



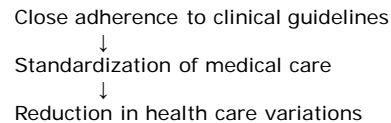
New England Research Institutes

The Intended and Unintended Consequences of Clinical Guidelines

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Background

Clinical guidelines are one of many initiatives considered to potentially reduce or eliminate variations in everyday practice.



The intended consequence of guidelines is the improvement in the quality of care and ultimately the reduction or elimination of health care variations.

Objectives

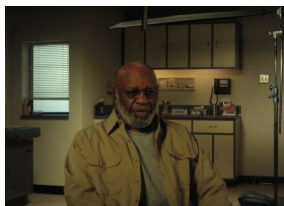
- Are clinical guidelines successful in reducing variations in clinical practice?
- Are there any unintended consequences of clinical guidelines?

Methods

Video vignettes of “patient” scenarios representing Diagnosed Diabetes with emerging foot neuropathy were shown to primary care physicians.

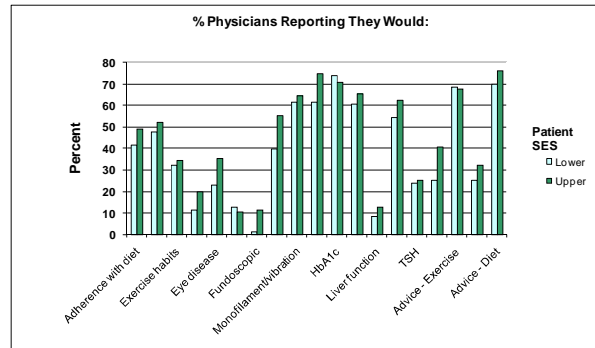
The “patient” characteristics were systematically varied as part of a balanced factorial experiment including:

- Age 35 or 65 years old
- Gender Male or Female
- Race/Ethnicity White, Black, or Hispanic
- SES Lower (janitor - left) or upper (lawyer - right)



Findings

Did the components of the routine diabetic examination differ by patient characteristics?



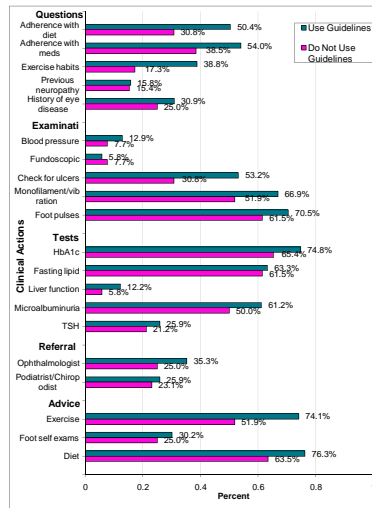
- There were consistent differences in the actions physician’s reported they would take depending on the “patient’s” socioeconomic status (SES).
- Physicians would do more of almost everything for the upper SES patient.

Does physician use of guidelines do anything to reduce these disparities?

	Upper SES vs. Lower SES †		Upper SES vs. Lower SES Guideline Adjusted ‡		Direction of Guideline Effect †
	Odds Ratio (OR)	95% Confidence Interval	Odds Ratio (OR)	95% Confidence Interval	
Examinations - Fundoscopic	12.46	1.57 - 98.81	12.92	1.62 - 103.2	+
Referrals - Ophthalmologist	2.10	1.12 - 3.93	2.17	1.15 - 4.08	+
Questions - Previous neuropathy	1.97	0.86 - 4.51	1.91	0.84 - 4.37	-
Examinations - Foot pulses	1.94	1.03 - 3.66	1.94	1.03 - 3.68	0
Examinations - Check for ulcers	1.93	1.07 - 3.47	1.95	1.07 - 3.53	0
Questions - History of eye disease	1.89	0.99 - 3.62	1.84	0.96 - 3.53	-
Tests - Liver function	1.62	0.61 - 4.28	1.57	0.59 - 4.16	-
Advice - Foot self exams	1.45	0.76 - 2.77	1.42	0.74 - 2.71	0
Tests - Microalbuminuria	1.42	0.79 - 2.55	1.43	0.80 - 2.58	0
Advice - Diet	1.39	0.72 - 2.67	1.39	0.72 - 2.68	0
Questions - Adherence with diet	1.37	0.76 - 2.45	1.37	0.75 - 2.47	0
Referrals - Podiatrist/Chiropractist	1.32	0.69 - 2.55	1.38	0.71 - 2.69	+
Tests - Fasting lipid	1.26	0.69 - 2.28	1.28	0.71 - 2.33	0
Questions - Adherence with meds	1.19	0.67 - 2.12	1.18	0.66 - 2.12	0
Examinations - Monofilament/vibration	1.15	0.63 - 2.08	1.14	0.63 - 2.08	0
Questions - Exercise habits	1.10	0.60 - 2.04	1.09	0.58 - 2.04	0
Tests - TSH	1.06	0.54 - 2.11	1.04	0.52 - 2.08	0
Advice - Exercise	0.95	0.51 - 1.77	0.91	0.48 - 1.72	0
Tests - HbA1c	0.85	0.44 - 1.62	0.84	0.44 - 1.62	0
Examinations - Blood pressure	0.80	0.32 - 2.01	0.77	0.31 - 1.94	0

- Despite these variations we found that reported use of practice guidelines had no measurable effect towards their reduction (the intended consequence of clinical guidelines).

Are there any unintended consequences of guidelines?



- One unintended consequence of clinical guidelines was the use of practice guidelines appeared to precipitate more clinical actions, without eliminating documented SES variations.
- Guideline adherent physicians in our study were more likely to perform nearly all of the clinical actions listed.
- In other words, use of guidelines appears to ensure that more of everything is done, without beneficially altering health care variations.

Conclusions

- Consistent with other research we find clinical practice guidelines are not producing a principal intended result, reducing or eliminating documented SES variations in the treatment of diabetes evident in our experiment.
- We suggest that the use of guidelines may be contributing to ever increasing health care costs—an unintended consequence of clinical guidelines.

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