

Introduction

The incidence of acute and chronic wounds is growing rapidly in the United States. Advances in wound care have transformed the quality of care for patients as well as the complexity of the care they receive. Most wound care is now performed by home health professionals, at skilled nursing facilities, or is office based. Uninsured patients typically do not have these luxuries and are tasked with understanding and performing complex multistep wound care at home. This process is inhibited by low health literacy leading to negative outcomes. Medical personnel are tasked with teaching dressing changes to patients in a manner that factors in the health literacy needs of the patient and addresses each patient's unique dressing regimen. Little evidence of health literacy effects on wound patients is available nor are literacy-sensitive educational interventions that address wound knowledge and self-care. Other diseases that require similar multistep protocols report improved outcomes in all health literacy levels with the use of literacy-sensitive and supportive educational interventions that incorporate more than one literacy strategy over multiple sessions.

Aim

This evidence-based pilot evaluates whether a literacy-supportive educational intervention in an English and Spanish-speaking uninsured outpatient wound population can improve wound knowledge and self-care over time.

Materials

Novel education materials using literacy-supportive strategies

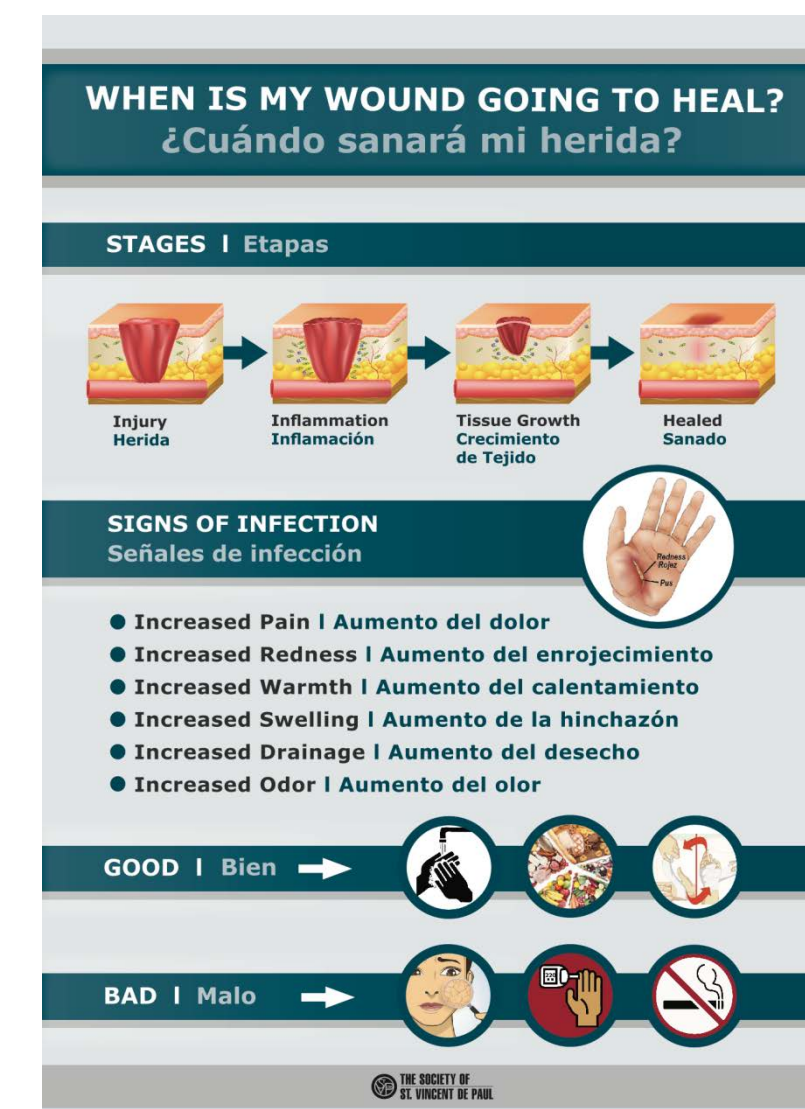


Figure 1. General wound knowledge poster (visual aid).



Figure 2. English and Spanish Brochure (visual aid). 18 photo stickers of common wound treatments and dressings allow for 65 unique treatment combinations. Stickers are also placed on product packages to allow participants to match steps to the product.

Methods

Population/Setting:

- 18 years or older, all wound types, English or Spanish speaking
- Outpatient urban charity medical clinic
- Exclusions: Negative Pressure Wound Therapy, Multi-layer Compression Bandaging

Variables and Instruments:

Health Literacy: Brief Health Literacy Screen¹ (Visit 1)

- Self-reported, 3-item summative score, 9 or > (inadequate health literacy)

Wound Knowledge: Wound Knowledge Test (Visit 1 Pre-test, Visit 1, 2 4 Post-test)

- Based on education materials, higher scores correlated with ↑ knowledge

Wound Self-care (Visit 1, Visit 2, Visit 4)

1) Dressing Performance Checklist

- Assessment of dressing regimen and schedule, 11-items, summative score
- Higher scores correlated with improved dressing performance

2) Bates-Jensen Wound Assessment Tool²

- Measures wound healing, 13-items, summative score
- Lower scores correlated with improvement, higher scores with degeneration

Statistical Analysis:

- Independent samples *t* test comparing the means of the variables between the adequate and inadequate health literacy groups at each visit
- Paired-samples *t* test comparing the means of the variables over time

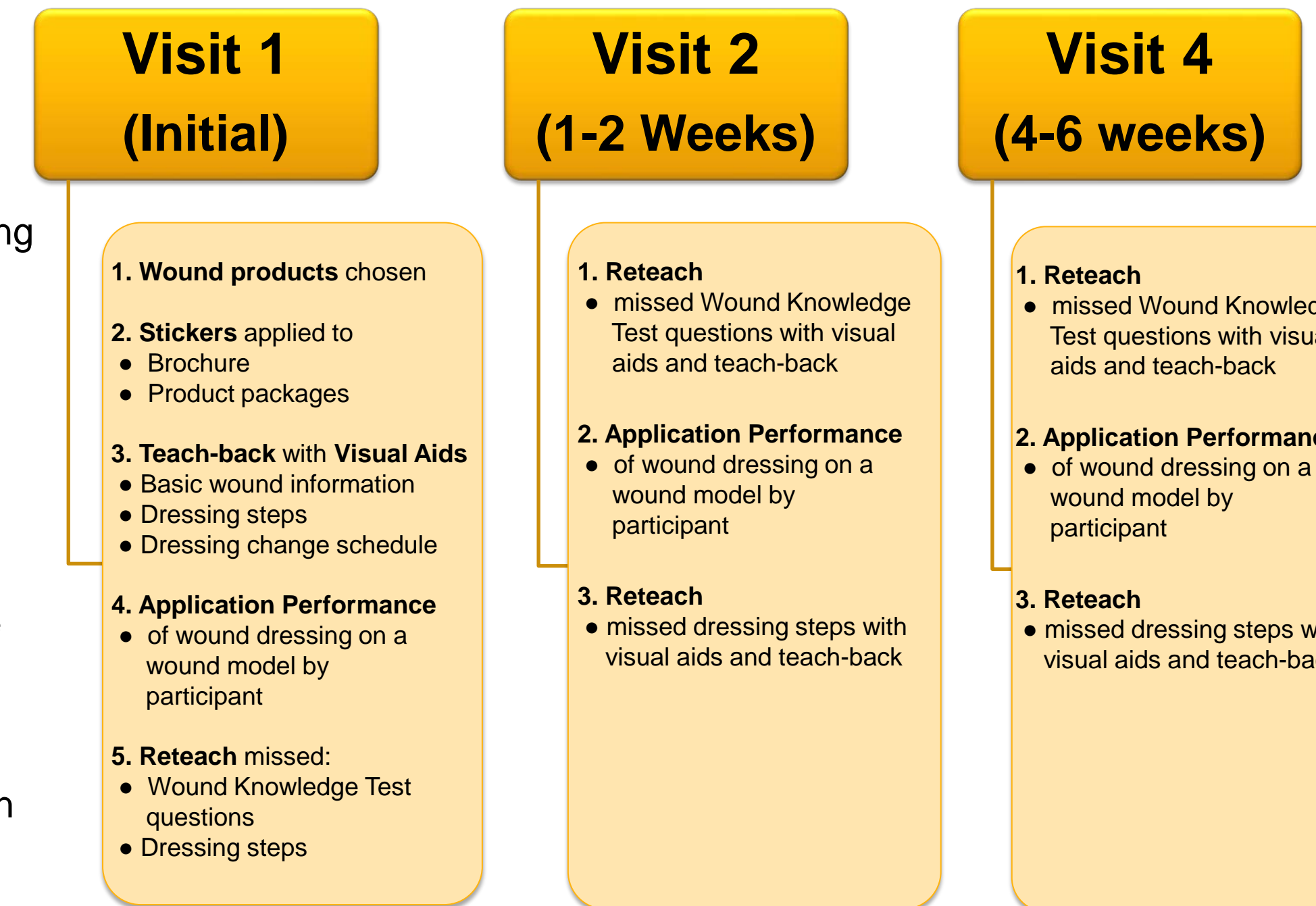


Figure 3. Pilot intervention process.

Characteristic	All Participants (n=21)	Adequate Health Literacy (n=12)	Inadequate Health Literacy (n=9)
Age (M (SD))	46.5 (14.8)	41.2 (12.2)	53.6 (15.7)
Gender (N, %)			
Male	12 (57.1)	5 (41.7)	7 (77.8)
Female	9 (42.9)	7 (58.3)	2 (22.2)
Language (N, %)			
English	7 (33.3)	5 (41.7)	2 (22.2)
Spanish	14 (66.7)	7 (58.3)	7 (77.8)
Race/Ethnicity (N, %)			
White, non-Hispanic	1 (4.8)	-	1 (11.1)
Hispanic	17 (80.9)	9 (75)	8 (88.9)
Black or African American	2 (9.5)	2 (16.7)	-
Asian	1 (4.8)	1 (8.3)	-
Health Literacy Score (M (SD))	7.57 (2.58)	5.92 (2.07)	9.78 (1.09)

Table 1. Participant demographics.

Conclusion

Findings from this pilot suggest that a literacy-sensitive educational intervention that utilizes mixed literacy strategies with repeated education for patient specific knowledge gaps at future visits increases wound knowledge and self-care, and positively impacts wound healing across all health literacy levels. This pilot led to the development of innovative educational aids that simplified the dressing steps and matched steps with wound products. The educational aids also addressed the challenges of educating patients on their unique multistep dressing change. This intervention successfully streamlined an urban wound clinic's wound education into an organized process and addressed the education needs of English as well as Spanish-speakers. This pilot supports current health literacy initiatives calling for the delivery of healthcare services that are understandable over the full range of literacy levels. The pilot supports efforts to develop and employ literacy-sensitive wound education in uninsured English and Spanish speaking populations who conduct their own dressing changes.

References

- Chew, L. D, Bradley, K. A., & Boyko, E. J. (2004). Brief questions to identify patients with inadequate health literacy. *Family Medicine*, 36(8), 588-594.
- Bates-Jensen, B. M. (1997). The pressure sore status tool a few thousand assessments later. *Advances in Wound Care: The Journal for Prevention and Healing*, 10(5), 65.

Acknowledgements

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For more information

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Results

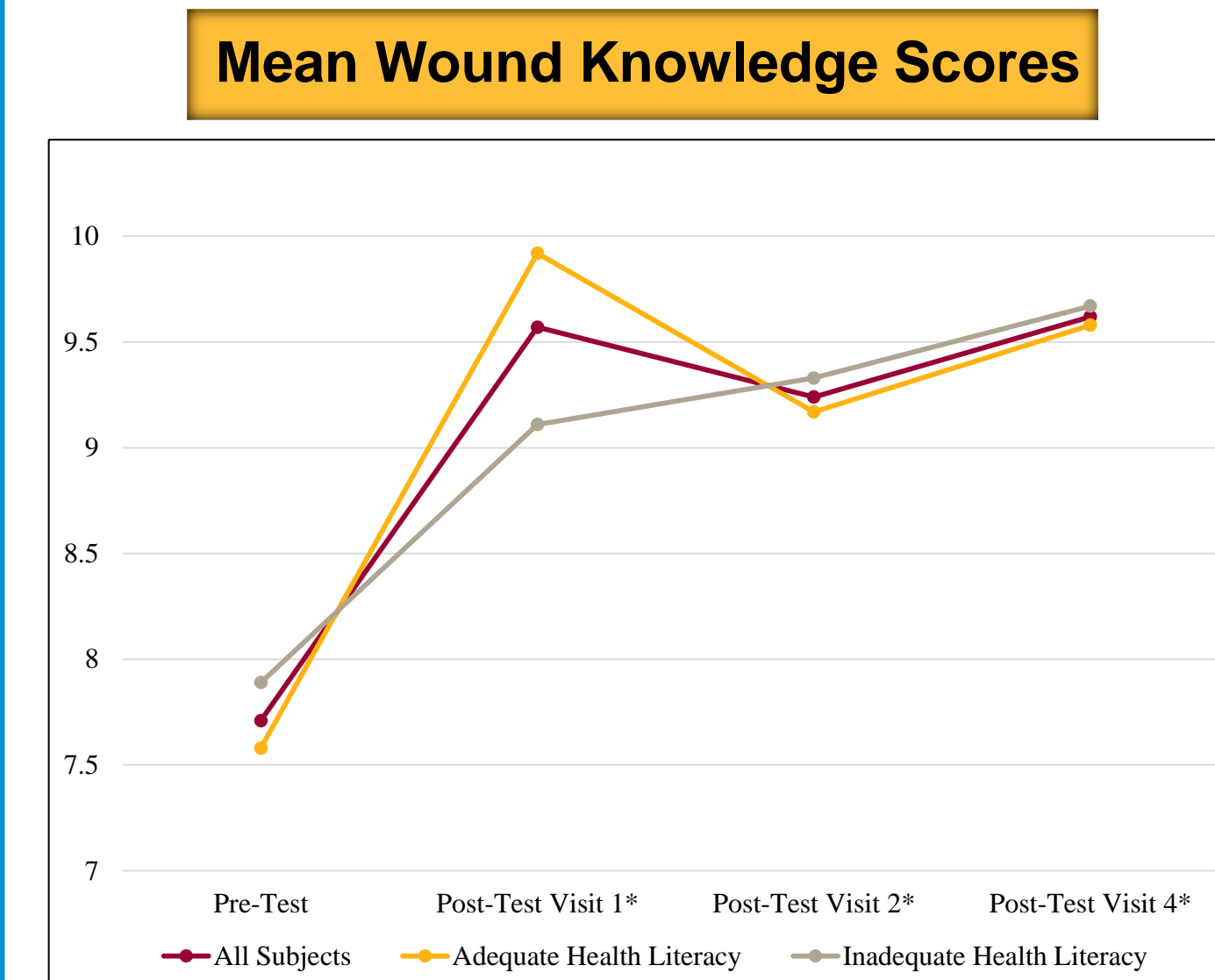


Figure 4. Mean wound knowledge scores over time. No significant difference in baseline wound knowledge. After intervention, wound knowledge scores significantly increased in all participants and remained increased over time.

**p* < .05

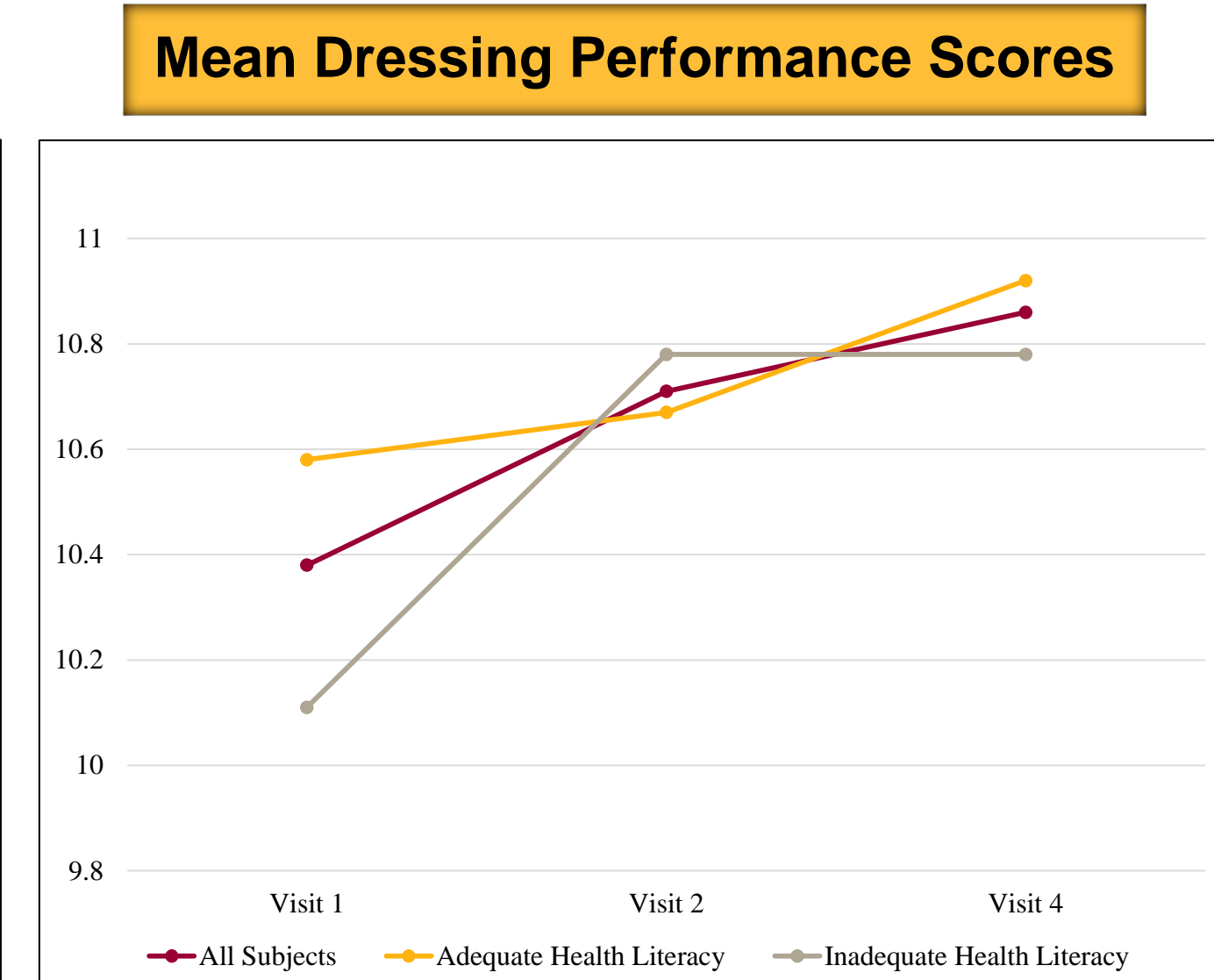


Figure 5. Mean dressing performance scores. Wound dressing performance scores were high immediately after the educational intervention and continued to increase over time in all participants.

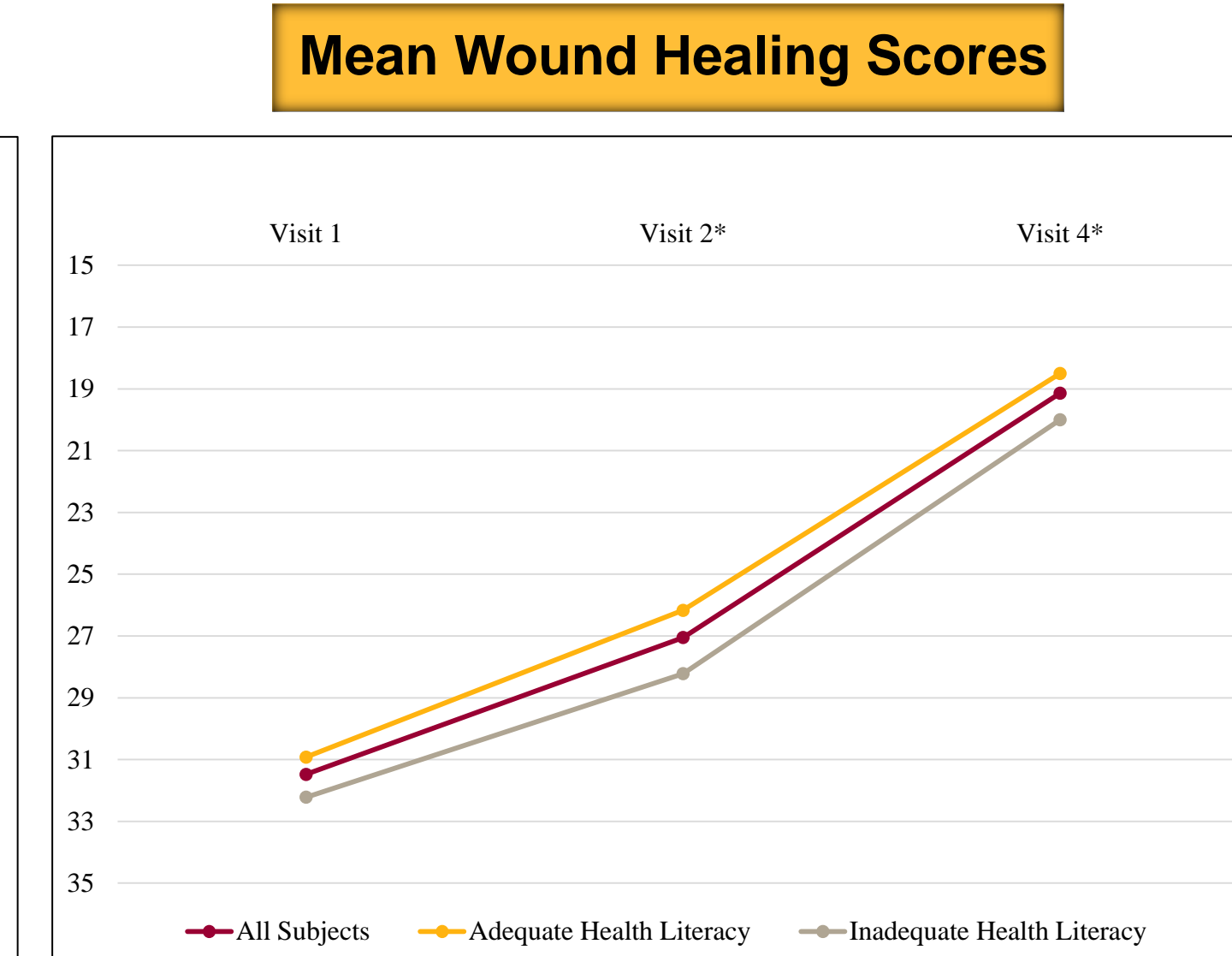


Figure 6. Mean wound healing scores. Baseline wound healing status were not significantly different between the health literacy groups. Wound status progressed towards regeneration (healing) over time, showing a significant healing effect in all participants.

**p* < .05