

**Quality and cultural sensitivity of  
linguistically appropriate CVD  
information for Chinese immigrants:  
a review of online resources from  
heart foundations**

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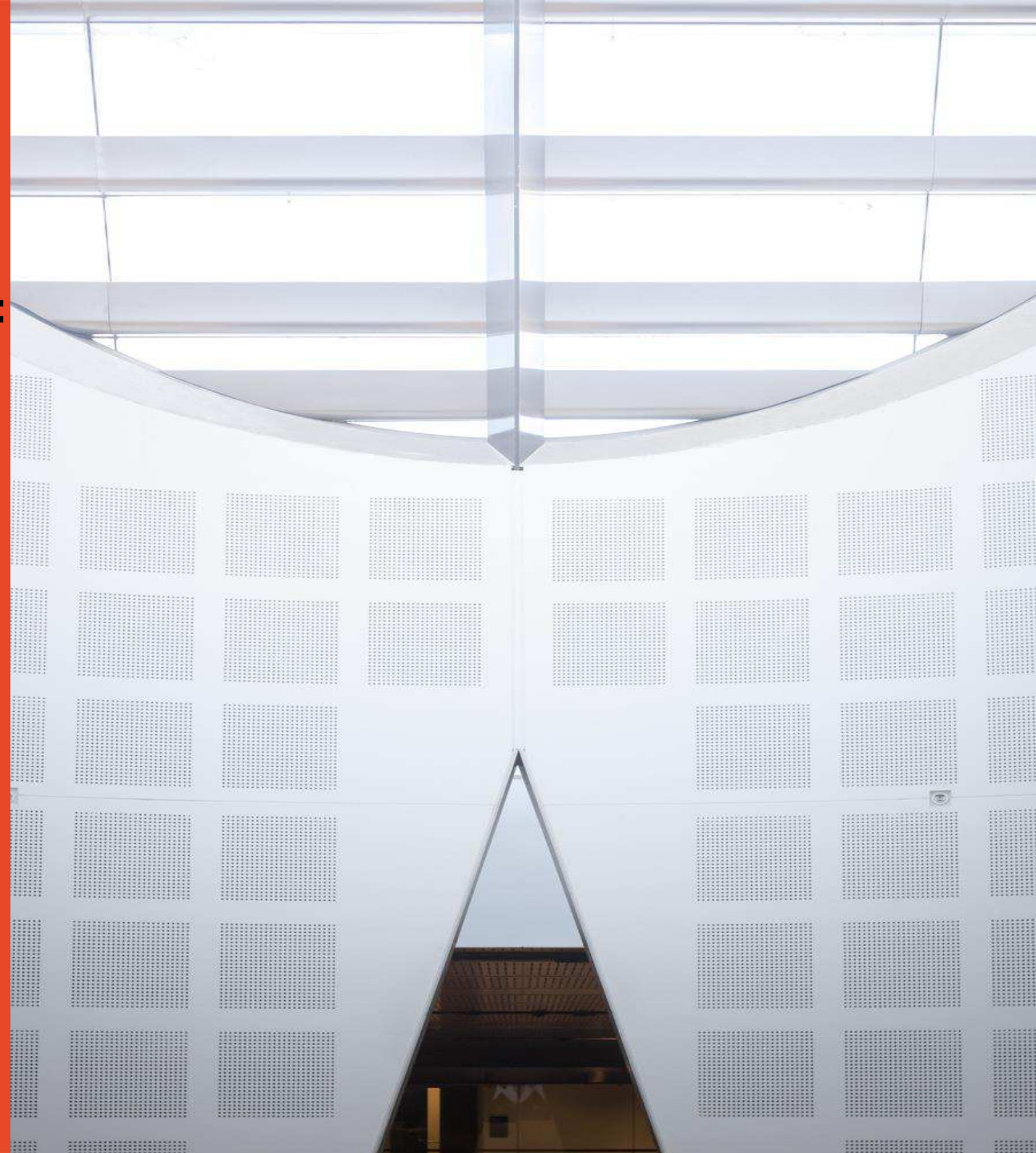
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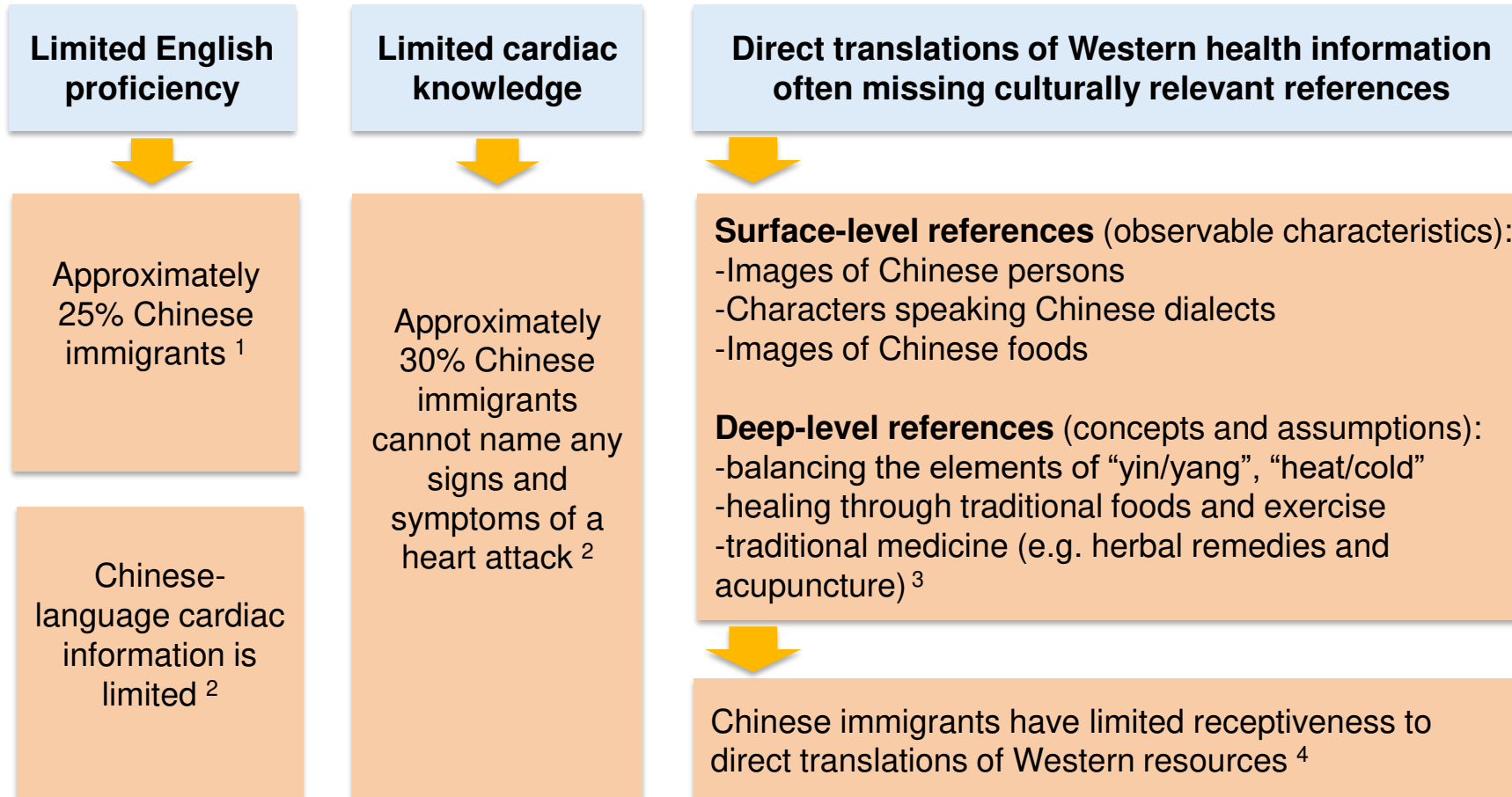
# Chinese migration and cardiovascular health

- 50 million ethnically Chinese currently residing overseas <sup>1,2</sup>
- China-born population: USA (2,018,000), Canada (896,000), and Australia (451,000) <sup>2</sup>
- ↓ intake of fruits/vegetables, and physical activity as the years of residency increase <sup>3,4</sup>
- worse cardiac disease profile compared to Chinese nationals <sup>5-7</sup>

Population	Diabetes	Hypertension	Coronary heart disease	Valvular heart disease	Atrial fibrillation
Chinese nationals	5.50%	18.50%	0.80%	2.10%	0.65%
Chinese migrants	8.60%	35.20%	3.20%	17.60%	0.75%

1. Asia Pacific Foundation of Canada. 2012
2. Migration Policy Institute. 2015
3. Rajpathak et al. J Immigr Minor Health. 2011;13
4. Yang et al. N Engl J Med. 2010;362(12):1090-1101.
5. Moran et al. Am J Hypertens. 2007;20(4):354-363.
6. Gong & Zhao. Intern Emerg Med. 2016;11(3):307-318.
7. Yeung et al. BMC Cardiovasc Disord. 2013;13(1):114

# Common issues influencing cardiac health literacy



1. Gee & Ponce. Am J Public Health. 2010;100(5):888-895.

2. Chow et al. Can J Cardiol. 2008;24(8):623-628.

3. Lai et al. Can J Aging. 2007;26(3):171-183.

4. Chau & Yu. Ageing and Society. 2010;30(3):383-401.

# Background and aims

## Background:

High-quality and cultural specific information is a valuable resource for healthcare professionals caring for Chinese-speaking patients.

However, to our knowledge there is no published research evaluating the quality and cultural sensitivity of patient resources on cardiovascular diseases (CVD) that are available in Chinese-language.

## Aims:

1. Review the availability of online Chinese-language CVD resources from the National Heart Foundations of the five most popular destinations for Chinese immigration, and
2. Assess the quality and cultural sensitivity of identified resources

# Methods

Heart Foundation Websites from the five most popular countries of Chinese-migration were systematically searched for Chinese-language CVD patient education resources, between 15 June 2016 and 15 March 2017 using Chrome Browser and Google Search Engine.

Quality was assessed using the Ensuring Quality Information for Patients (EQIP) tool.

Cultural sensitivity was evaluated using the Cultural Sensitivity Assessment Tool (CSAT).

# Eligibility Criteria

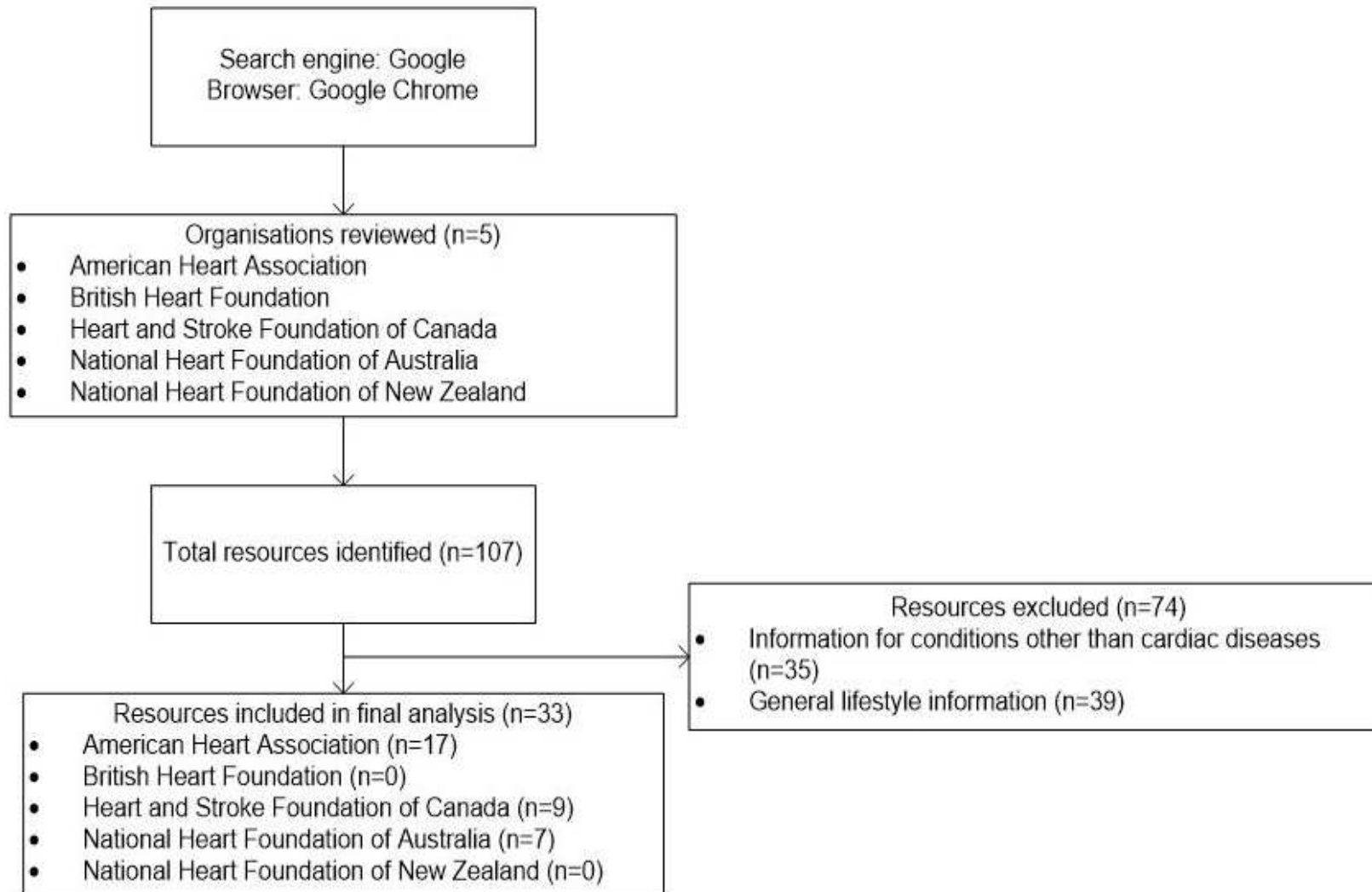
## Inclusion criteria:

- Patient education resources
- Focused on adult-onset CVD
- Written in simplified/traditional texts
  - Simplified texts used in the People's Republic of China.
  - Traditional texts used in Hong Kong, Macau, and Taiwan.
- Spoken in any Chinese dialects
  - Mandarin: official dialect of Mainland China.
  - Cantonese: spoken in Southern Chinese cities, Hongkong and Macau.
  - There are also many less used Chinese dialects.

## Exclusion criteria:

- Childhood-onset heart diseases
- Non-cardiac specific information on medication management and lifestyle
- Health conditions other than heart disease (e.g. diabetes)
- Designed primarily for healthcare professionals

# Search strategy



# Availability of Chinese-language CVD information

From **107** identified resources, **33** were CVD-specific:

- coronary heart disease (n=20),
- arrhythmias (n=7),
- heart failure (n=6)



心康體健樂耆年



Resources are not available for:

- CVD complications
- valvular heart disease

Gaps in arrhythmia and heart failure resources:

- risk factors
- medical investigations
- lifestyle interventions
- recovery/rehabilitation



# Ensuring Quality Information for Patients (EQIP) tool

- EQIP -20-item questionnaire
- Assessed the quality of health information 3 domains: content, identification, structure
- 4-tier scoring system ("yes" to "not applicable")

## Scores and associated recommendations

- 76% or above: continue to stock the resource and review in two to three years
- 51% to 75%: review in one to two years
- 26% to 50%: immediate review and replace within 12 months
- 0 to 25%: immediate removal from circulation.

## Quality results

- Quality of resources was adequate (mean EQIP score = 69%)
- EQIP recommendation: review in one to two years (score 51-75%)
- Scores varied significantly between resources

Conditions	Mean (%)	Range (%)
Coronary heart disease	68	60-85
Arrhythmias	68	65-81
Heart failure	70	65-84

# Cultural Sensitivity Assessment Tool (CSAT)

- 31-item questionnaire
- Assesses cultural sensitivity of health information
- 3 domains: format, written message, visual presentation

## Scores and associated recommendations

- $>2.5$  = culturally sensitive
- Scores for each domain averaged to obtain the overall cultural sensitivity score  
(min=0, max=4)
- 5-point Likert scale ("very acceptable" to "not applicable").

# Cultural sensitivity results

- Overall scores: resources were classified as culturally sensitive (CSAT score >2.5) across the domains
- 2 resources were not visually culturally sensitive (CSAT ≤2.5).

Conditions	Format	Written	Visual	Overall
Coronary heart disease	3.33	3.10	3.20	3.19
Arrhythmias	3.37	3.06	3.05	3.18
Heart failure	3.72	3.10	3.20	3.36

# Cultural sensitivity results

## Surface-level cultural references:

- Images of Chinese persons ( pamphlets, n=2; videos, n=4)
- Characters speaking Chinese dialects (audio files, n=3; videos, n=4)
- Images of Chinese foods (pamphlet, n=1, video, n=1)

## Deep-level cultural references:

- Balancing the elements of “yin/yang”, “heat/cold” (n=0)
- Healing through traditional foods and exercise (video, n=1)
- Traditional medicine (n=0)

Some resources feature surface-level Chinese cultural references, and 1 resource contains deep-level cultural references.

Surface-level references are important for helping a population to identify with the health information.<sup>1</sup>

Deep-level references are important for engaging the users and more likely to lead to behaviour changes than direct translations of Western health concepts.<sup>1</sup>

# Conclusion

Although Chinese-language CVD patient resources are available, there is no information on valvular heart disease. And there is inconsistent supply in key knowledge areas including information on risk factors, medical investigations, lifestyle interventions and recovery/rehabilitation of arrhythmias and heart failure.

The British and New Zealand Heart Foundations do not have Chinese-language resources although they are popular destinations for Chinese migration.

Quality and level of cultural sensitivity are adequate, but few resources used surface-level culturally references and deep-level references are rarely used.

Comprehensive, high-quality CVD resources tailored for Chinese immigrants, and their cultural needs, are urgently needed across the spectrum of CVD.



# Thank you

## 谢谢

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