Emergency room use among working age adults with chronic health care needs: A problem of access.

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Slide 1 (Main title): Emergency Room Use among Working Age Adults with Chronic Health Care Needs: A Problem of Access. Authors: Elizabeth K. Rasch, PT, PhDStephen P. Gulley, MSW, PhDLeighton Chan, MD, MPH. Affiliation: National Institutes of Health, Department of Health and Human Services.

Graphics:

NIH Logo HHS Logo

Slide 2 (Presenter Disclosures): Elizabeth Rasch, Stephen Gulley, and Leighton Chan. The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months: No relationships to disclose.

[no graphics]

Slide 3 (Background):

~ Some ER visits may be avoidable

~ Lack of sufficient primary and preventive care may contribute to emergency room (ER) use (footnotes 1,2)

~ For many, the ER may be the only guaranteed access point to medical care (footnote 3)

[no graphics]

Slide 4 (Background, continued)

~ Many ER visits are “inappropriate”; services could have been provided in a less acute setting (footnotes 2,4,5)

~ In one study, 16% of 1190 patients attending the ER in a 2-week period indicated it was their primary source of care (footnote 6)

[no graphics]

Slide 5 (Background, continued)

~ Adults with chronic conditions, particularly those with disabilities, are known to have difficulty accessing primary and preventive care (footnotes 7, 8, 9)

~ The extent to which access problems affect use of ER services in this group has not been reported

[no graphics]

Slide 6 (Purpose)

~ We examined the relationship between ER use and access to medical care and prescription medications among four nationally representative groups of working age Americans with and without chronic health care needs.

[no graphics]

Slide 7 (Methods: Data source)

~ Pooled data from 2002-2004 Medical Expenditure Panel Survey
~ Multistage probability sampling design
~ Analytic sample: 58,408 adults representing U.S. community dwelling civilians, aged 18-64

[no graphics]

Slide 8 (Methods: Analytic variables)

~ Chronic conditions: expected to last > 12 months and result in need for ongoing medical care, services, and/or limitations
~ Access to care: unable to obtain or delay in receiving needed medical care or prescription medications

[no graphics]

Slide 9 (Methods: Analytic variables)

~ Analytic groups

A) Adults with no chronic conditions

B) Adults with chronic health care needs (ACHCN)

B1) No limitations

B2) Non-ADL/IADL limitations

B3) Need for help with ADL/IADL

[no graphics]

Slide 10 (Methods: Analytic variables)

~ Control variables

Age (continuous)

Gender

Race-ethnicity

Education

Poverty status

Insurance status

[no graphics]

Slide 11 (Methods: Statistical Approach)

~ Sample weights used to adjust for differential selection probabilities

~ Variance estimation: Taylor series linearization for bivariate results, Bootstrap methods for post-estimation results

[no graphics]

Slide 12 (Methods: Statistical Approach)

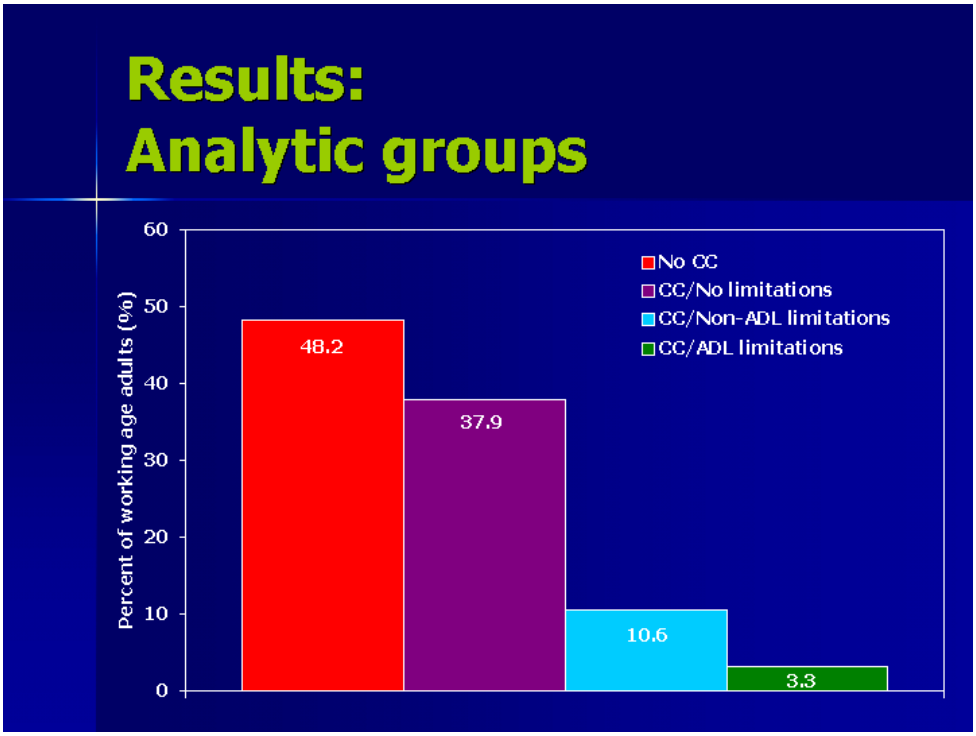
~ Zero inflated negative binomial (ZINB) models

~ ER visits: counts; rare event; excess zeroes

- ~ Part 1: Logistic regression yielding the probability of excess zeroes (inflate)
- ~ Part 2: Negative binomial regression yielding predicted number of ER visits by groups and access to care, controlling for covariates

[no graphics]

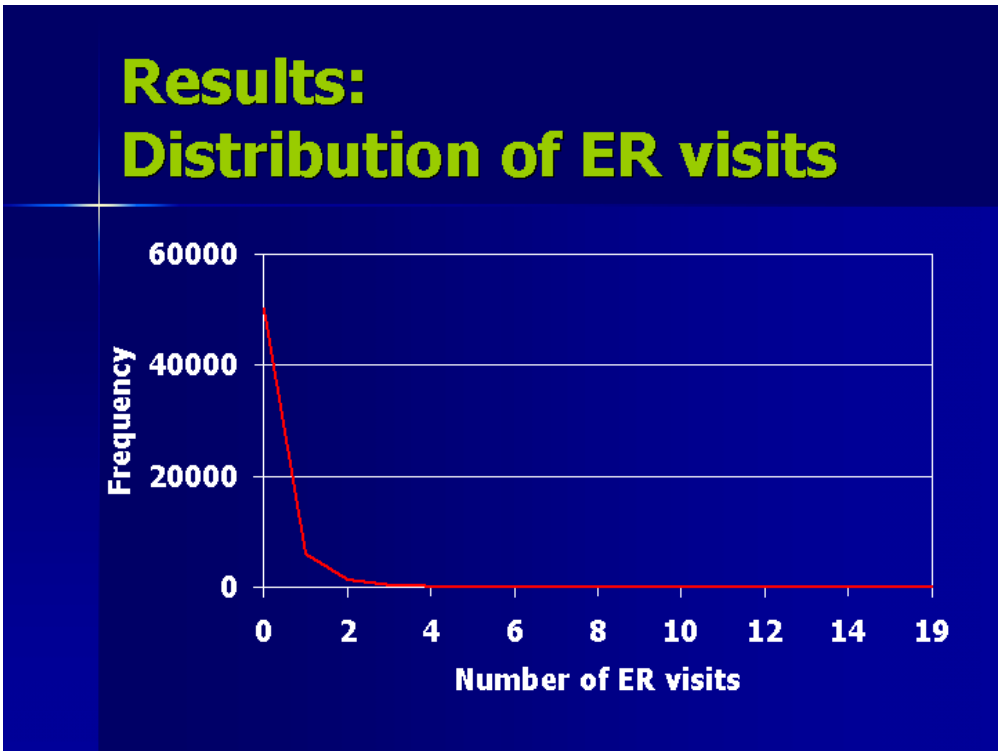
Slide 13 (Results: Analytic groups)



Graphic description:

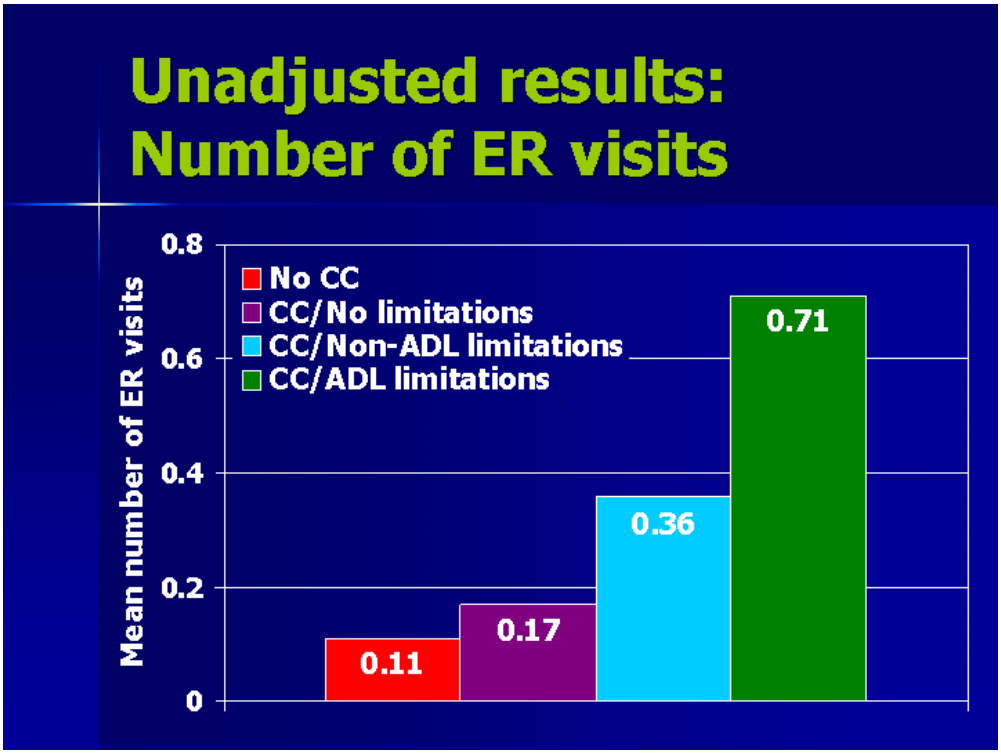
This is a bar graph in which the height of the bars indicates the percentage of working aged adults on the basis of our four analytic groups. Going left to right on the graph, we show that: 48.2% of the working age have no chronic condition, 37.9% have chronic condition(s) without limitations, 10.6% have chronic condition(s) along with a limitation that does not affect ADLs or IADLs, and 3.3% have chronic condition(s) along with ADL or IADL limitations.

Slide 14 (Results: Distribution of ER visits)



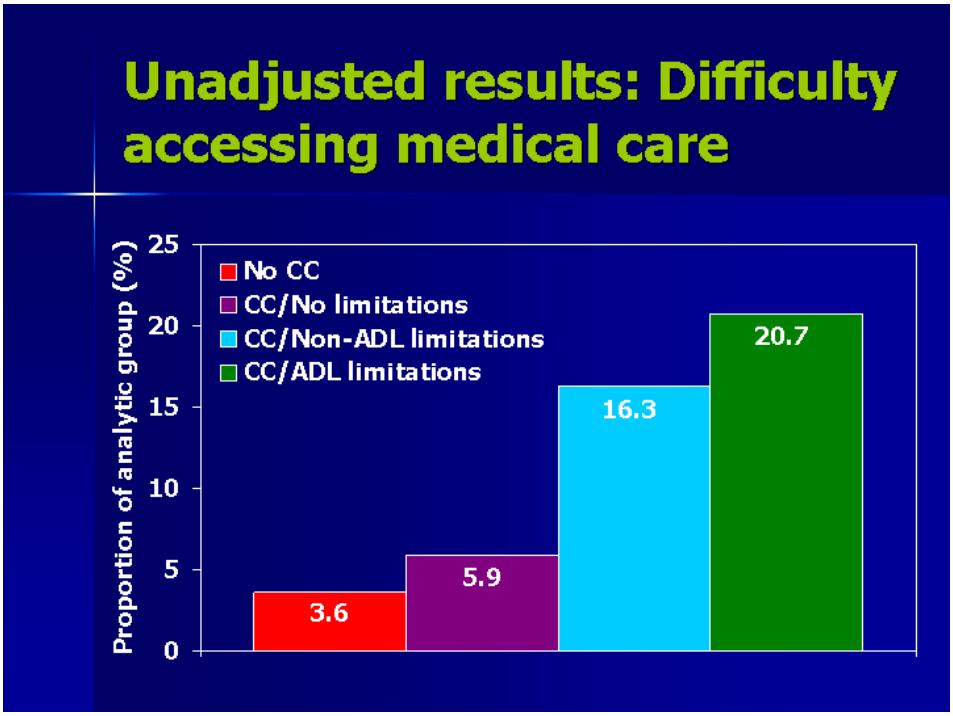
Graphic description: This is a line graph depicting the frequency of visits to the emergency room in the entire working aged sample. On the Y axis, the frequency of cases is displayed, with hashes at 0, 20,000, 40,000 and 60,000 cases. On the X axis the number of ER visits is recorded, with hashes at every 2 visits. The resulting line shows that a bit over 50,000 persons had zero ER visits, about 6,000 persons had one ER visit, and roughly 1300 persons had two ER visits during the year. Further out on the X axis, we see an elongated tail, but with very few individuals reporting three or more visits.

Slide 15 (Results: Number of ER visits, unadjusted)



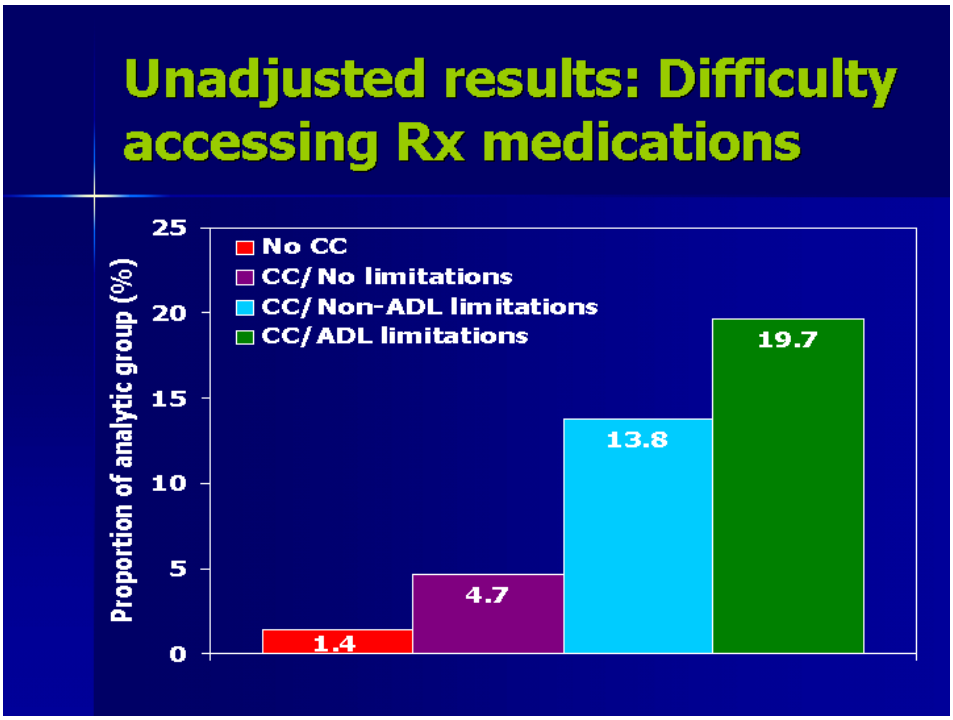
This is a bar graph showing the weighted (but otherwise unadjusted) mean ER visit rates by analytic group. Going left to right in the bar graph, we show that: persons without a chronic condition have an annual mean ER visit rate of .11, while persons reporting chronic condition(s) without limitations have a visit rate of .17. For individuals with chronic condition(s) along with a limitation that does not affect ADLs or IADLs, the mean visit rate is .36. For persons with chronic conditions and ADL or IADL limitations, the mean visit rate is .71.

Slide 16 (Results: Difficulty accessing medical care)



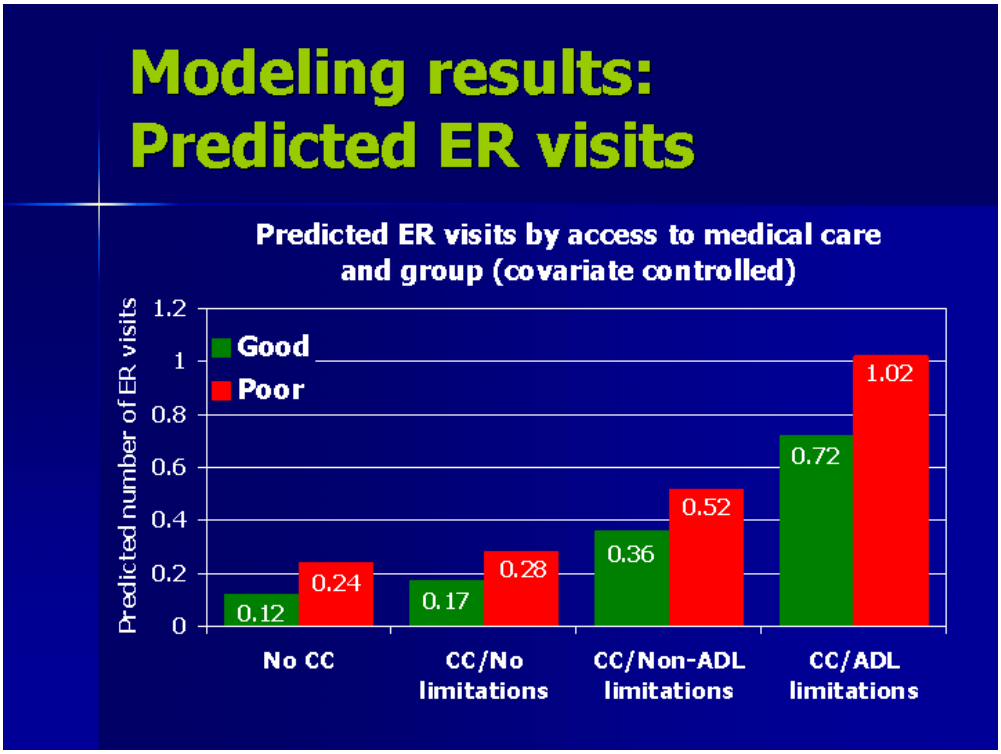
This is a bar graph in which the height of the bars indicates the weighted (but otherwise unadjusted) percentage of individuals reporting a difficulty accessing needed medical care services during the year, by analytic group. Going left to right on the graph, we show that: 3.6% of persons without chronic condition(s) report a difficulty and 5.9% of persons who have chronic condition(s) without limitations report a difficulty. We next show that 16.3% of those with chronic condition(s) along with a limitation that does not affect ADLs or IADLs report a difficulty, and that 20.7% of individuals who have chronic condition(s) along with ADL or IADL limitations report a difficulty.

Slide 17 (Results: Difficulty accessing Rx medications)



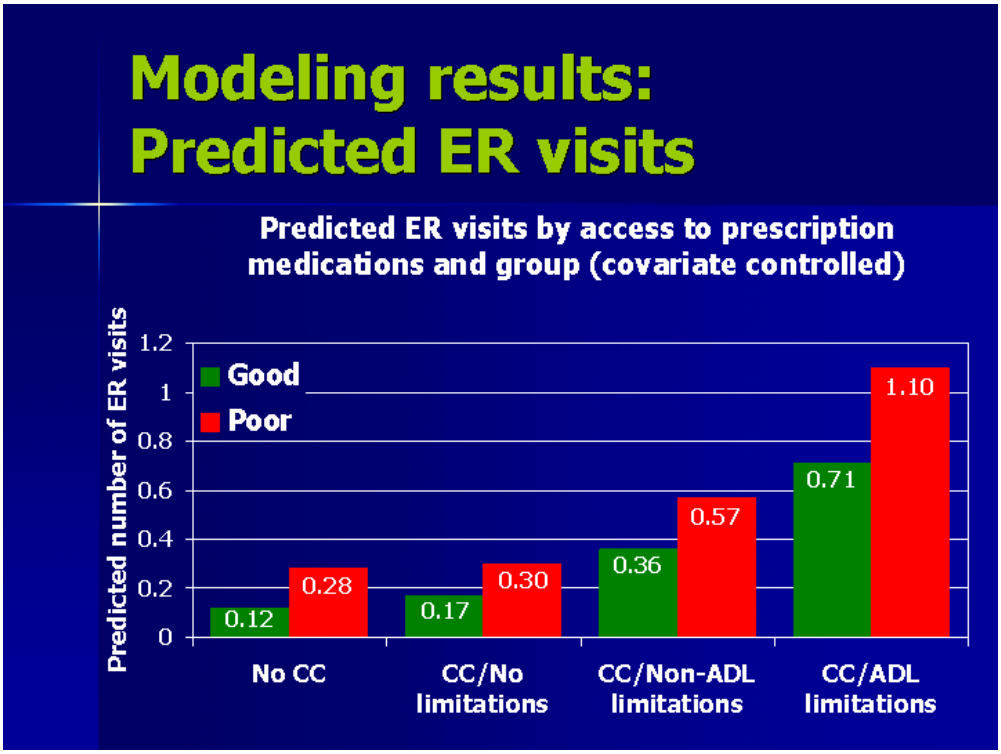
This is a bar graph in which the height of the bars indicates the weighted (but otherwise unadjusted) percentage of individuals reporting a difficulty accessing needed prescription medications during the year, by analytic group. Going left to right on the graph, we show that: 1.4% of persons without chronic condition(s) report a difficulty and 4.7% of persons who have chronic condition(s) without limitations report a difficulty. We next show that 13.8% of those with chronic condition(s) along with a limitation that does not affect ADLs or IADLs report a difficulty, and that 19.7% of individuals who have chronic condition(s) along with ADL or IADL limitations report a difficulty.

Slide 18 (Modeling results: predicted ER visits)



This is a clustered bar graph based on co-variate controlled predictions from our first multivariate model. The predicted number of ER visits is displayed for persons reporting good and poor access to medical care in each separate analytic group. The graph demonstrates how, relative to good access, poor access to medical care is associated with higher ER visits in all four groups. It also shows how ER visits increase across the analytic groups when chronic conditions are present and particularly when disability limitations are reported.

Slide 19 (Modeling results: predicted ER visits)



This is a clustered bar graph based on co-variate controlled predictions from our second multivariate model. The predicted number of ER visits is displayed for persons reporting good and poor access to prescription medications in each separate analytic group. The graph demonstrates how, relative to good access, poor access to medications is associated with higher ER visits in all four groups. It also shows how ER visits increase across the analytic groups when chronic conditions are present and particularly when disability limitations are reported.

Slide 20 (Strengths and limitations)

Strengths

~Large, nationally representative sample

~Data available on self-reported limitations, conditions, service use, and access to care

Limitations

~Complex factors drive ER use which are incompletely captured in MEPS data

~Unknown whether ER use was appropriate or not

[no graphics]

Slide 21 (Summary)

Lack of, or delayed access to medical care and prescription medications were significantly related to ER use in all groups

[no graphics]

Slide 22 (Summary, continued)

More adults with limitations reported difficulty accessing necessary medical care and prescription medications compared to ACHCN without limitations or adults without chronic health care needs and this was associated with the greatest ER use.

[no graphics]

Slide 23 (Conclusions)

~This suggests the need for improved access to and coordination of medical care, including prescription medications, for adults with chronic health care needs

~This is particularly important for those with self-reported limitations

[no graphics]

Slide 24 (Future research)

~Examine coordination of episodes of care between the emergency room, primary and specialty care providers

~Examine the effects of insurance coverage status on emergency room utilization for ACHCN

~Explore other population-level disparities in emergency room use among ACHCN

[no graphics]

Footnotes

1 Nadel V: GAO 1993;Publication #93-4, 1993

2 Grumbach K: Am J Public Health 1993;83:372-378

3 Medicaid Access Study Group: N Engl J Med 1994;330:1426

4 Buesching DP: Ann Emerg Med 1985;14:672-676

5 Petersen LA: Med Care 1998;36:1249-55

6 Baker DW: JAMA 1994;271:1909-1912

7 Iezzoni LI: Am J Med Qual 2001;16(4):135-44

8 Iezzoni LI: Int J Qual Health Care 2002;14(5):369-81

9 Iezzoni LI: Health Serv Res 2006;41(4):1258-75