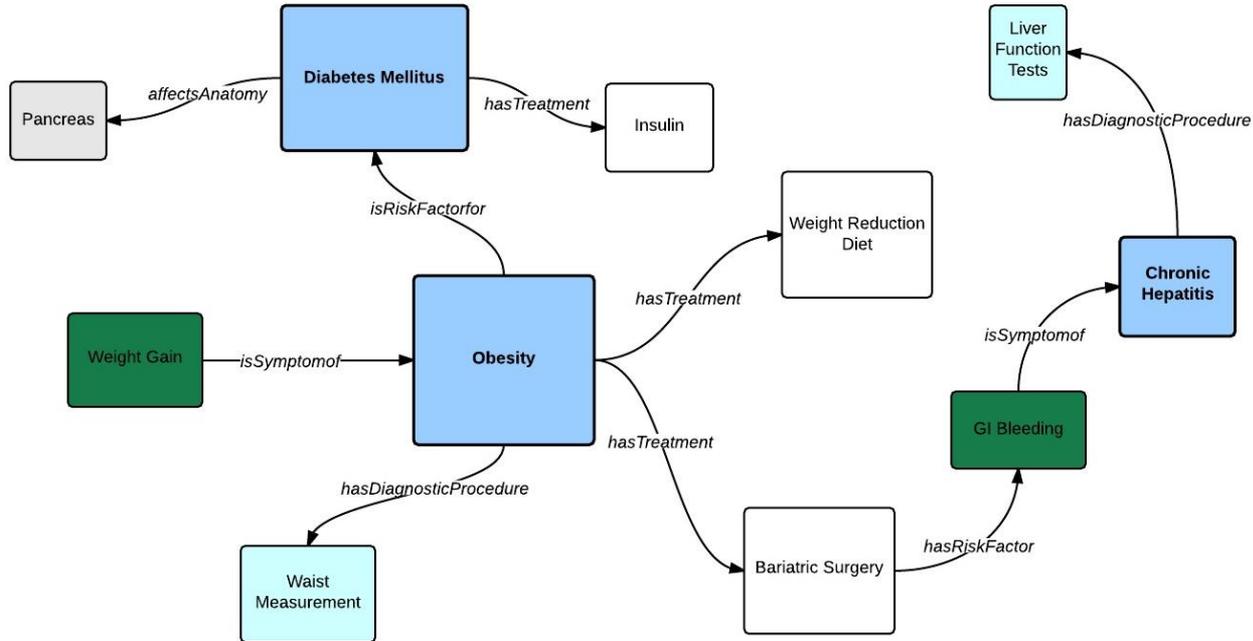
"The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries." It is a web of data that can be processed by machines.

## Why is it relevant?

Users will be able to find, share and combine information more easily.



# Semantic relationships



# Developing a new information model

ClinicalMapping  
http://localhost/PoolParty/schema/ClinicalMapping

Classes Relations Attributes

Add Class

<b>Class</b>	Domain of
<b>Anatomy</b>	anatomy has condition, anatomy has symptom, anatomy has support group, anatomy has diagnostic procedure
<b>Cause</b>	cause causes condition, cause causes symptom
<b>Condition</b>	condition has treatment, condition has medication, condition has cause, condition is prevented by medication, condition has symptom, condition has prevention, condition has physician specialty, condition has support group, condition affects anatomy, condition has diagnostic procedure, condition has risk factor
<b>Diagnostic Procedure</b>	diagnostic procedure is affected by medication, diagnostic procedure affects anatomy, diagnostic procedure diagnoses condition
<b>Medication</b>	medication alleviates symptom, medication affects diagnostic procedure, medication prevents condition, is medication for condition, Trade Name
<b>Physician Specialty</b>	physician specialty specialises in
<b>Prevention</b>	prevents condition
<b>Risk Factor</b>	is risk factor for condition
<b>Support Group</b>	supports anatomy, supports condition
<b>Symptom</b>	symptom is alleviated by treatment, symptom has cause, symptom is alleviated by medication, symptom affects anatomy, is symptom of condition
<b>Treatment</b>	treatment treats condition, treatment alleviates symptom

# Developing relationships

Domain	Relation	Range
Condition	affects anatomy	Anatomy
Anatomy	anatomy has diagnostic procedure	Diagnostic Procedure
Anatomy	anatomy has symptom	Symptom
Cause	causes	Condition
Cause	causes symptom	Symptom
Diagnostic Procedure	diagnoses	Condition
Diagnostic Procedure	diagnostic procedure affects	Anatomy
Condition	has cause	Cause
Anatomy	has condition	Condition
Condition	has diagnostic procedure	Diagnostic Procedure
Condition	has medication	Medication
Condition	has physician specialty	Physician Specialty
Condition	has prevention	Prevention
Condition	has risk factor	Risk Factor
Condition	has support group	Support Group

# Clinical Relationships view

## Atherosclerosis

Condition

<http://thesaurus.healthdirect.org.au/ah/15340>

Details Notes Documents Linked Data Triples Visualization

SKOS ClinicalMapping

condition affects anatomy

⊗ [Arteries](#)



condition has cause



condition has diagnostic procedure

⊗ [Electrocardiography](#)

⊗ [Computerised Tomography](#)

⊗ [Angiography](#)



condition has medication

⊗ [Platelet Aggregation Inhibitors](#)



condition has physician specialty



condition has prevention

⊗ [Exercise](#)

⊗ [Smoking Cessation](#)



condition has risk factor

⊗ [Smoking](#)

⊗ [Sedentary Lifestyle](#)

⊗ [Obesity](#)

⊗ [Hypertension](#)

⊗ [Hyperlipidaemia](#)



condition has support group



condition has symptom

⊗ [Angina Pectoris](#)

⊗ [Intermittent Claudication](#)



condition has treatment

⊗ [Smoking Cessation](#)



condition is prevented by medication

⊗ [Aspirin](#)



# Thank You

Partner Content: **Lifting the lid on the technology we use to connect our users to your websites**

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