Developing and Testing the Knowledge Hassles Information Seeking Model (KHISM)

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Informal caregivers (family/friends) have a key role in ensuring that some of the most vulnerable members of society have access to pharmaceutical care services

› HMR is provided collaboratively by general practitioners (GPs) and pharmacists.

› The providers claim for the full cost of service provision from the Australian government.

› The pharmacist generally visits the consumer and caregiver(s) at their home, for an extended interview regarding medication management issues.

› Following the visit, the pharmacist sends a written report documenting medication review findings and recommendations to the GP, who then formulates a revised medication management plan with the consumer/caregiver(s).

Prior to service experience, *consumers and caregivers* believed that HMR would be a welcome source of personally-relevant medication information (for themselves) [1]

[1] White L, Klinner C and Carter S. *Res Social Admin Pharm.* 2012. 8, 4 -16.

Specialised knowledge

Understand the processes involved in the procurement and administration of medicines.

Understand how and when the medicines are taken, monitor for beneficial effects and adverse effects, adjust doses and/or cease medicines.

Negotiate with prescribers, pharmacists, nurses and the care-recipient.

Stress caused by the need to process specialised medication knowledge (Knowledge Hassles)
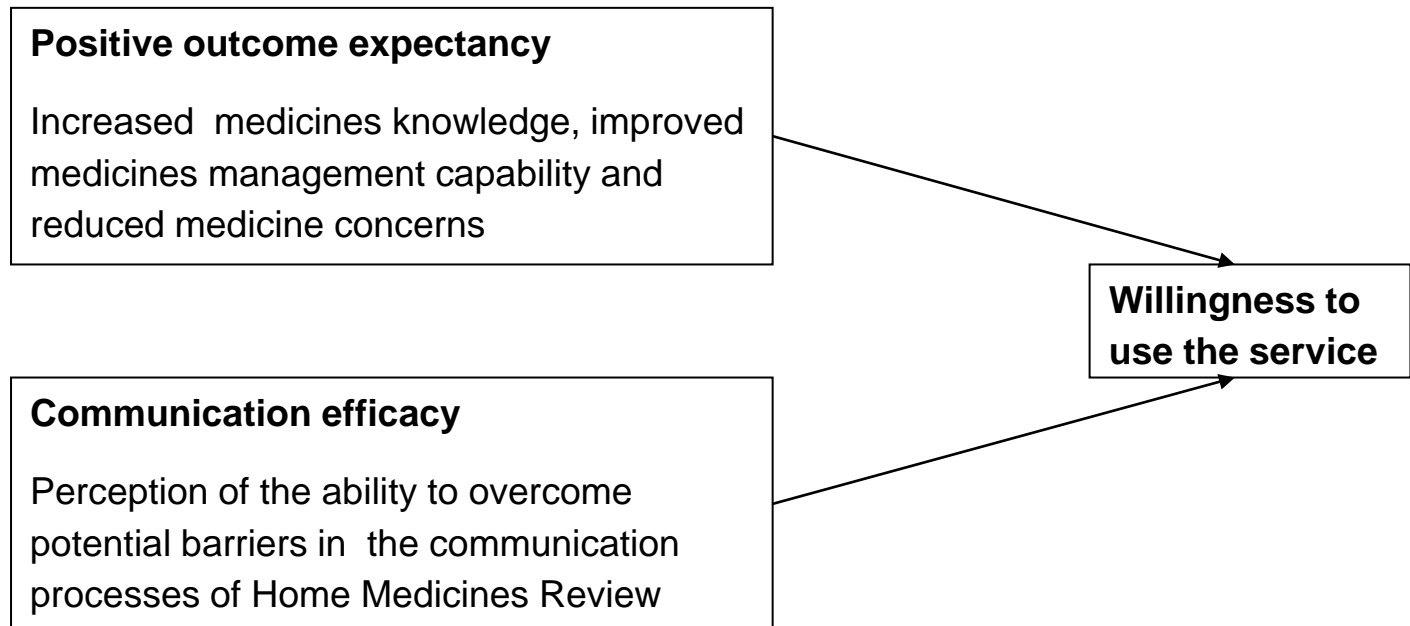
Willingness of caregivers to use pharmaceutical care services for their care-recipients

› "Irritating, frustrating, distressing demands that to some degree characterise everyday transactions with the environment." [1]

› The frequency and severity of daily hassles is associated with psychological distress and somatic disease. [1]

› Experiencing daily hassles is associated with worries and concerns. [2]

› Experiencing daily hassles is associated with the tendency to seek out threat-relevant information (known as "monitoring"). [2]

› [1] DeLongis A, Coyne JC, Dakof G, Folkman S, Lazarus RS. *Health Psych*. 1982; **1**: 119-36.

› [2] Russell M, Davey GCL. *Personality and Individual Differences*. 1993; **14**: 317-22.

› To develop and test the Knowledge Hassles Information Seeking Model (KHISM).

› Specifically, we aim to use the model to predict caregivers' willingness to use Home Medicines Reviews (for their care-recipient).

Positive outcome expectancy

Increased medicines knowledge, improved medicines management capability and reduced medicine concerns

Communication efficacy

Perception of the ability to overcome potential barriers in the communication processes of Home Medicines Review

Willingness to use the service

Consumers' willingness to use Home Medicines Reviews[1,2]

[1] Carter SR, Moles R, White L, and Chen TF. Res Social Adm Pharm. 8 (2012) 487–498
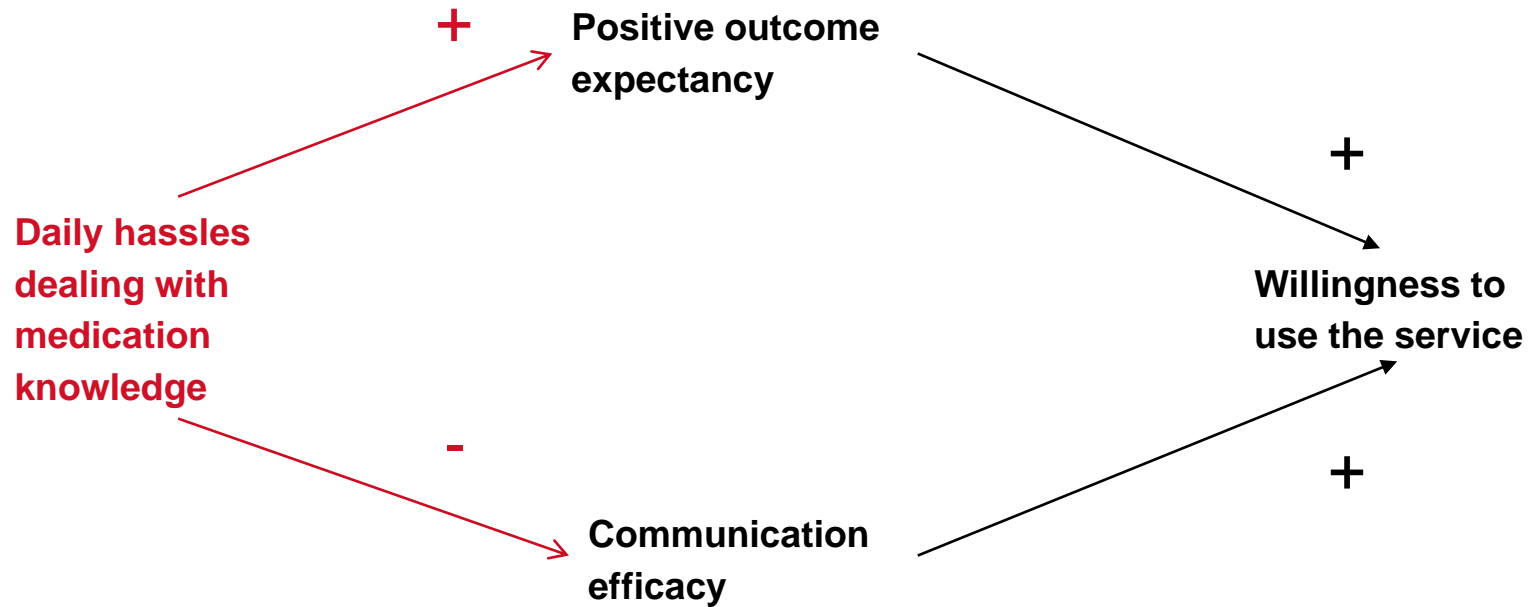[2] Carter SR, Moles R, White L, and Chen TF. Res Social Adm Pharm. (2013) in press

+   **Positive outcome expectancy**

Medication-related worry
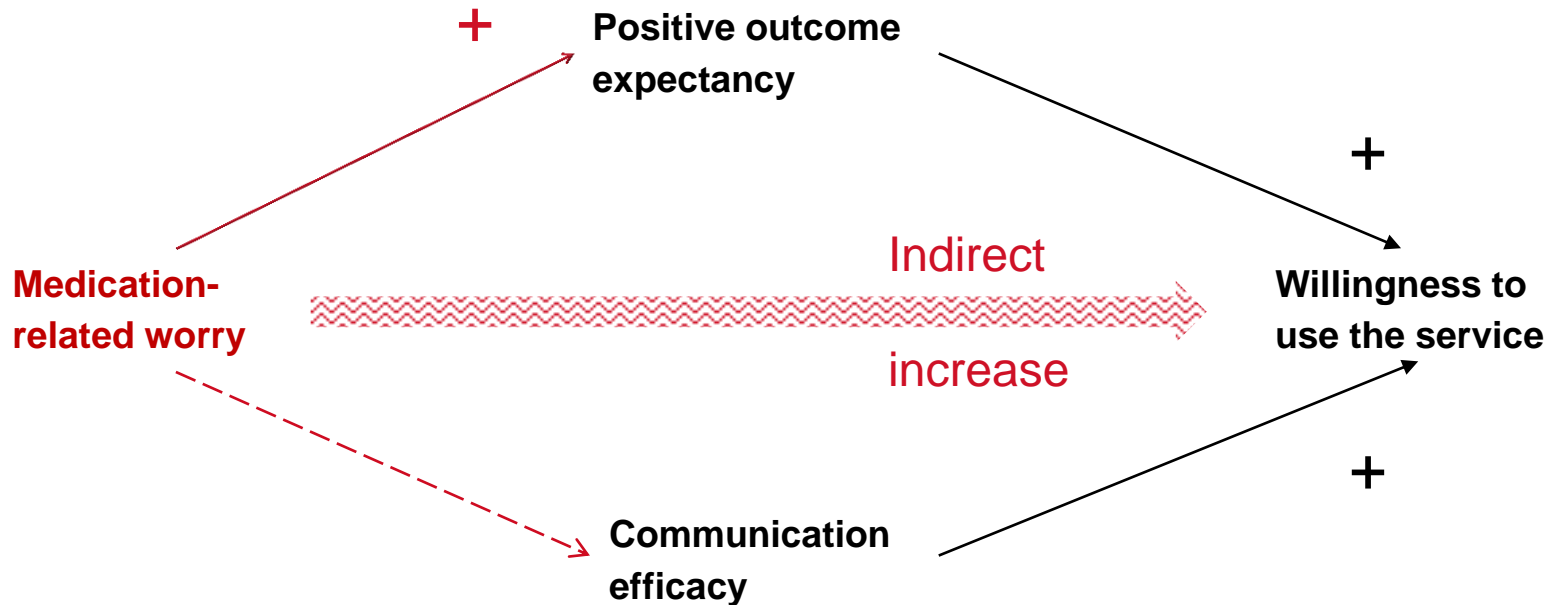
Indirect increase

Willingness to use the service

+

+

Communication efficacy

[1] Carter SR, Moles R, White L, and Chen TF. Res Social Adm Pharm. (2013) in press.

› Cross sectional postal survey (early 2009)

› 2350 members of Carers NSW (Australia).

› Inclusion criteria:

› Caregiver: Purchase medicines; organise how and when taken; give doses; make decisions to increase/decrease/not take/discontinue the medicine altogether.

› Care recipient: Not experienced HOME MEDICINES REVIEW, and ≥ 5 medicines daily or ≥ 12 doses daily

<u>Positive outcome expectancy</u> 6 items

Caregivers' expectations that Home Medicines Review provides *them* with increased medicines knowledge, improved medicines management capability and reduced medicine concerns.

<u>Communication efficacy</u> 4 items

A caregiver's perception of their ability to overcome potential barriers in the communication processes of Home Medicines Review.

<u>Willingness</u> 2 items

a) to arrange Home Medicines Review if their GP suggested it,

b) to ask the GP for an Home Medicines Review if they were concerned about their car-recipients' medicines.

[1] Carter SR, Moles R, White L, and Chen TF. Res Social Adm Pharm. 8 (2012) 487–498
[2] Carter SR, Moles R, White L, and Chen TF. Res Social Adm Pharm. (2013) in press

Family Caregiver Medication Administration Hassles (FCMAHS) Scale [1]

a) Information Seeking/Information Sharing

b) Safety Issues

c) Scheduling Logistics

d) Polypharmacy

[1] Travis SS, Bernard MA, McAuley WJ, Thornton M, Kole T. *Gerontologist*. 2003; **43**: 360-8.

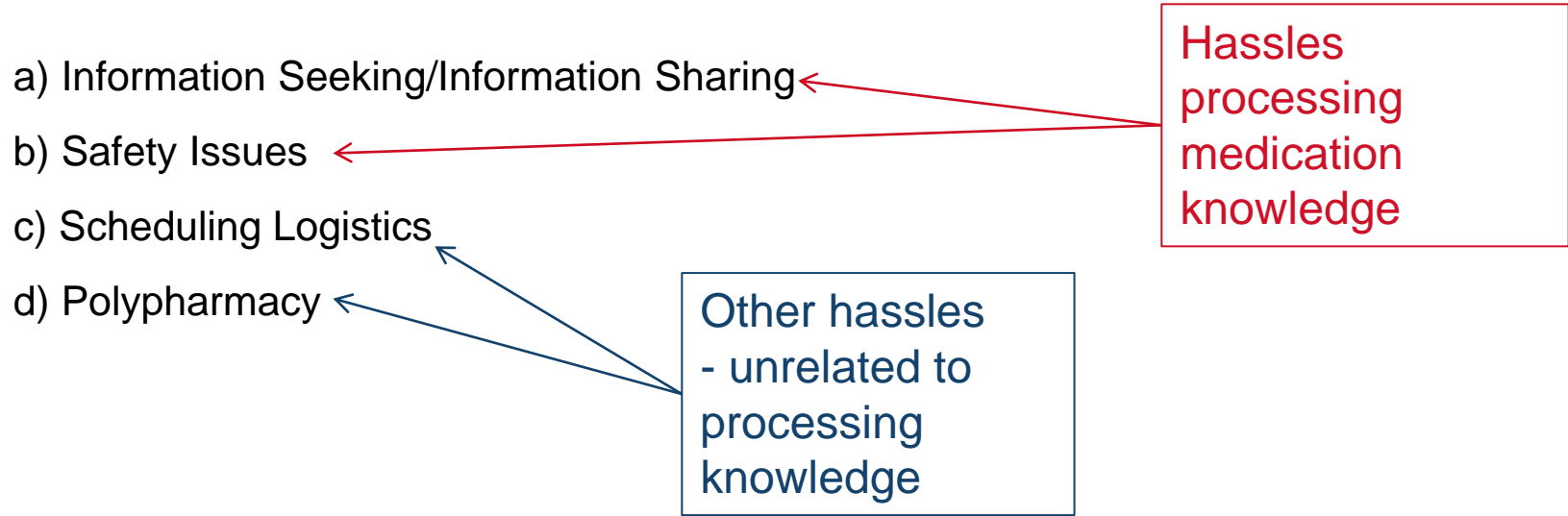# Family Caregiver Medication Administration Hassles (FCMAHS) Scale [1]

a) Information Seeking/Information Sharing

b) Safety Issues

c) Scheduling Logistics

d) Polypharmacy

Hassles processing medication knowledge

Other hassles - unrelated to processing knowledge

[1] Travis SS, Bernard MA, McAuley WJ, Thornton M, Kole T. *Gerontologist*. 2003; **43**: 360-8.

Respondents were asked to rate each task on a scale from 0="*no hassle at all*" to 5="*the worst of all hassles*" as to how much of a hassle it is to help manage the care-recipient's medicines.

"Knowledge hassles" (4 items)

1) recognising adverse effects,

2) knowing whether the medicine is effective,

3) knowing why the medicine is used,

4) knowing what questions to ask the doctor.

"Other hassles" (4 items)

1) scheduling medicines into the daily routine,

2) sharing responsibility with the care-recipient,

3) arguing with care-recipient about when to take medicines,

4) giving medicines on time.

Table 1. Factor-based scores[1]

N=324 (14% effective response rate)

Measure	Mean (SD)
Willingness [2]	3.91 (0.72)
Positive outcome expectancy [2]	3.15 (0.96)
Communication efficacy [2]	4.73 (1.43)
"Knowledge hassles" [3]	1.36 (1.21)
"Other hassles" [3]	0.85 (1.00)

[1] Factor-based score divided by number of items

[2] (range 1 = strongly disagree to 5 = strongly agree)

[3] (range 0 = "no hassle at all" to 5 = "worst of all hassles")

› **Confirmatory factor analysis**

Satorra-Bentler scaled Chi-square =320, df = 160, p<0.001, CFI = 0.94,

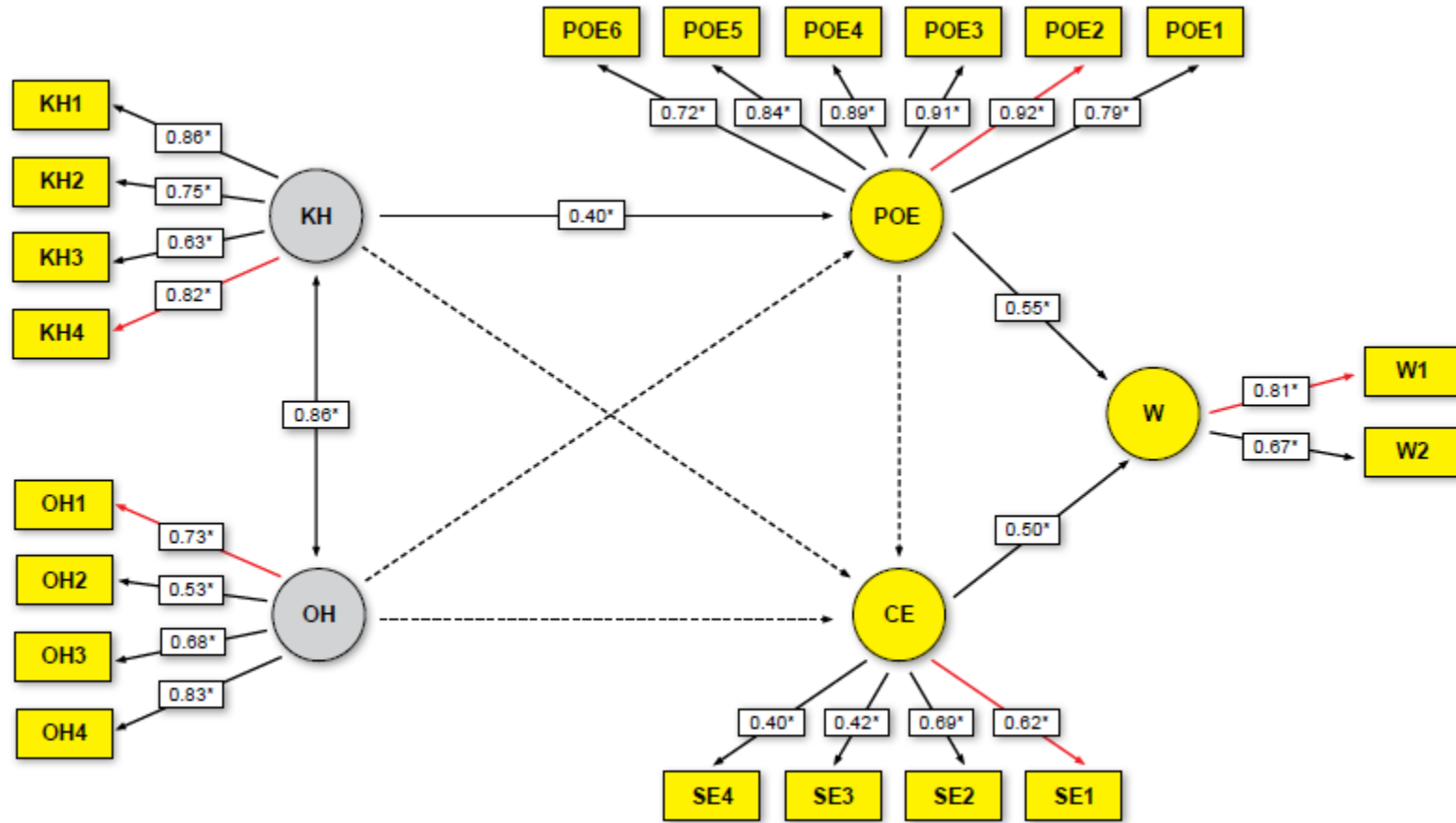TLI = 0.93, RMSEA= 0.058 (90% confidence interval = 0.049, 0.067).

Overall reasonable construct reliability (0.62 – 0.85)
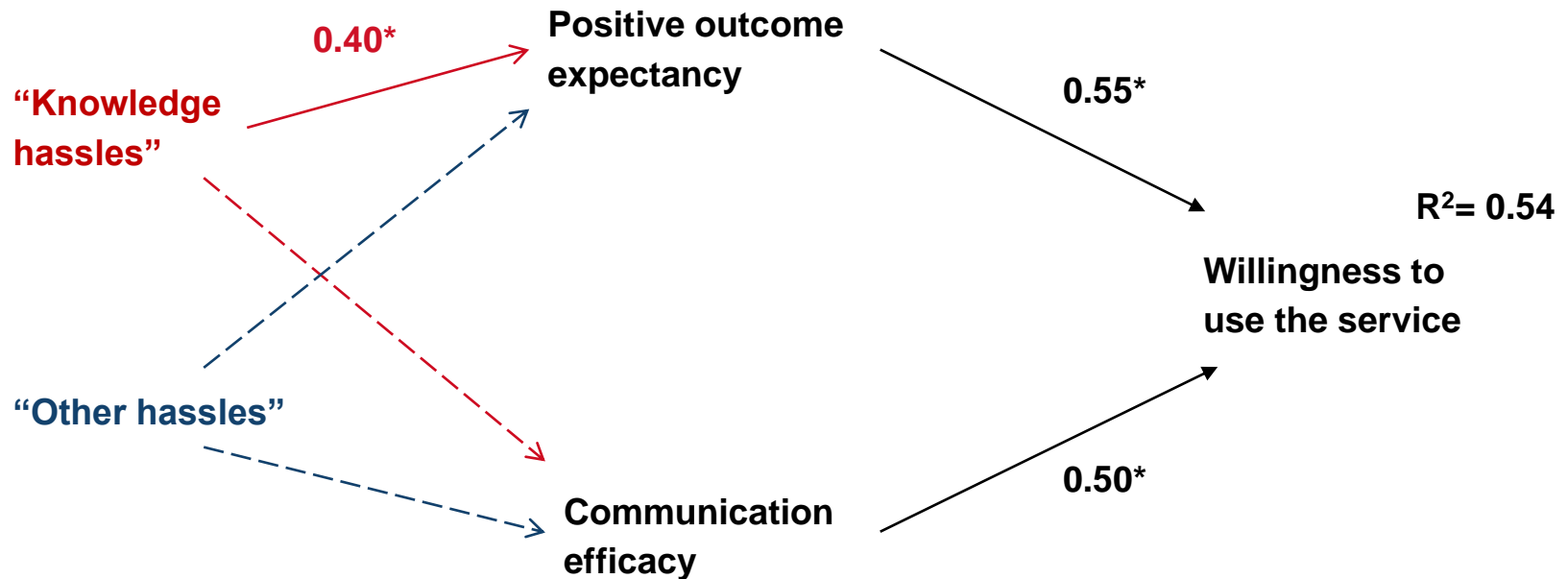
Discriminant validity established

› **Structural equation model**

Satorra-Bentler scaled Chi-square = 321, df = 162, p<0.001, CFI = 0.94,

TLI = 0.93, RMSEA= 0.058 (90% confidence interval = 0.048, 0.067).

Minimum effect size with this sample size was 0.18

0.40*

"Knowledge hassles"

Positive outcome expectancy

0.55*

"Other hassles"

Communication efficacy

0.50*

Willingness to use the service

R²= 0.54

Results of structural equation model (N=324). Standardised regression weights (*p<0.05). Dashed lines indicate non-significant effect.

- Overall caregivers appear overall willing to use Home Medicines Review;

- Caregiver participation in Home Medicines Review (and possibly other pharmaceutical care services) may be increased by building expectations as information resources;

- Pharmaceutical care services will seem more relevant and more appealing to caregivers when they appear stressed dealing with the specific knowledge required to manage their care-recipients' medication regimen;

- Consider offering pharmaceutical care services during episodes of change

› Cross-sectional study.

› Sample were members of a consumer organisation and this may influence their willingness to seek information by participating in pharmaceutical care services.

› Measurement scale for communication efficacy demonstrated comparably low reliability.

- This study builds on communication theory. We coined the phrase "knowledge hassles" to describe the specific daily stressors that arise when dealing with specialised knowledge. We showed that experiencing knowledge hassles increases the tendency to view an interpersonal information source more favourably.

- We named this model Knowledge Hassles Information-Seeking Model (KHISM)

- Further research of this phenomena is warranted.

Stephen Carter