



# Interventions to promote health literacy among migrants

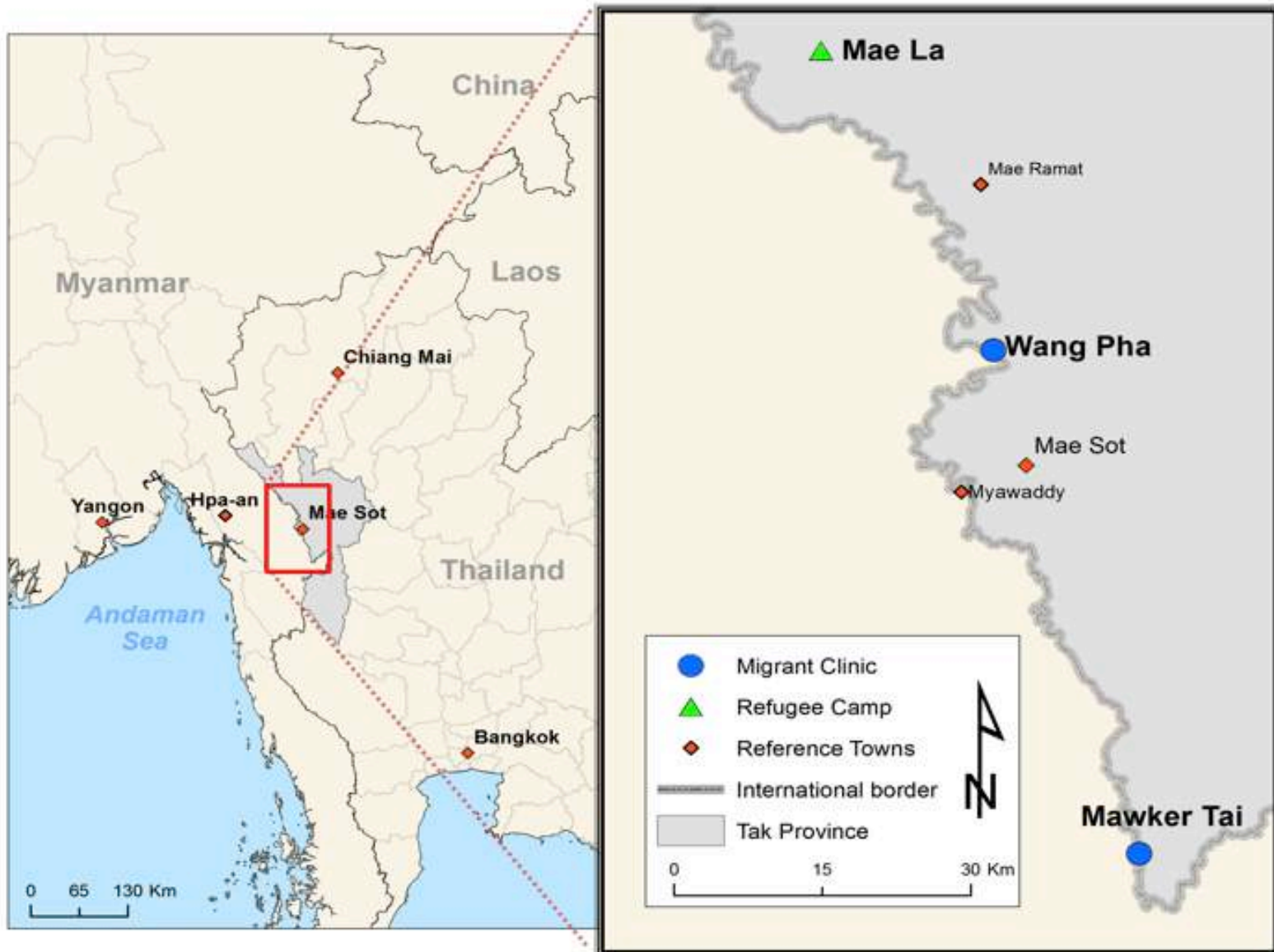
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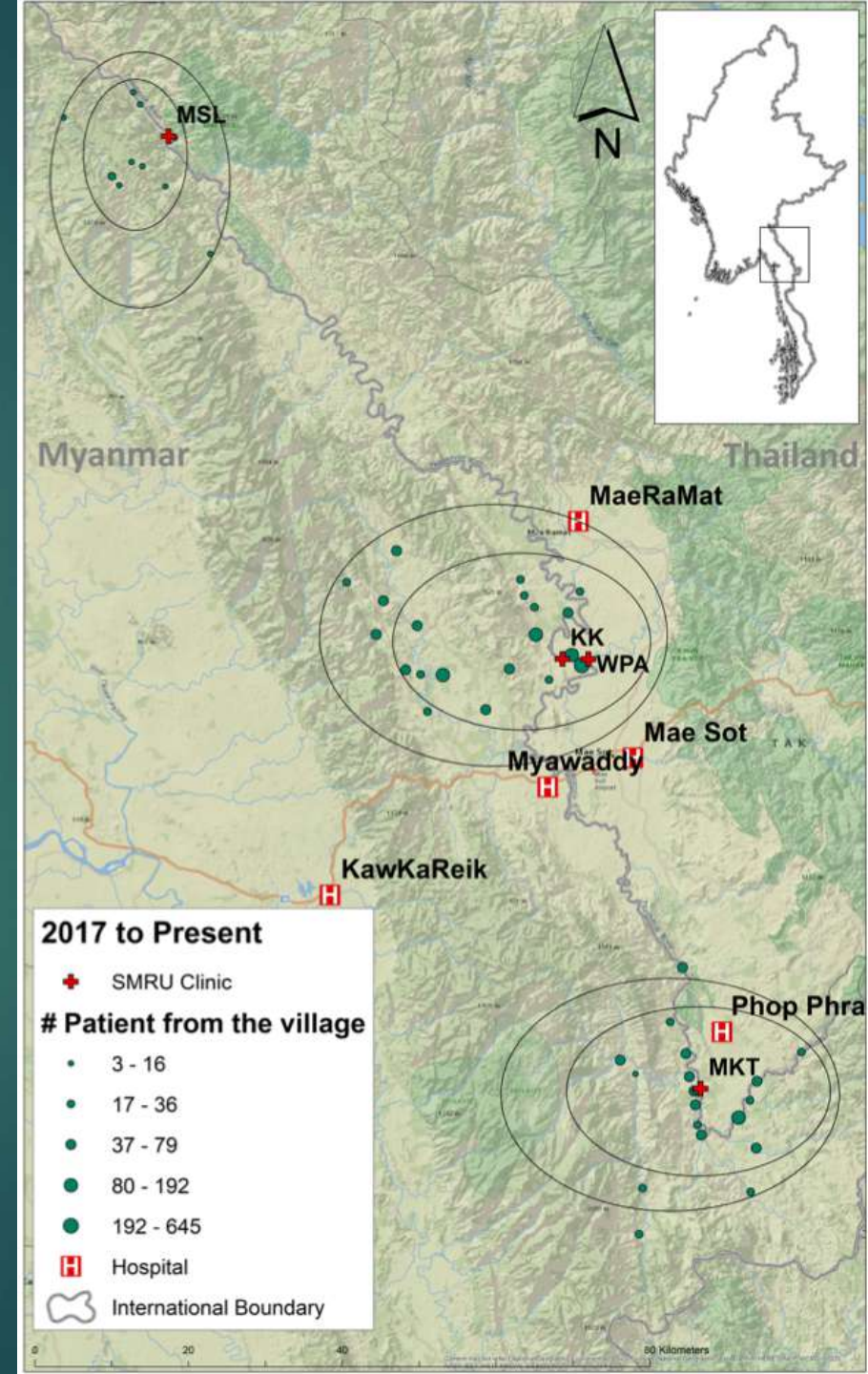


This tale begins more than 30 years ago...



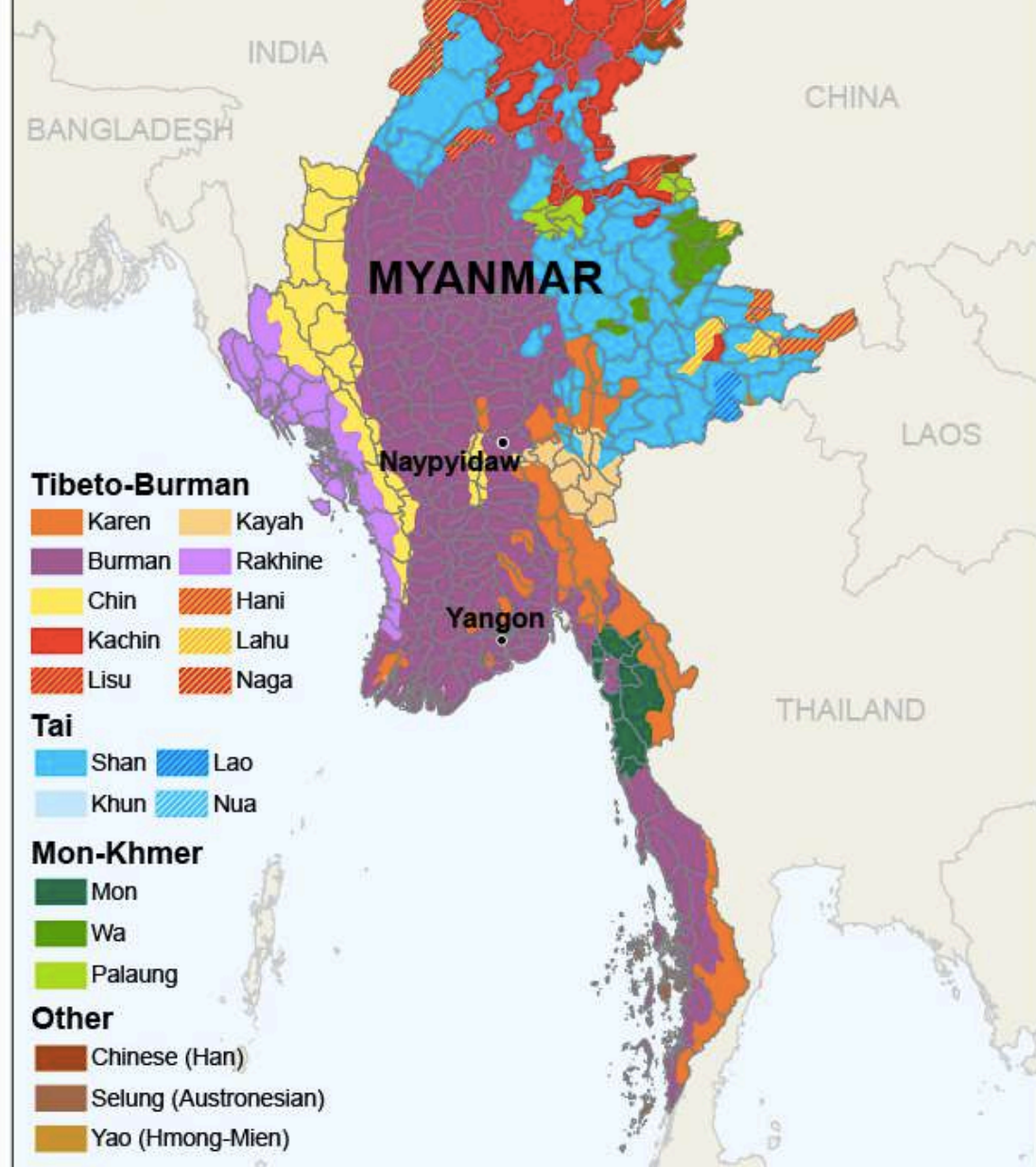
SMRU = Shoklo Malaria Research Unit

...And this story continues today.





# Electoral Constituencies And Ethnic Groups In Myanmar

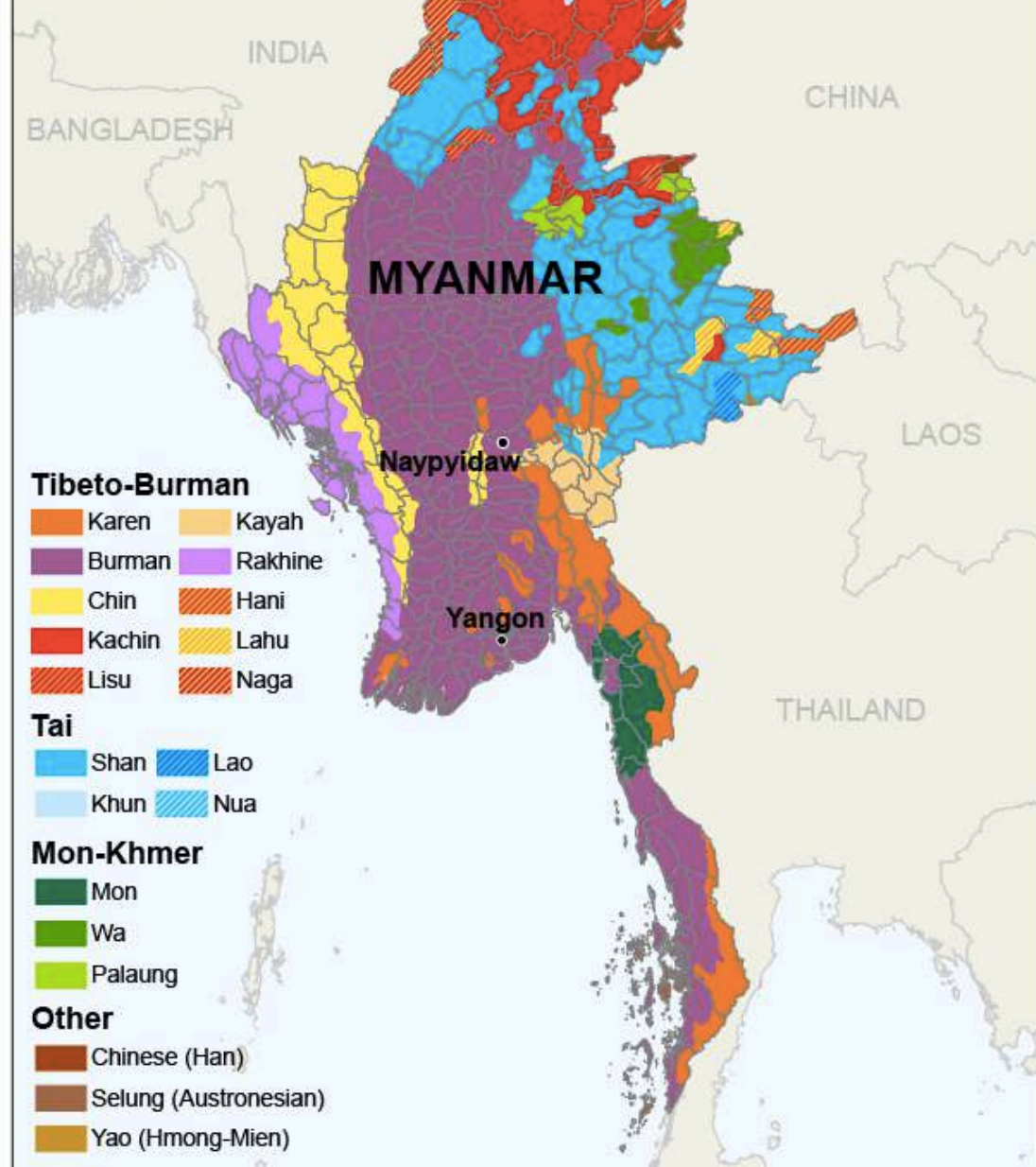


How many different ethnic groups exist in Thailand?

In Myanmar?

135 different ethnic groups!

# Electoral Constituencies And Ethnic Groups In Myanmar



How do we characterize language preference?

What about literacy?

Can women read?

If they can read, what do they understand?

For health literacy: What is important, when is it important, and why?

In the “book” of SMRU, this “chapter” is about health literacy.

Twenty years ago...

- ▶ Health literacy relates to health outcomes.
- ▶ What about places where school is not good?
- ▶ Tested health literacy in cross-section: 1995, 2003, 2008
- ▶ Increases a bit: migrants (12.5%) and refugees (2%)
- ▶ But MMR GREATLY IMPROVES: 6x reduction in refugees, 2x reduction in migrants
- ▶ Conclude: Health literacy matters less for things that have VERY poor pregnancy outcomes (MALARIA, obstetric complications)
- ▶ In other words, health literacy is not that important if:
  - ▶ Access to early diagnosis and treatment of malaria and anaemia
  - ▶ Skilled birth attendants

## But twenty years later...

- ▶ MMR (maternal mortality rate) still high.
  - ▶ Neural tube defects 1.18/1000 birth compared to 0.67/1000 for Thailand
  - ▶ For folic acid, lack of awareness (i.e., health literacy!) may be to blame.
- ▶ Campaign for migrants and refugees, health workers, using VISUAL MESSAGING through posters, pamphlets AND....
- ▶ Folic acid uptake in the community by the end of the project...

2%



# Shall we try again?

- ▶ How do we characterize language preference?
- ▶ What is literacy? What is health literacy?
- ▶ Can women read?
- ▶ If they can read, what do they understand? If they can't read, what do they understand?
- ▶ For health literacy: What is important, when is it important, and why?



# What is health literacy?

WHO definition (1998): “ the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health”

# Health literacy evolves...

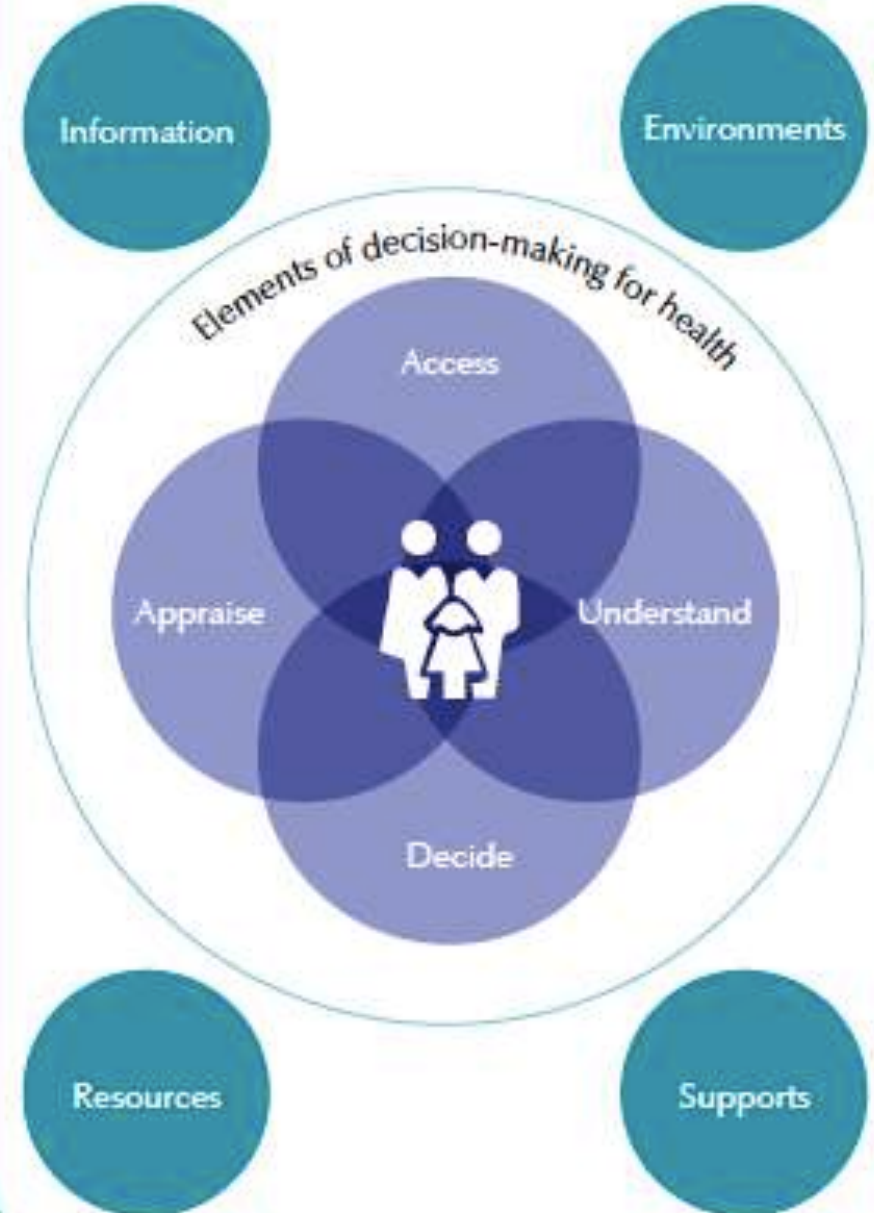
Health literacy refers to:

(Individuals and communities) + personal characteristics + social resources = good decisions for health



2 main areas: health literacy of people, health systems, and how they interact

People interact with information, environments, resources and supports as they make health decisions.





Collect representative, cross-sectional DATA through: health literacy questionnaires AND/OR qualitative techniques

SMRU studied in 1996, 2003, 2008

SMRU studied in 2019.

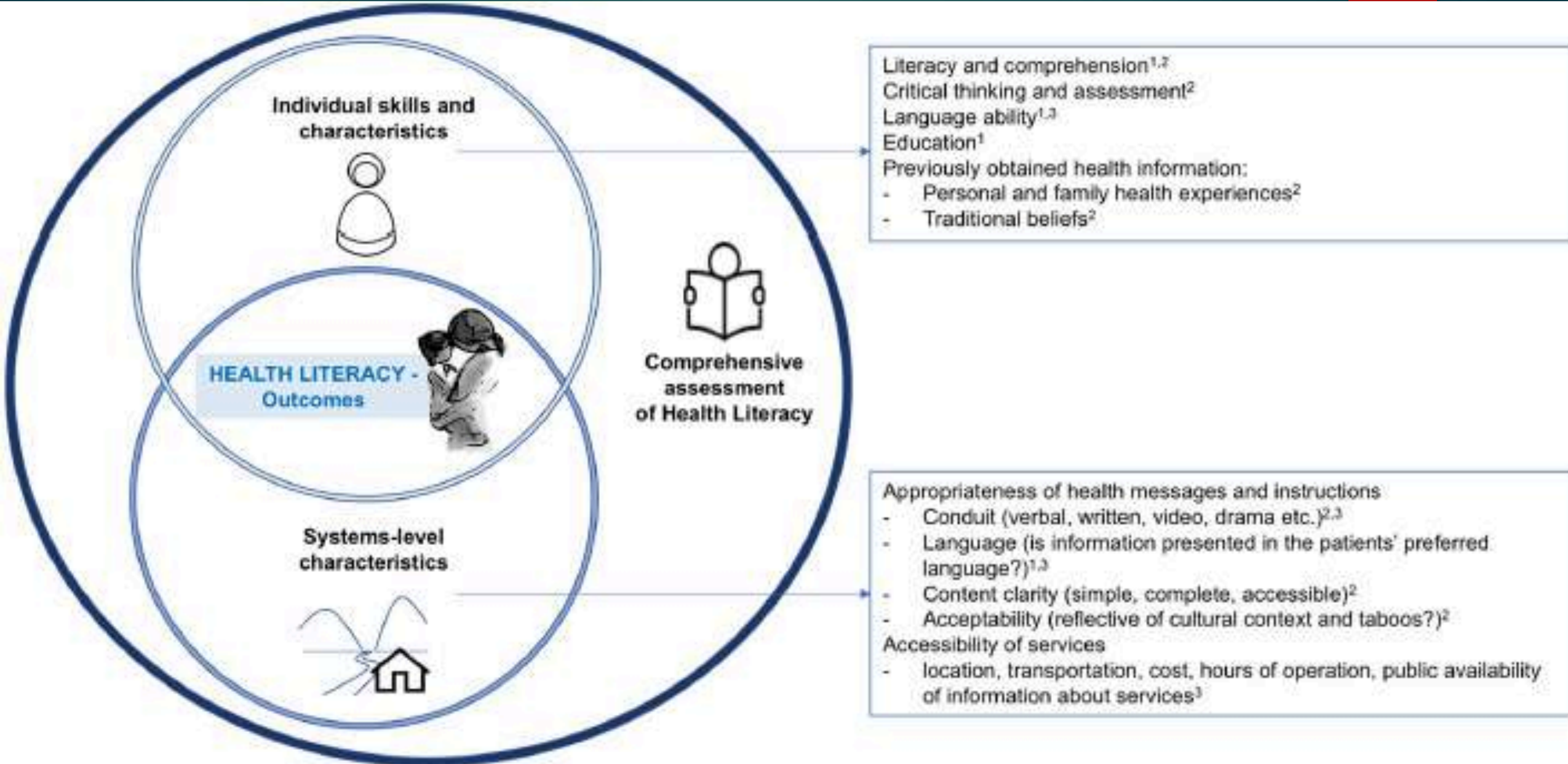
Design interventions that respond to local health literacy limitations

SMRU attempted with folic acid in 2018.

Trial, test and evaluate interventions



# What is health literacy—on the border?



# Let's revisit the folic acid campaign...

## Health Literacy + Folic Acid?

Three places where we may have gone wrong:

1. Health literacy?
2. Health services and specifically the messaging?
3. How these two interact.

Individual level:

Health systems level:

Literacy and comprehension<sup>1,2</sup>  
Critical thinking and assessment<sup>2</sup>  
Language ability<sup>1,3</sup>  
Education<sup>1</sup>  
Previously obtained health information:  
- Personal and family health experiences<sup>2</sup>  
- Traditional beliefs<sup>2</sup>

Appropriateness of health messages and instructions  
- Conduit (verbal, written, video, drama etc.)<sup>2,3</sup>  
- Language (is information presented in the patients' preferred language?)<sup>1,3</sup>  
- Content clarity (simple, complete, accessible)<sup>2</sup>  
- Acceptability (reflective of cultural context and taboos?)<sup>2</sup>  
Accessibility of services  
- location, transportation, cost, hours of operation, public availability of information about services<sup>3</sup>

# Great! Now how to assess health literacy among women?

<b>Tool</b>	<b>Use in SEA?</b>	<b>Strengths</b>	<b>Barriers</b>
<b>HLQ</b>	Yes	Validated in region, low resource settings	Low clinical acceptability, difficult to administer.
<b>HLS-EU-47</b>	Yes, many	Validated in Myanmar	MM validation among highly educated. Low clinical acceptability, difficult to administer.
<b>REALM</b>	No	Ease of administration	Technical medical terms. Correct pronunciation = comprehension.
<b>TOFHLA</b>	No		Comprehension of US-specific drug labels.
<b>NVS</b>	No	Ease of administration	Comprehension of US-specific nutrition labels. Proprietary.



# We went with what we knew:

## Tested:

1. “Can you read or write?”
2. “What language do you prefer?”
3. “Please read the statements.”
4. “What does it mean?”

(1) Pregnant women should be vaccinated for tetanus.

ကိုယ်ဝန်ဆောင် အမျိုးသမီးတိုင်း မေးခိုင်ကာကွယ်ဆေး ထိုးသင့်ပါသည်။  
ပိတ်မုတ်ဒါတဖန် ကြားလာဘဲဆဲးကသံဒီသဒါ တါမဲအုတ်တယံကီးကဲဒေးလီ၊  
หญิงมีครรภ์ควรได้รับการฉีดวัคซีนป้องกันบาดทะยัก

(2) Bleeding in late pregnancy is danger sign, come to the clinic.

ကိုယ်ဝန်လရင့်မှ သွေးဆင်းလျှင် အန္တရာယ်ရှိသော လက္ခဏာ ဖြစ်သဖြင့် ဆေးခန်းသို့ အမြန်ဆုံး သွားရမည်။  
မိဒါတဖန် ဒါပုထီတို မှာသွံဒီး မှာတိဘဲယိဒ်အပနိဒ် အယိဟဲဆူတါဆါဟံဒ် တဘျီယီတကွာ  
อาการเลือดออกตอนอายุครรภ์แก่ เป็นสัญญาณอันตราย ต้องมาที่คลินิกทันที

(3) Take your multivitamins, including the black tablet, to prevent anemia.

သွေးအားနည်းခြင်းကို ကာကွယ်ရန် ဗီတာမင်အားဆေးများကို သောက်သည့်အပြင် အမဲရောင်ဆေးလုံး  
များကိုပါ သောက်သုံးရပါမည်။

အကသဲဘဲဘဲတမုလာပုဟဲဟဲနဲတဖန် အယုဒဲဒဲကသဲအဖျဲသုသုတကွာ တါအမုတါဒဲသဒါ သွဲစွာတါဆါလဲ၊  
กินวิตามินที่ได้รับ รวมทั้งที่เป็นเม็ดสีดำเพื่อป้องกันโรคโลหิตจาง

(4) Delivery with trained midwives is safest. In labour bring your TBA to the clinic with you.

သင်တန်းရရှိထားသော သားဖွားဆရာမများနှင့် ကလေးမွေးဖွားပါက အန္တရာယ်ကင်းပါသည်။  
ပမုအဲဖျဲဒဲ ပုလာအထဲဘဲဘဲ တါမဲလတဖန်နဲ တါဘဲယာအဲစွာလဲ၊  
နဲဟဲအိဒ်ဖျဲနဲ နဲနဲဟဲကီးယုဒဲဒဲနဲအဲမုဒ်(ပုဒဲအိဒ်ဖျဲဖိ) သဲစွာကီးလီ၊  
การคลอดโดยพยาบาลผดุงครรภ์เป็นวิธีที่ปลอดภัยที่สุด ตอนคลอดให้พาหมอต้าแม่มาที่คลินิกด้วย





# So what did we find?

Overall, only 37% (194/525) had “adequate” HL

63.1% (331/525) women SAID they could read



43.8% of these women (145/331) had LOW HL.

194/525 (37%) SAID they couldn't read.



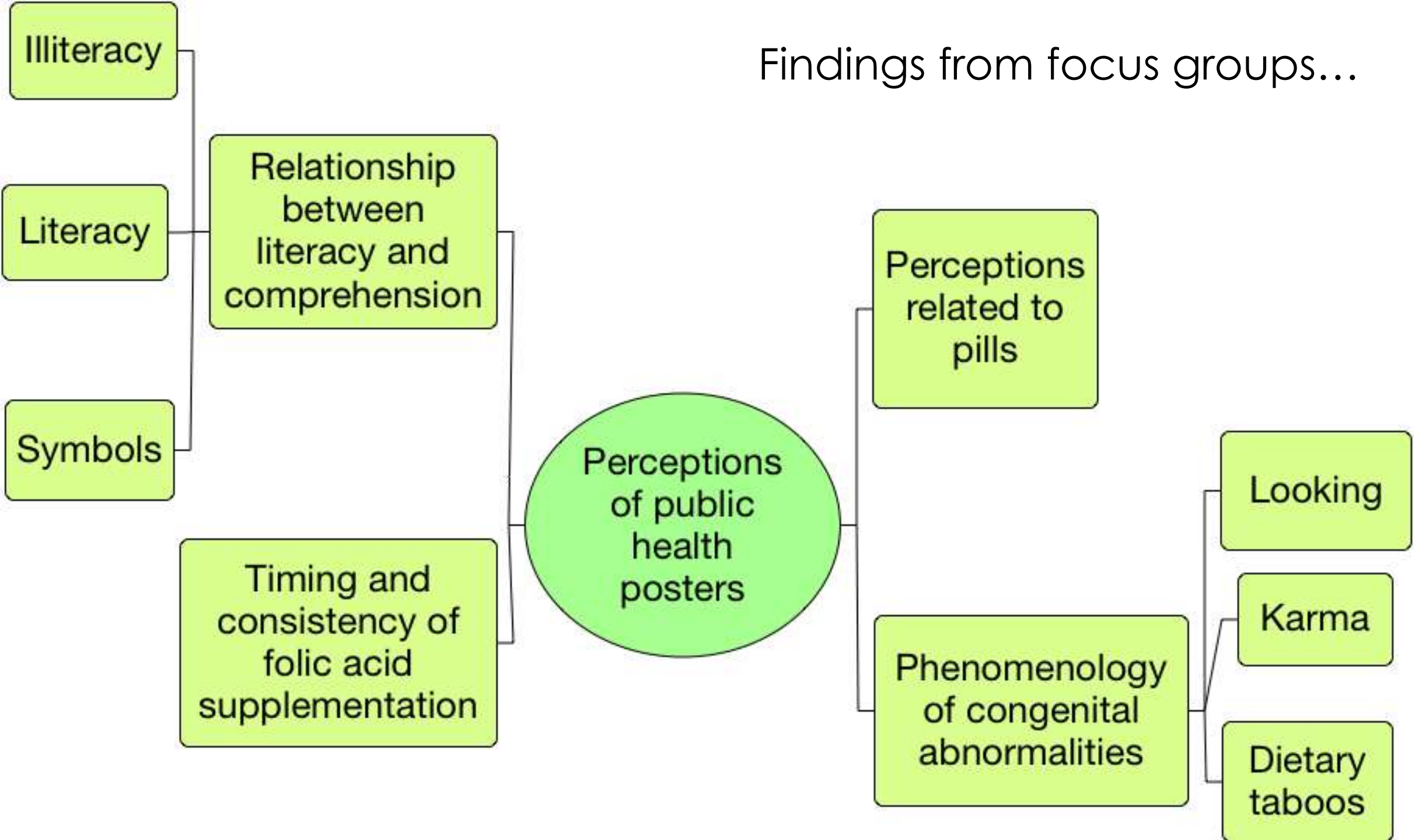
96% of these women (186/194) had LOW HL

## Can we predict low health literacy?

Clinical Variable	Sensitivity % (95% CI)	Specificity % (95% CI)	PPV % (95% CI)	NPV % (95% CI)	ROC AUC
Reported illiteracy	56.19 (50.66–61.61)	95.88 (92.04–98.20)	95.88 (92.04–98.20)	56.19 (50.66–61.61)	0.76
Less than 2 <sup>nd</sup> grade education	71.60 (66.41–76.40)	95.36 (91.38–97.86)	96.34 (93.17–98.31)	66.31 (60.43–71.83)	0.83
Less than 3 <sup>rd</sup> grade education	83.99 (79.58–87)	85.57 (79.82–90.19)	90.85 (87.05–93.83)	75.80 (69.57–81.32)	0.85
Less than 4 <sup>th</sup> grade education	90.94 (87.31–93.80)	72.68 (65.84–78.82)	85.03 (80.88–88.58)	82.46 (75.91–87.84)	0.82
Less than 5 <sup>th</sup> grade education	95.77 (93.01–97.67)	46.91 (39.72–54.19)	75.48 (71.07–79.52)	86.67 (78.64–92.51)	0.71



# Findings from focus groups...



# Conclusions

- ▶ Case study in effective health messaging for communities with limited formal education.
- ▶ This setting: assess education instead of reading/writing ability.
- ▶ Appropriate tools to test health literacy?
  - ▶ Are there better surrogate measures?
  - ▶ What is health literacy really attempting to achieve?
- ▶ There is no “gold standard” for HL.
  - ▶ Context- and disease-specific considerations.
- ▶ Future interventions?

# References

## Main articles we reviewed today:

Carrara et al. (2011) *BMC Pregnancy Childbirth* 11:45.

Stevens, et al. (2018) *Public Health* 161:83-89.

Gilder, et al. (2019) *PLoS ONE* 14 (6):e0218138.

Hashmi, et al. (2019) *Brit J Nutr* 121:1413-1423.

## Background on HL:

World Health Organization. (2015) *Health literacy toolkit for low-and middle-income countries.*

Berkman ND, et al. (2011) *Ann Intern Med* 155(2):97–107.

Baker DW. (2006) *J Gen Intern Med* 21(8):878–83.

Freedman DA, et al. (2009) *Am J Prev Med* 36(5):446–51.

Sorensen K, et al. (2012) *BMC Public Health* 12:80.

Paasche-Orlow MK, Wolf MS. (2007) *Am J Health Behav* 31(Suppl 1):S19–S26.

Nutbeam D. (2008) *Soc Sci Med* 67(12):2072–8.

Batterham RW, et al. (2014) *BMC Public Health* 14:694.

## Health literacy guides/questionnaires

HLQ (Health Literacy Questionnaire) WHO 2015; Ing 2017

HLS-EU-47 (Health Literacy Survey tool): Duong 2017, Oo 2017; Ing 2017

REALM (The Rapid Estimate of Adult Literacy in Medicine): Elder 2012

TOFHLA (Test of Functional Health Literacy): Jordan 2011

NVS (Newest Vital Sign): Jordan 2011