

**The SLE tri-nation study:
longitudinal changes in physical
and mental well-being**

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Introduction

Clarke et al. The SLE Tri-Nation Study: Absence of a Link Between Health Resource Use and Health Outcome. Rheumatology 43:1016, 2004.

- 715 SLE patients (Canada 231, USA 269, UK 215)
- Assessed direct healthcare costs and health status over a 4 year period
- Health resource use was assessed through semi-annual patient self-report and translated into costs using pricing from a single country (Canada)
- Given that price of health services differ across countries, using values from a single country allowed comparison of resource consumption across countries

Introduction

Mean (95% CI) 4-yr cumulative direct cost per patient

Canada	\$15845 (\$13509, \$18182)
United States	\$20244 (\$17764, \$22724)
United Kingdom	\$17647 (\$15557, \$19737)

SLICC/ACR DI scores did not differ significantly across countries

Introduction

After adjustment for important covariates:

- Canadian patients utilized 20% (8%,32%) and British patients 13% (1%,24%) less resources than American patients.
- Health outcome, as expressed by **disease damage** (SLICC/ACR DI) did not differ across the three countries over the 4 year study interval.

Health-Related Quality of Life

- Omeract recommendations
- Quality of Life Instruments
 - Generic Questionnaires
 - e.g.: MOS SF-36
 - Disease Specific Questionnaires
 - *e.g.: SLEQOL, LupusQoL, SCC (very recently developed, not widely used)*

Study Design

Aim

- To compare change in QoL in these same patients

Consecutive patients with SLE (ACR Criteria)

- Completed health status questionnaires (SF-36) at study entry and annually
- At study entry and semi-annually, they reported on health resource utilization
- Assessed by MD at study entry and at 4 year follow-up

Major Outcomes

- SF-36 Physical Component Summary (PCS) score
- SF-36 Mental Component Summary (MCS) score

Methods

- Missing PCS, MCS, and indirect cost data were managed through multiple imputation using best predictive regression models with all available data from all patients as potential covariates
- **Covariates**
 - Age
 - Sex
 - Ethnicity
 - Education
 - Marital status
 - Disease damage
 - Disease duration
 - Activity (SLAM, VAS)
 - Direct and indirect costs
 - Health status (SF-36, VAS)
 - Social support
 - Satisfaction with health care

Methods

- At study conclusion, performed between country comparisons (using simultaneous regressions) of:
 - SF-36 Physical Component Summary Score (PCS)
 - SF-36 Mental Component Summary Score (MCS)
- Potential covariates same as imputation models (measured at baseline)

Participants (n=715)

	Canada n=231	US n=269	UK n=215
4 year F/U	70%	57%	76%
Died	6%	7%	5%
Withdrew	25%	36%	20%

Patient Characteristics at Baseline

	Canada n=231	US n=269	UK n=215
Age	43	39	41
Completed high school, %	62	85	68
Caucasian, %	85	67	78
Duration	10	9	10
SLAM-R	7.3	4.1	6.3
SLICC/ACR DI	1.8	1.7	1.3

PCS and MCS Scores

Canada
n=231

US
n=269

UK
n=215

PCS Scores

Baseline	40.6 (39.1,42.2)	37.4 (35.9,38.8)	36.6 (34.9,38.2)
Final	41.4 (39.8,42.9)	37.3 (35.9,38.7)	37.2 (35.6,38.9)
Annual change	0.2 (-0.1,0.4)	-0.1 (-0.3,0.2)	0.0 (-0.2, 0.3)

MCS Score

Baseline	45.9 (44.3, 47.5)	45.0 (43.7, 46.4)	43.5 (41.8, 45.2)
Final	46.0 (44.6, 47.3)	46.6 (45.4, 47.7)	44.1 (42.6, 45.5)
Annual change	0.2 (-0.1, 0.3)	0.2 (0.1, 0.4)	0.1 (-0.1, 0.3)

Regression Model for Average Change in PCS & MCS scores

Predictors	Coefficient	95% CI
PCS		
Canada	1.49*	(0.47, 2.52)
UK	1.12	(0.09, 2.16)
MCS		
Canada	-1.33*	(-2.46, -0.20)
UK	-0.69	(-1.84, 0.47)

* Relative to US patients, PCS increased by 1.49 points from baseline to F/U in Canadian patients

Conclusion

- **Before adjustment**
 - MCS scores increased marginally in American patients
- **After adjustment**
 - Canadian and British patients had slightly greater increase in PCS scores
 - Canadian patients had slightly greater decrease in MCS scores
- **No QoL difference was clinically meaningful**

Conclusion

- Quality of life remained stable across countries.
- Despite Canadian and British patients incurring lower health costs, on average, patients experienced similar changes in physical and mental well-being.

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