

Translation and linguistic validation of 6 PROMIS Profile domains for adults in Korean

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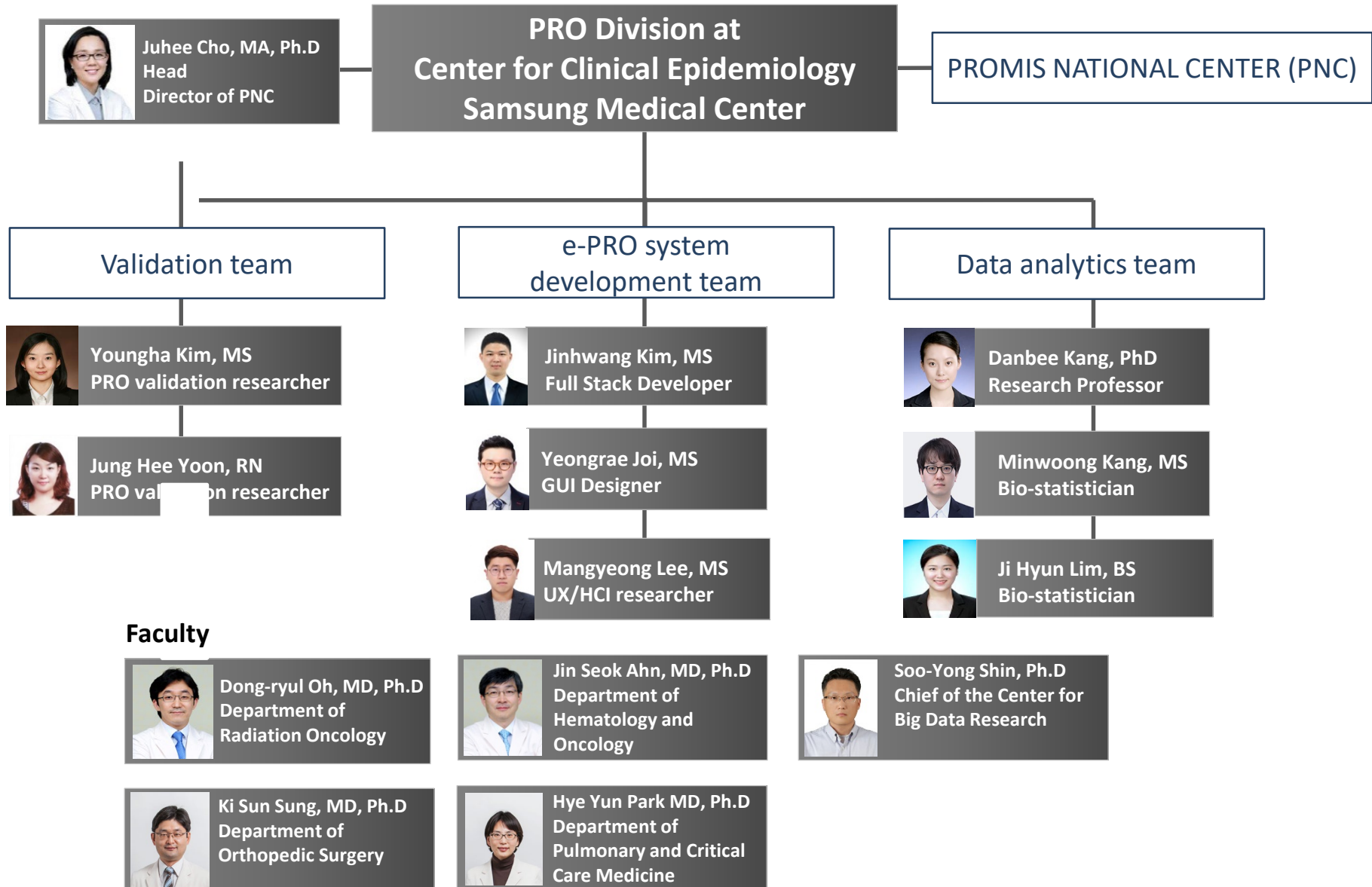
- **Capital City:** Seoul
- **Population:** 51.4 million (as of 2017)
- **Language:** Korean (Hangeul) - Phoenic
 - 11th largest economy in the world.
 - Fastest Internet connection speeds
 - Longest years of tertiary education in the world
 - 2nd most equal access to quality healthcare
 - 3rd highest health adjusted life expectancy

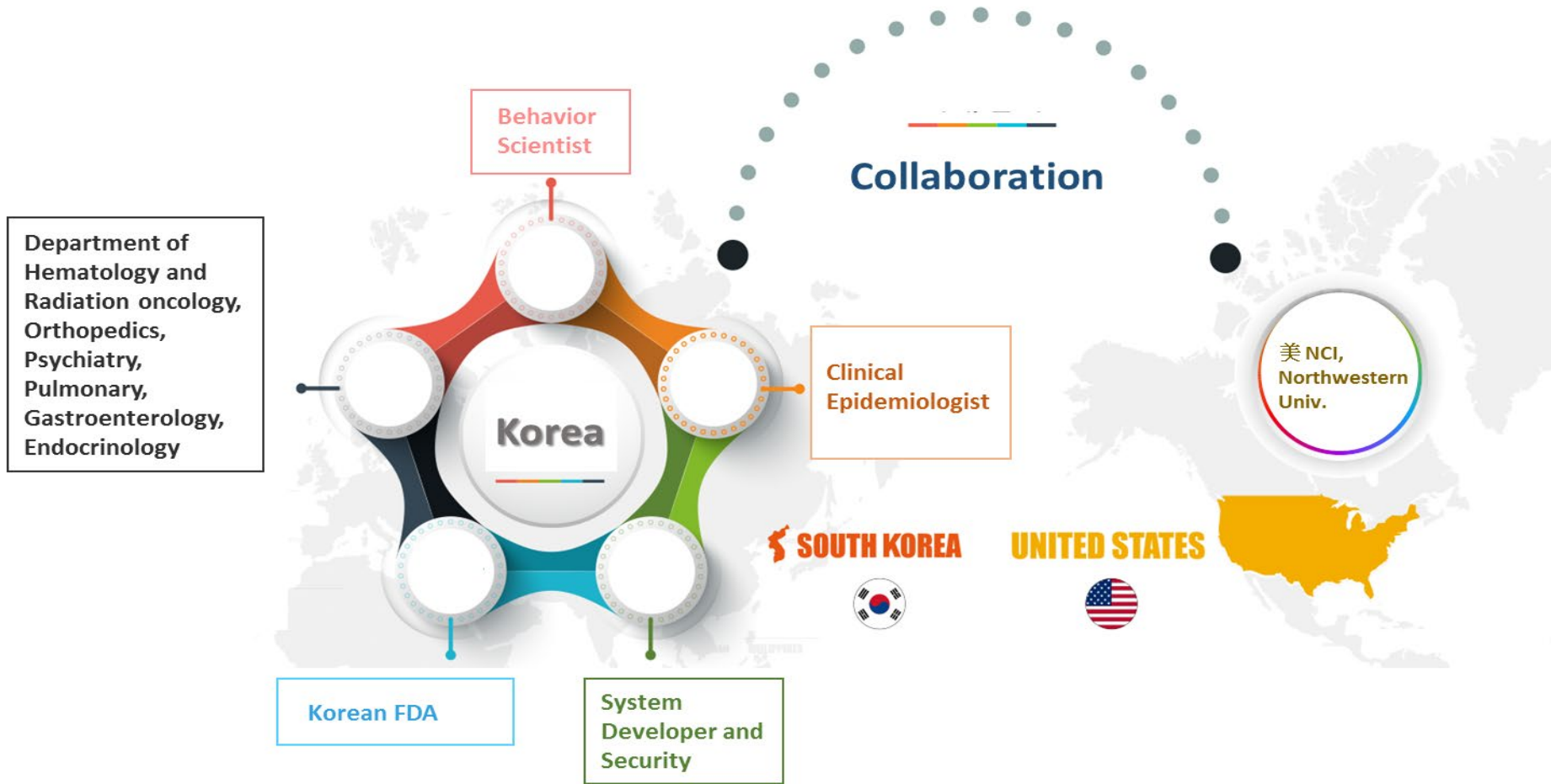
Living and culture in South Korea



- Housing: Mixed with traditional and modern architect (Ondol, Hanok).
- Food: Almost always accompanied by a big bowl of hot soup or stew, sticky rice and variety side dishes. Metal chopsticks & spoons are main silverwares.
- Family oriented. Socialized.



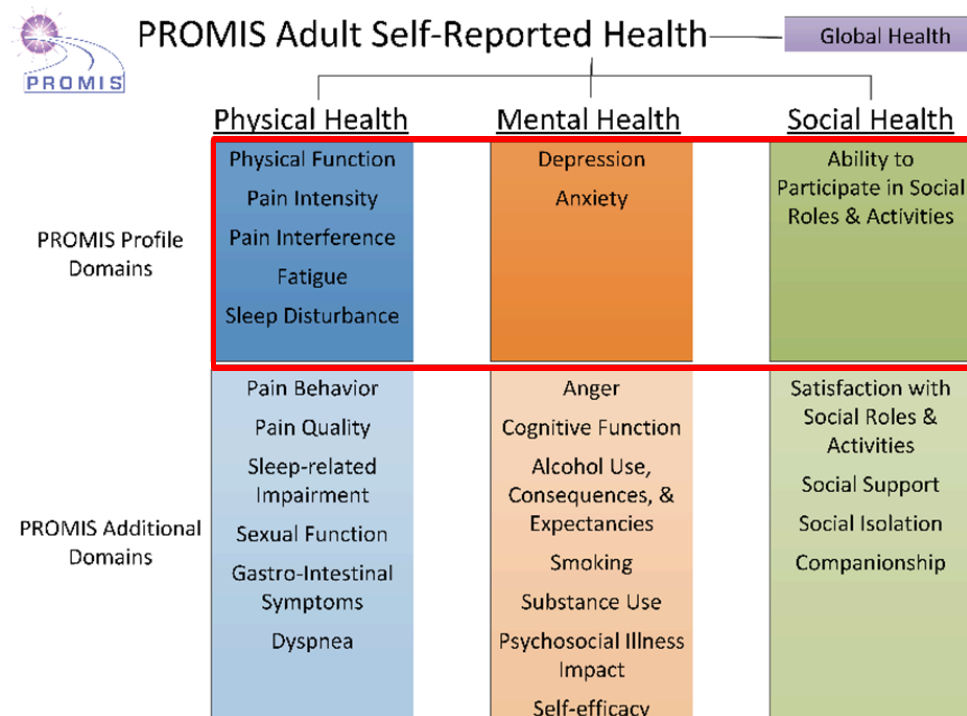




01

Objectives

1. Validating PROMIS Profile Domains for adults in Korean and distribute in Korea



2. Increase awareness of PRO and PROMIS in Korea
3. Set up a system for PNC in Korea

- **Patient-Reported Outcomes Measurement Information System (PROMIS) is valid, reliable and precise measurement system than previously PROMs that assess self-reported patient's physical, mental, and social health.**
- **Specific purpose of the study was to translate and linguistically validate the 6 PROMIS profile domains for adults into Korean.**

02

Methods

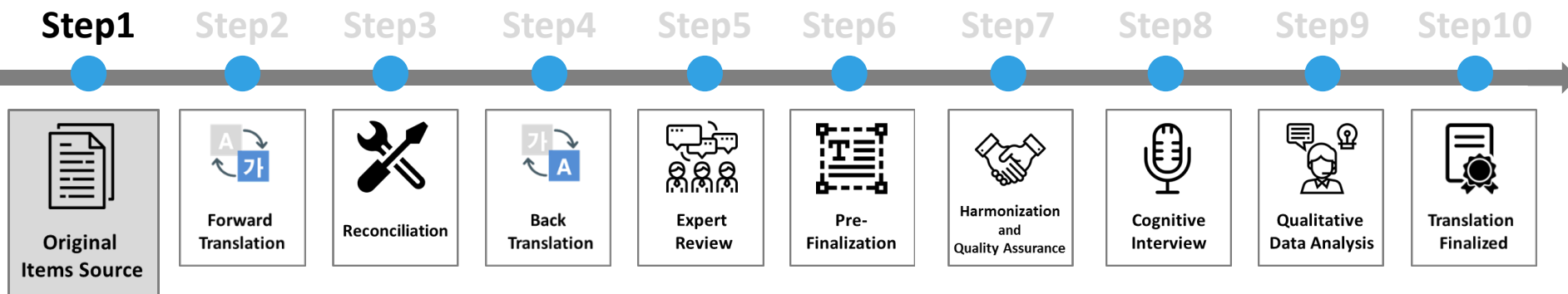
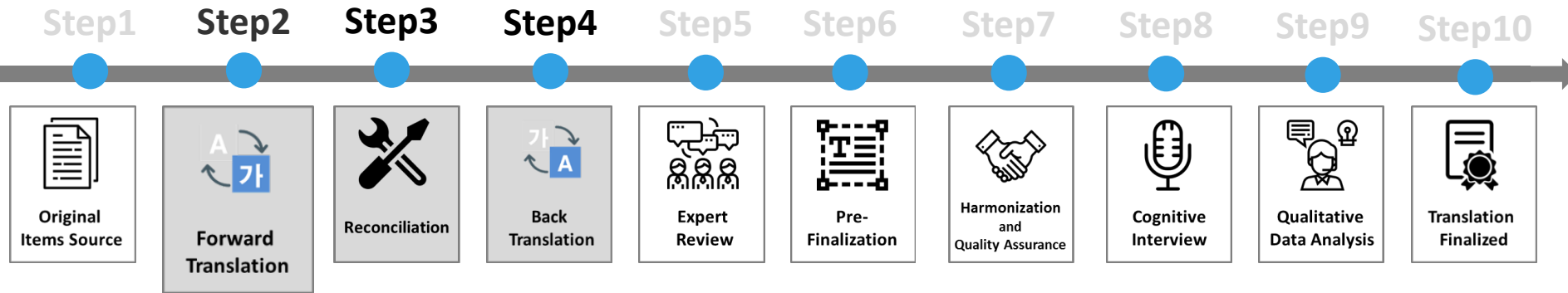


Table 1. Number of Korean translated PROMIS item banks for adult

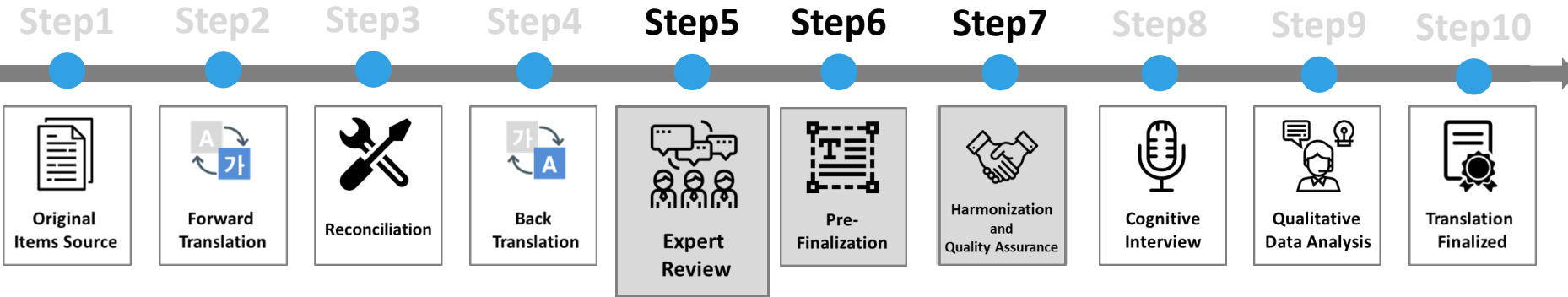
PROMIS Domain	Number of items in bank	Number of translated items in bank*
PROMIS Bank v1.0 - Fatigue	95	69
PROMIS Bank v1.0 - Sleep Disturbance	27	23
PROMIS Scale v1.0 - Pain Intensity 3a	3	3
PROMIS Bank v1.1 - Pain Interference	40	36
PROMIS Bank v1.2 - Physical Function	121	106
PROMIS Bank v2.0 - Ability to Participate in Social Roles and Activities	35	31
Total number of items	321	268

- ✓ Profiles already translated were excluded: depression & anxiety.
- ✓ Items (individual questions) available in Korean from short forms were excluded.
- ✓ Total of 6 PROMIS PROFILES and 268 items were chosen.

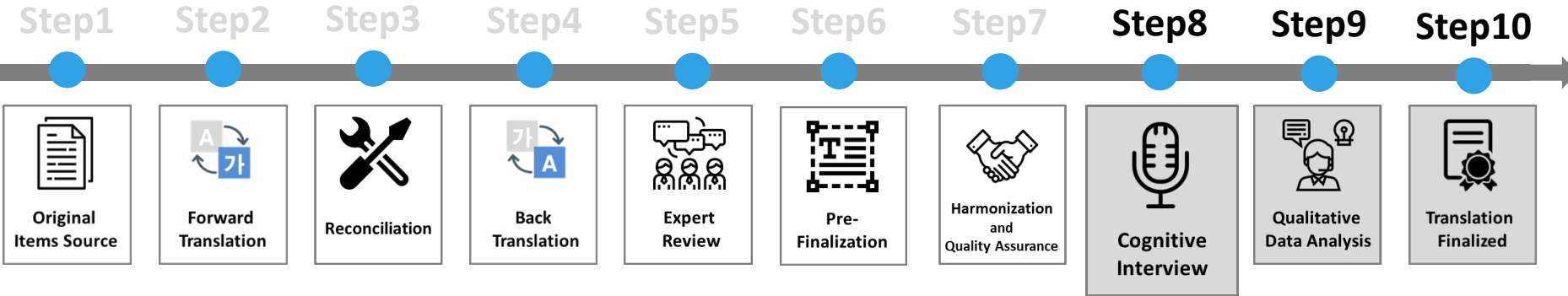


- **Forward Translation:** Each source item in English was translated into Korean by three independent professional translators who are bilingual in English and Korean.
- **Reconciliation:** A fourth independent bilingual translator selected one of the three forward translations and created either a hybrid version or a new version of the translated items.
- **Back Translation:** The reconciled version was back-translated by three native English speaking translators.

- **FACIT translation methodology was taken.**



- **Expert Review:** Reviewed by the 10 experts who were native speakers of Korean and fluent in English working in the field of health professionals (6 clinicians, 2 nurses, and 2 behavioral scientists)
- **Pre-finalization:** Determined the pre-final translation of the items by reviewing all of the previous translation steps
- **Harmonization and Quality assurance:** Performed by the PROMIS translation director addresses consistency and conceptual equivalence



- **Cognitive interview (n = 61, Round 1; n = 6, Round 2):** Participants assigned in at least 6 participants per item and were debriefed by the interviewers.
- **Qualitative data analysis:** Items that met the a priori threshold of $\geq 20\%$ of respondents with comprehension difficulties were considered for rephrasing
- **Translation finalized:** Final quality review was performed by the PROMIS translation director

03 Results

- A total of 67 outpatients participated in the cognitive interviews (61 participants in Round 1 and 6 participants in Round 2).
- Mean age was 57.1 years
- 55.2% were males & 71.6% were married
- Intentional sampling for low literacy group - 38.8% of participants were less than middle school graduates or more than 65 years.
- Most respondents understood the items and were able to interpret for Korean version of PROMIS profile domains.

- 54 items (20.1%) were found to be difficult for understand among at least 20% of respondents.
- Of 54 items, 29 items were not revise due to no alternative words or wording.
 - Some words/wordings were from existing translation items
- 25 items were slightly revised after consultation with the PROMIS translation director.

PROMIS Domain	Number of items with difficulty in Round 1
PROMIS Bank v1.2 - Physical Function	26 (24.5%)
PROMIS Bank v1.0 - Fatigue	16 (23.1%)
PROMIS Bank v2.0 - Ability to Participate in Social Roles and Activities	5 (16.1%)
PROMIS Bank v1.1 - Pain Interference	4 (11.1%)
PROMIS Bank v1.0 - Sleep Disturbance	3 (13.0%)
PROMIS Scale v1.0 - Pain Intensity 3a	0

Issue 1-1. Difference in living/housing environment

Domain	Source item (English)
Physical function	Are you able to yard work like raking leaves, weeding, or pushing a lawn mower?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> <i>“I have not done yard work. The apartment building I live in has no garden.”</i> 	



US



Korea

Issue 1-2. Difference in housing/life style environment

Domain	Source item (English)
Physical function	Are you able to carry a laundry basket up a flight of stairs?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> <i>"I don't have experience. I hang out the laundry on the apartment balcony."</i> 	



US



Korea

Issue 1-3. Difference in eating culture

Domain	Source item (English)
Physical function	Are you able to cut your food using eating utensils?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> Korean use chopsticks instead of forks or knife, and dose not cut food using eating utensils. 	



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Issue 1-4. Difference in living/eating environment

Domain	Source item (English)
Physical function	Are you able to open a can with a hand can opener ?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> Participants understood that a tuna tin can opened using with a pull tab, which is popularly used built-in device in Korea, rather than using a hand can opener. 	



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Issue 2. Need additional description or examples

Domain	Source item (English)
Physical function	Are you able to carry a heavy object (over 10 pounds/5 kg)? Are you able to run or jog for two miles (3km)?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> Participants had difficulty thinking “a heavy object (over 10 pounds/5 kg)” or “two miles (3km)”. They wanted suitable examples. Korean are more used to numbers of bus stops or blocks when thinking about distances in everyday life, but the length of a bus stop or a block vary widely depending on the area the patient lives in. 	

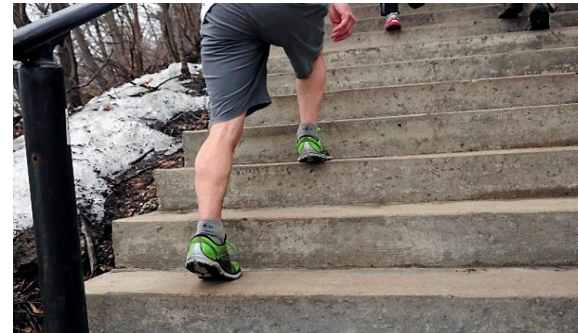
Issue 2. Need additional description or examples

Domain	Source item (English)
Pain interference	How difficult was it for you to take in new information because of pain?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> 4 out of 7 Participants did not understand what was meant “new information”. What kind of the information do I take? 	



Issue 3. Ambiguous meaning of wording

Domain	Source item (English)
Physical function	Are you able to walk up and down two steps? Are you able to climb up five steps?
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> 6 out of 7 participants understood to climb the two steps <i>at a time</i>. They said it is easy to walk up and down two steps at a time. 3 out of 7 participants were confused whether “five steps” is “step by step” or “five steps at a time”. 	



Issue 4. Use of unfamiliar words

Domain	Source item (English)
Ability to participate in social roles and activities	I have to limit social activities at home.
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> 5 out of 7 participants did not understand what was meant “social activities at home”. In Korea, social activities mean activities that involving interaction with people outside the home, especially company, rather than at home. 	



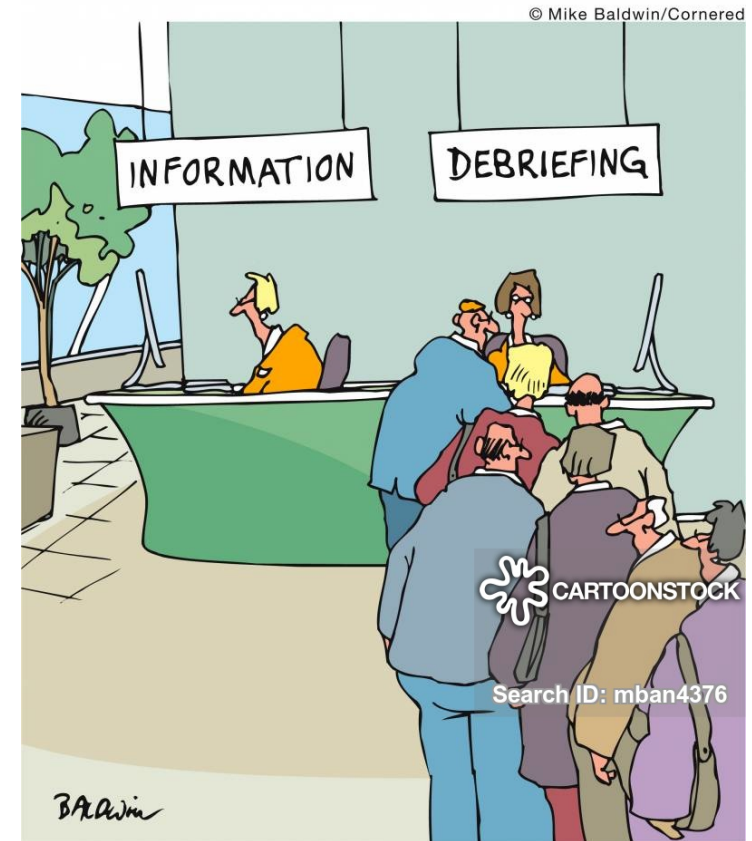
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Korea

Issue 6. Words rarely used/spoken in Korean

Domain	Source item (English)
Fatigue	<p>How often did your fatigue make it difficult to organize your thoughts when doing things at home?</p> <p>To what degree did your fatigue make it difficult to start anything new?</p>
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> It was difficult to express it as “doing things” or “anything” in Korean. To use it, we need words to the objects. There is no way on Korean to say “doing things”, so we have to say “work”. 	



Issue 5. Similar but different words depending on levels and degrees – cannot distinguish

Domain	Source item (English)
Fatigue	
Uncomprehending or difficult reasons	
<ul style="list-style-type: none"> The items in fatigue item bank measure different levels and degrees of fatigue using a variety of adjectives (sluggish, run-down, physically drained, exhausted, bushed, totally drained, wiped out, and extreme exhaustion). It was difficult to distinguish between them and sort out the different Korean words to describe the level of fatigue. 	

04

Conclusions

- **Some difficulties were found in the translation of some items, but for most items eventually an equivalent translation was obtained.**
- **The Korean version of the PROMIS profile domains has been linguistically validated in Korean adults.**
- **Further studies related to the validity and reliability of the Korean version of PROMIS profile domains can now be initiated.**

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감사합니다
(Gam-Sa-Hop-Ni-Da)
Thank you

