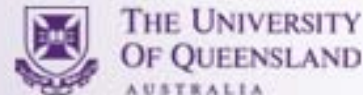




women's
health
a u s t r a l i a

Why are death rates higher in rural areas?

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The University of Queensland






The Australian Longitudinal Study on Women's Health

- Longitudinal cohort study of the health and well-being of Australian women (1996 to 2015+)
- Funded by the Australian Government Department of Health and Ageing
- Initial random sample of 40,000 women
 - 1973-78 birth cohort
 - 1946-51 birth cohort
 - 1921-26 birth cohort
- Women re-surveyed every 3 years





Death rates are higher in rural than urban areas, why?

- ① illness management
- ① distance from treatment centres
- ① later presentation
- ① preventive or screening procedures
- ① knowledge





Are death rates higher in rural areas?

YES

Overall survival
disadvantage

Mixed findings

Specific cause
of death





Our study

Aims

- Examine the disease specific mortality by area
- Reveal potential reasons

Statistical analysis

- Longitudinal data: 1996-2006
- Survival analysis





Methods

Participants

- N=12,400
- 70-75 years in 1996

Outcome variable

- Survival to 31st October 2006
- Causes of death



Predictors


Area of residence

- Australian Standard Geographic Classification (ASGC) of Remoteness Areas
- Major cities, inner regional, outer regional, remote and very remote

Other risk factors

- Hypertension
- Smoking status and history
- BMI
- Physical activity






Hazard ratios of deaths by area (major urban centres as the reference category)

Causes of death	Inner regional	Outer regional	Remote	All rural
All causes of death	1.06	1.16*	1.23	1.09*
Breast cancer	1.07	1.18	0.47	1.08
Stroke	0.80	0.84	1.06	0.82
Digestive system cancers	1.11	1.14	1.15	1.12
Other known causes	1.06	1.00	1.55*	1.06


***significance at α .05**



Hazard ratios of deaths by area (major urban centres as the reference category)

Causes of death	Inner regional	Outer regional	Remote	All rural
All causes of death	1.06	1.16*	1.23	1.09*
Breast cancer	1.07	1.18	0.47	1.08
Lung cancer	1.41	1.85*	0.99	1.52*
Stroke	0.80	0.84	1.06	0.82
COPD	1.93*	1.47	3.05*	1.83*
Digestive system cancers	1.11	1.14	1.15	1.12
Other known causes	1.06	1.00	1.55*	1.06


***significance at α .05**



Hazard ratios of deaths by area (major urban centres as the reference category)

Causes of death	Inner regional	Outer regional	Remote	All rural
All causes of death	1.06	1.16*	1.23	1.09*
Ischemic heart disease	0.97	1.36*	0.77	1.08
Breast cancer	1.07	1.18	0.47	1.08
Stroke	0.80	0.84	1.06	0.82
Digestive system cancers	1.11	1.14	1.15	1.12

***significance at α .05**

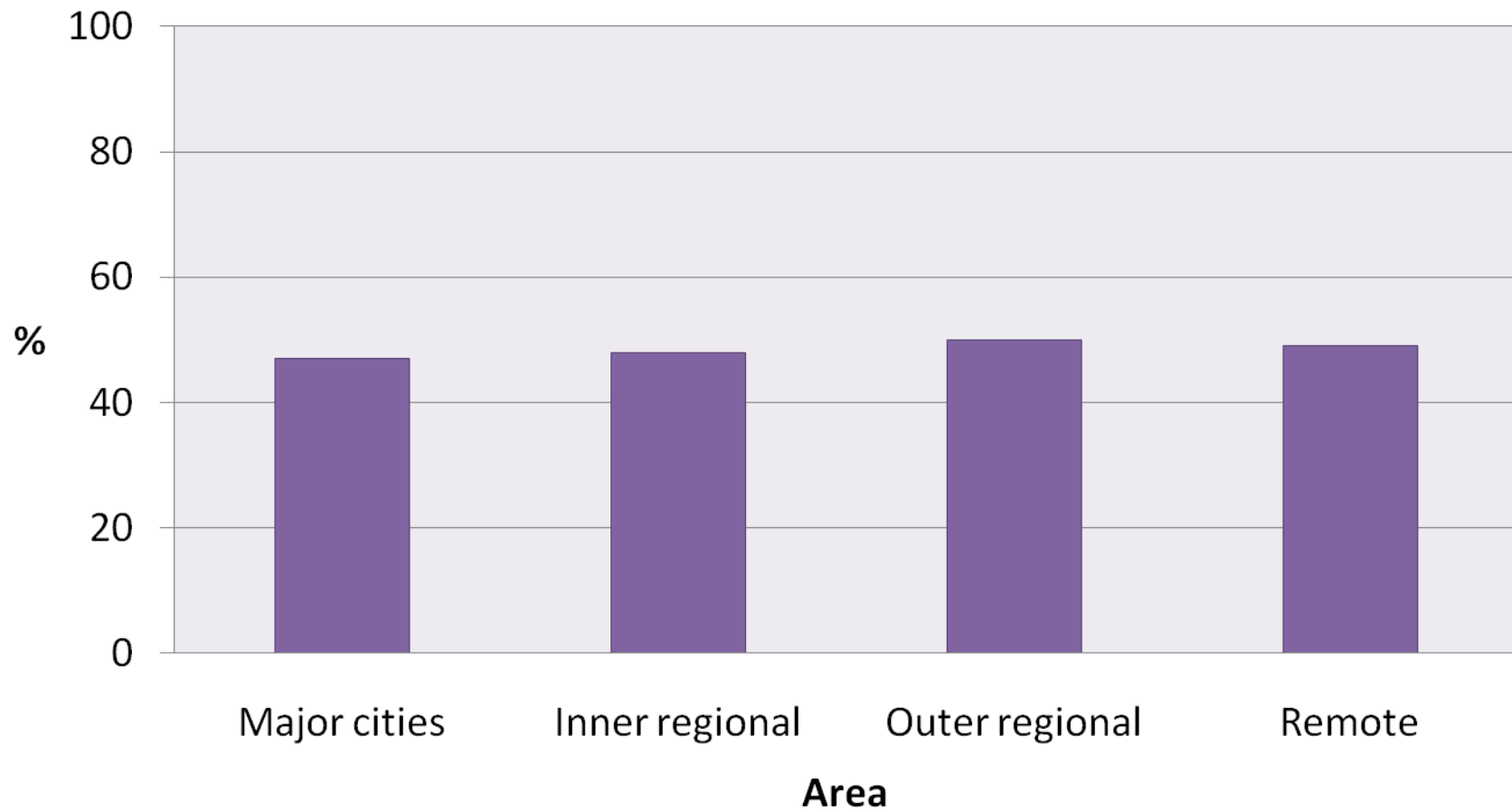


Hazard ratios of deaths by area (major urban centres as the reference category)

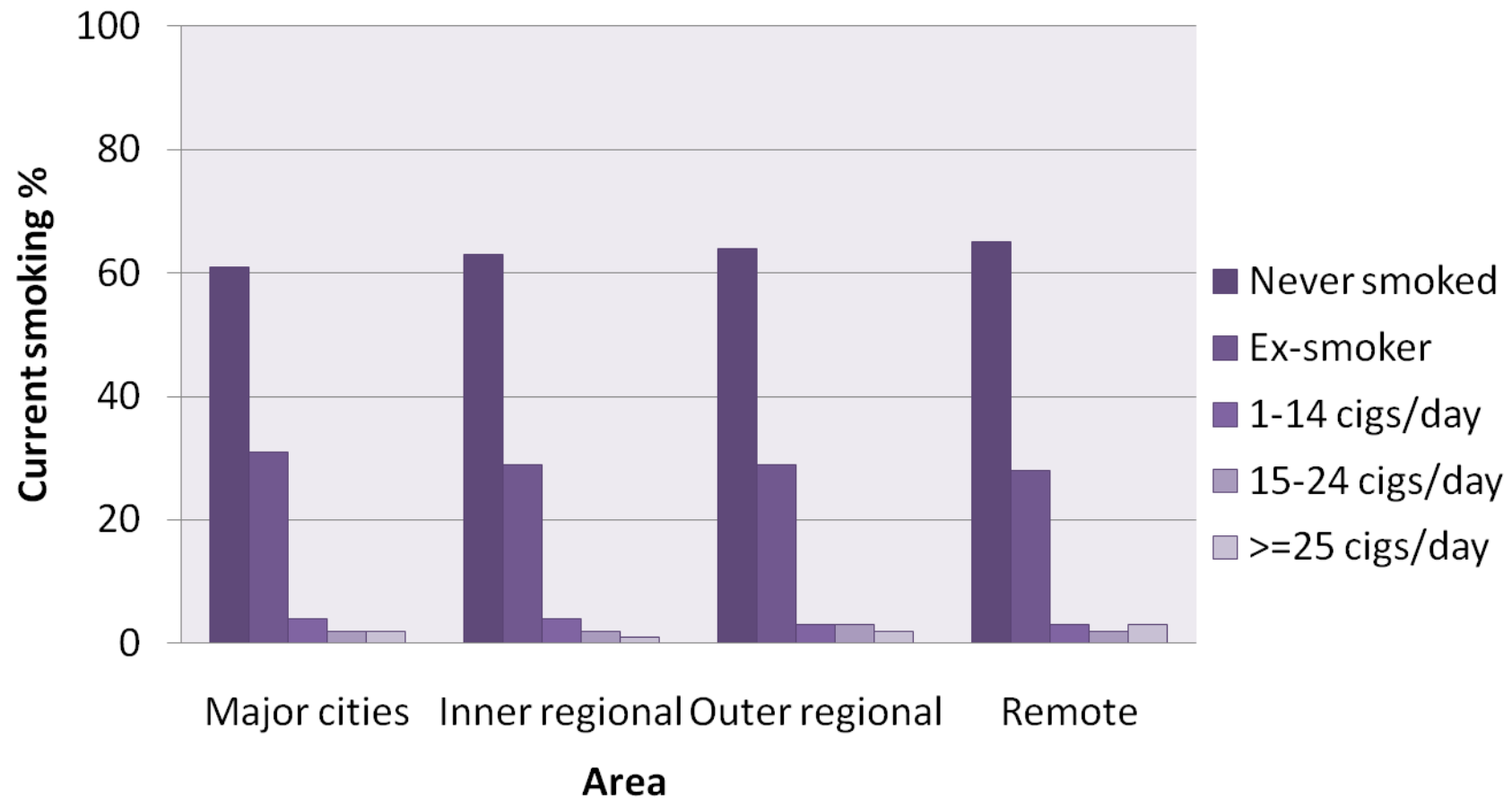
Causes of death	Inner regional	Outer regional	Remote	All rural
All causes of death	1.06	1.16*	1.23	1.09*
Breast cancer	1.07	1.18	0.47	1.08
Stroke	0.80	0.84	1.06	0.82
Digestive system cancers	1.11	1.14	1.15	1.12
Other cancers	1.02	1.11	0.71	1.03

***significance at α .05**

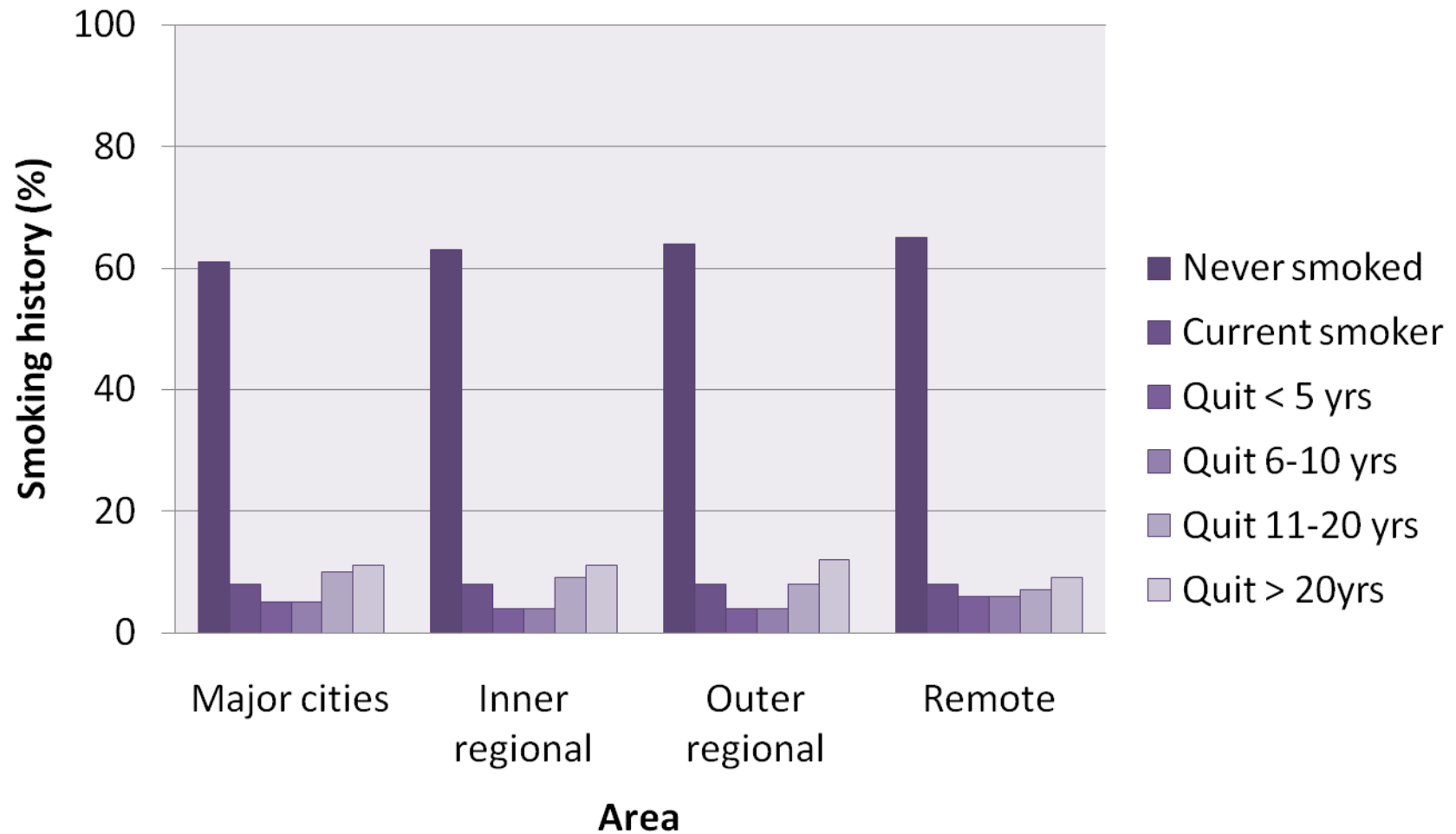
Prevalence of hypertension by area; n.s.



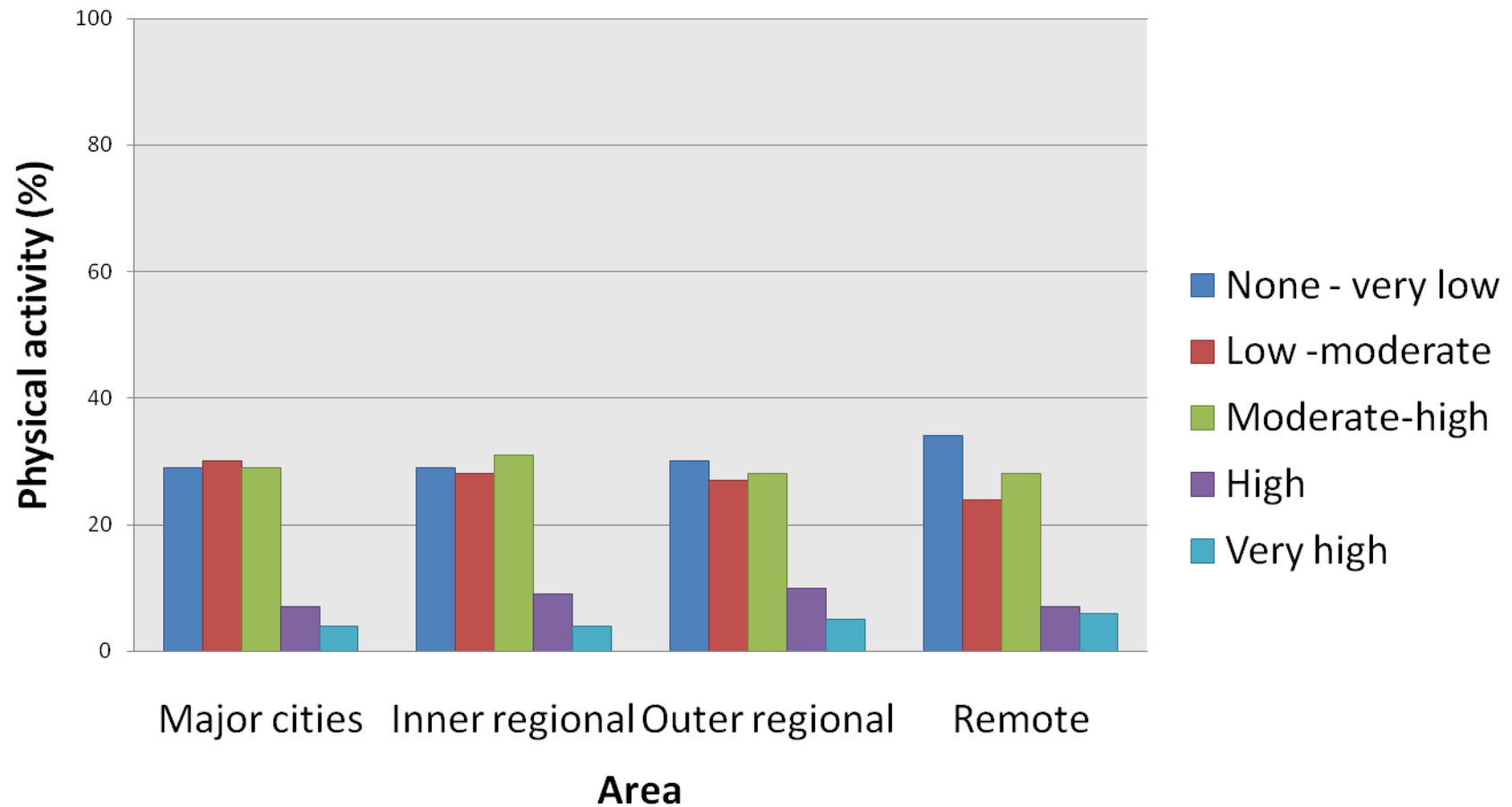
Prevalence of current smoking by area; **n.s.**



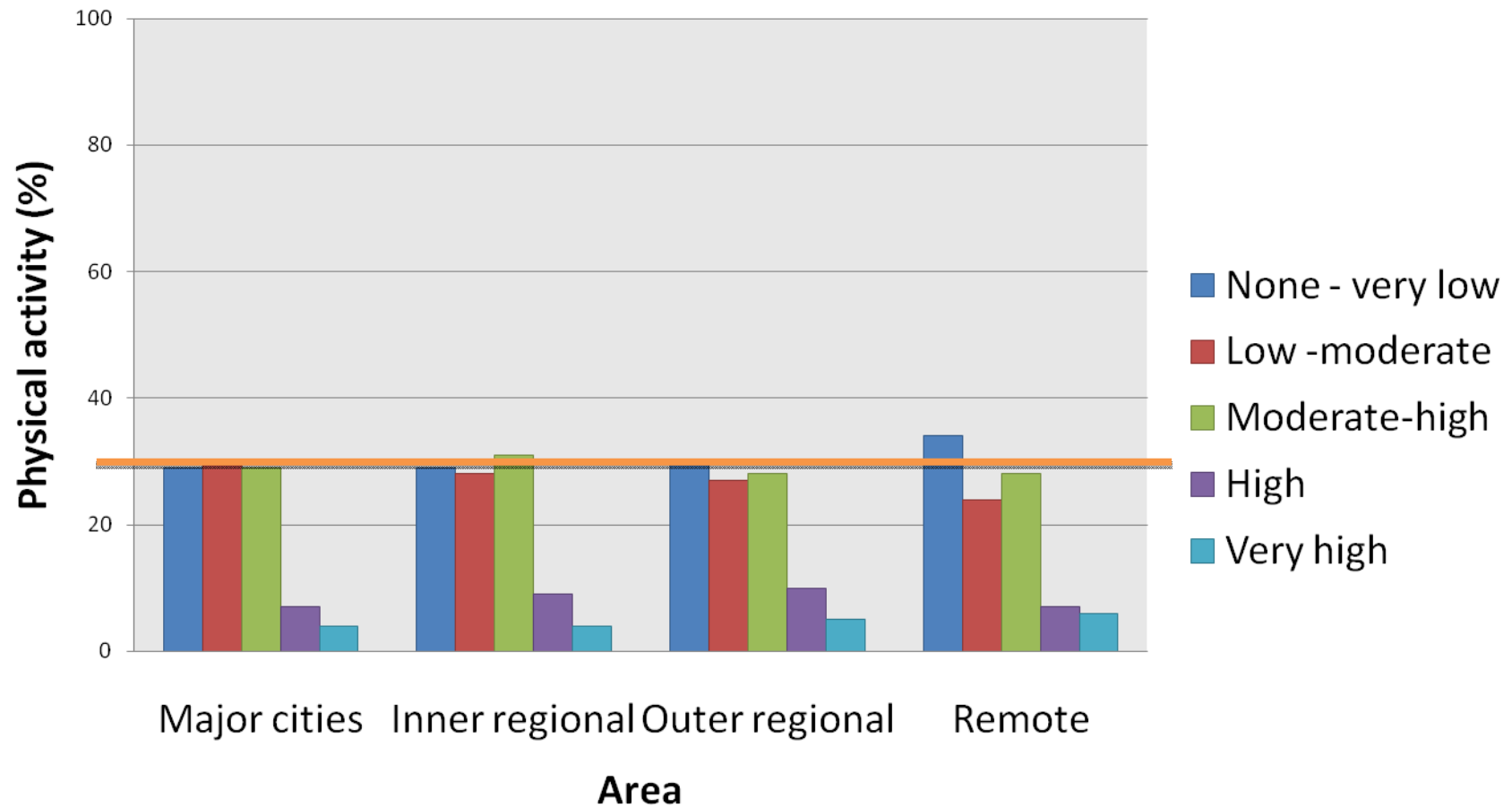
Smoking history by area; n.s.



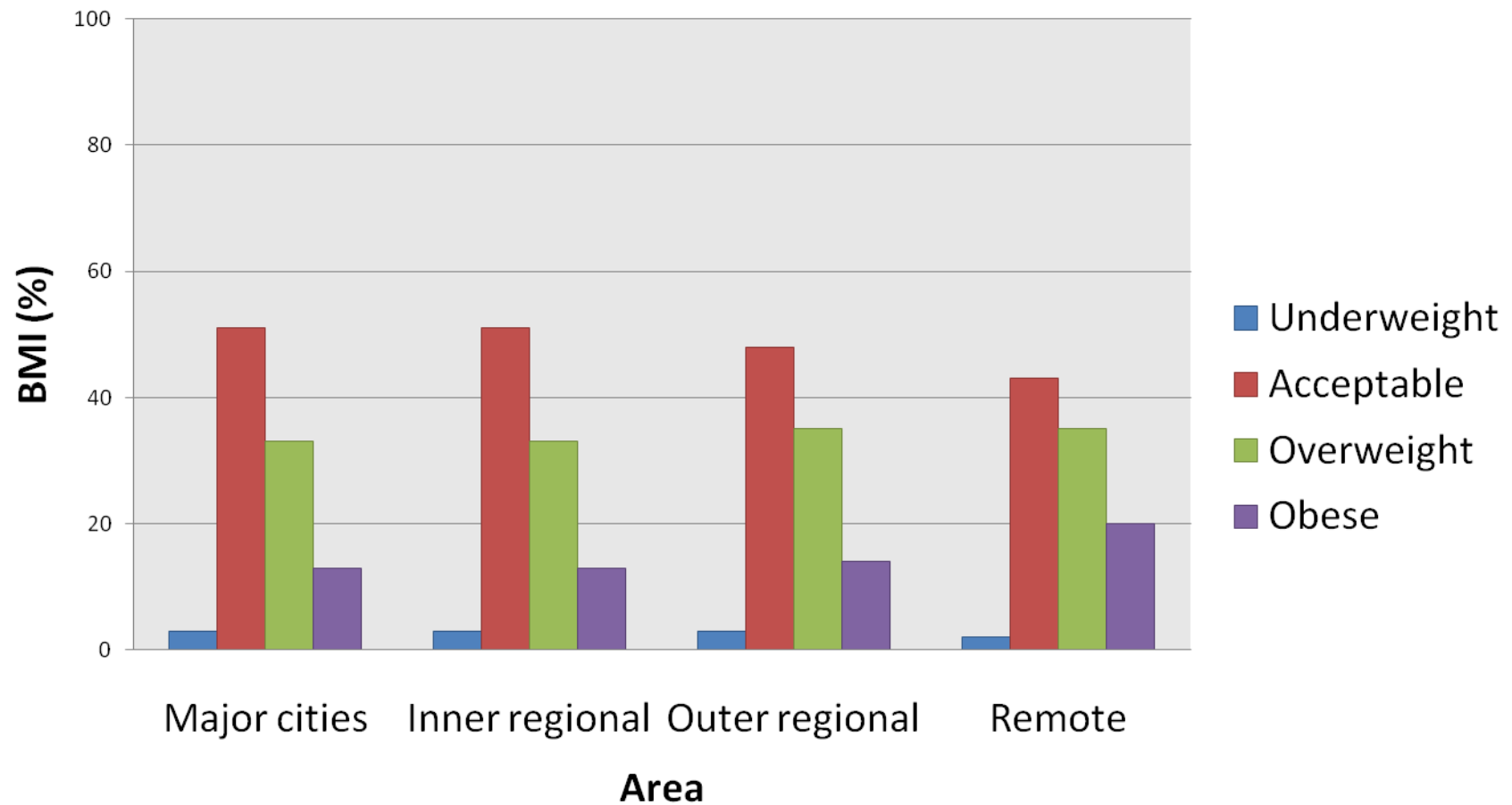
Physical activity by area; $p < .05$



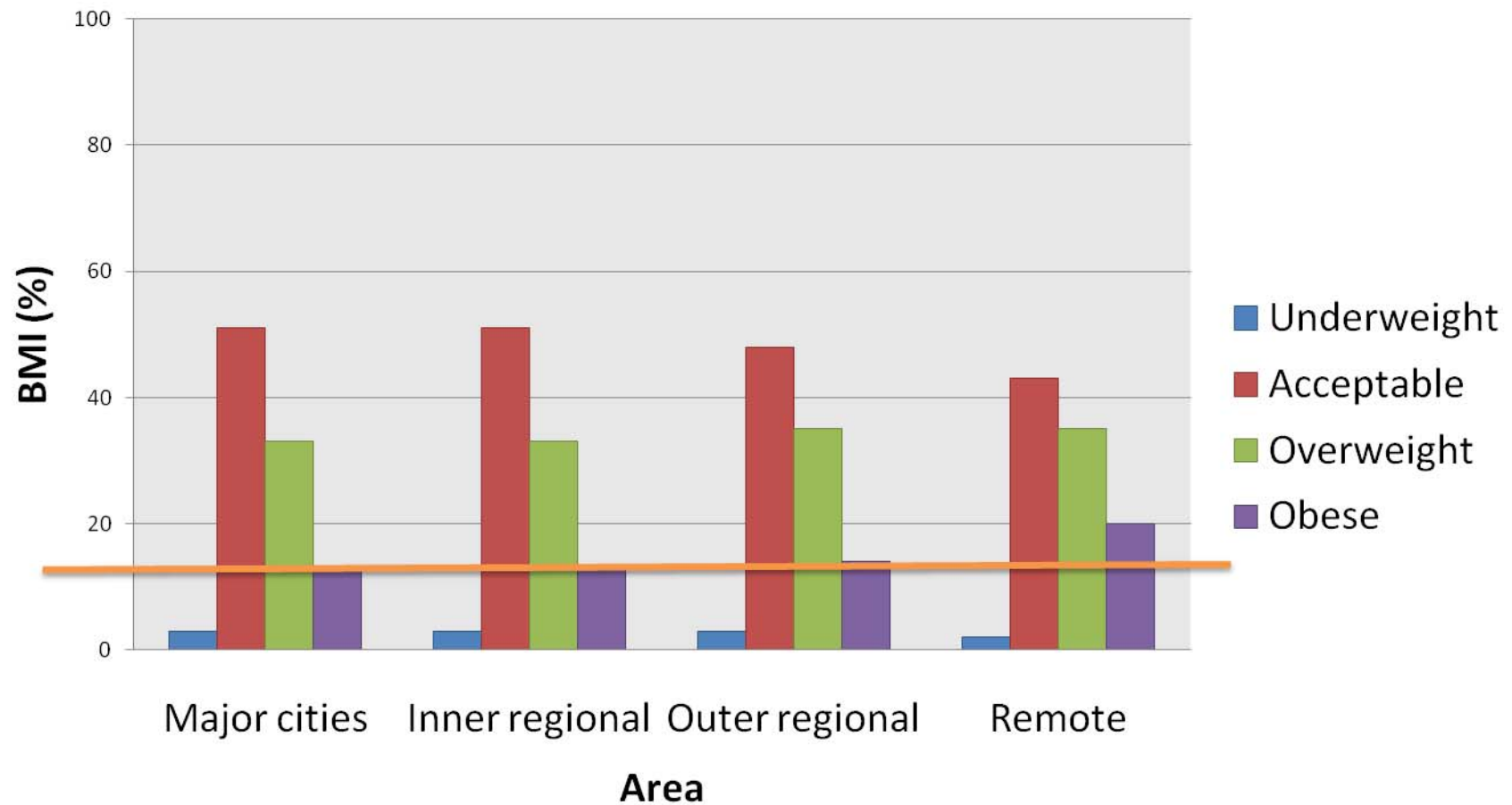
Physical activity by area; $p < .05$



BMI by area; $p < .05$



BMI by area; $p < .05$





Summary of results

- ✓ Rural difference in disease specific mortality
 - ✓ Lung cancer, COPD
 - ✓ Ischemic heart disease

- Few differences in risk factors
- Inconsistent with mortality differences





Implications

- Rural difference not due to risk factors
- Health services
 - Use
 - Access
 - Quality
- Environment
 - Farms
 - Hazardous substances
 - Pesticides





Implications

- Rural difference not due to risk factors
- Health services
 - Use
 - Access
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- Environment
 - Passive smoking
 - Farms
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Summary

- Aim to examine disease specific mortality in women
- Urban rural differences in COPD and lung cancer
- Possible explanations: treatment/ environment/ passive smoking
- Future research directions: unequivocally clarify urban/rural survival discrepancy





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- Aim to examine disease specific mortality in women
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Summary

- Aim to examine disease specific mortality in women
- Urban rural differences in COPD and lung cancer
- Possible explanations: treatment/ environment
- Most likely explanation for differences - health service discrepancies

So...Face to face interviews conducted with some rural women



Access

Living in the country it is often difficult to make an appointment for a doctor.

I am almost 81 years and live on a very isolated farm about 3/4 hour from a medical centre.

Well transport, now is that he is paying himself, for it. It costs him you know, about anything up to \$400 to \$500 a time.



Health service problems

I find the health services too slow to be practical.

Health services offered to the elderly, sick and infirm are very limited.

They try and get everybody out of the hospital of a weekend. Nobody is admitted unless it's an emergency. If it's bad, well, then the ambulance would take you and if they think it's too bad they'll send you to [regional town].



She said you'll have to have an x-ray. I said have I got to go up here to [small rural town]? Oh, no, she said they're not doing x-rays up here this week. You'll have to go to [town 100km distant]. [That town] was rife with that swine flu out there at the time.





Health practitioners

I would like to see more women doctors practicing, but very few like coming to the country to work, especially in the woman's complaints area.



Health systems

.....that is the only time that I've had to use the base hospital. But I have heard that they are very good and they do what they can do but again the equipment is stripped from there to furnish [hospital at larger regional area] you see. I mean again it's all a political thing.



Systems...

He had an MRI in [regional town] but the neurologist said he should go to [capital city] and have another one because the equipment and staff in regional areas aren't as experienced as in the city.



Rehabilitation

So then he was in a hospital in [large regional town] and they sent him down to [capital city] and of course they'll only keep them a certain time and then they're looking for a home.

So they put him in this home.... and the doctor that owns that home he is 85... so you know how good his memory will be. Now he cannot go around all those patients...he'd go there once a fortnight and take all their blood pressure. So poor old N.... got high blood pressure and had a stroke.



Last words.....

My advice - keep young and beautiful, don't get old and sick - especially at weekends or holidays - no one wants to know you, even if you are a private patient.



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