



THE GEORGE INSTITUTE
for Global Health



China Rural Health Initiative: Innovation and Policy Translation

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Presentation outline

- **The challenge of chronic diseases in emerging economies and rural China**
- **An innovative response: the China Rural Health Initiative (CRHI)**
- **The “translational” network and model**

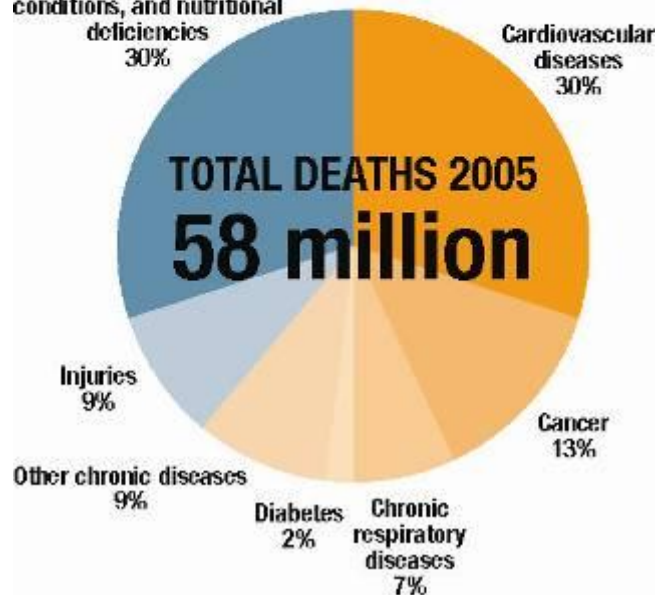
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Chronic diseases

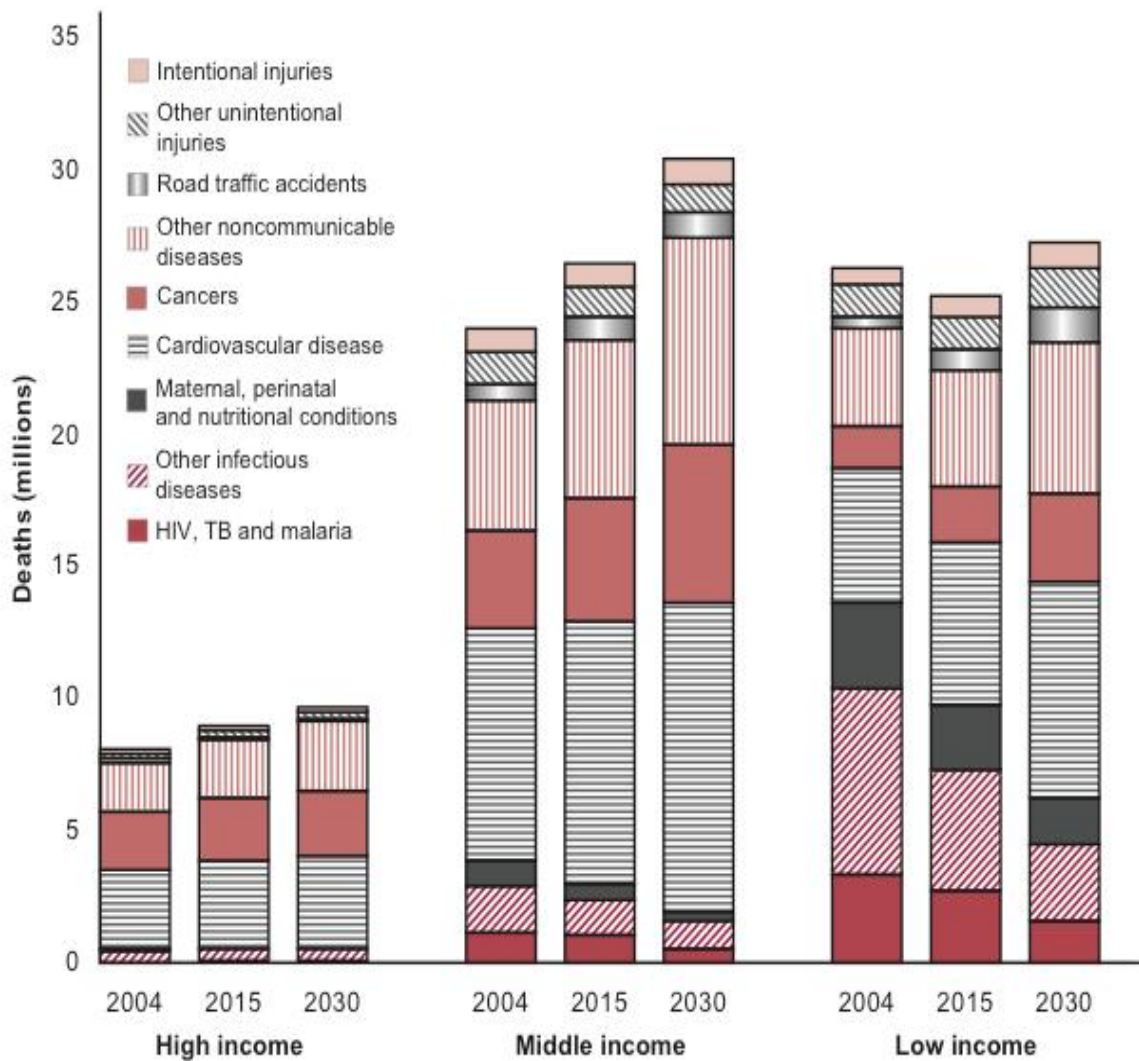
Projected main causes of death, worldwide, all ages, 2005

Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
30%



- Cardiovascular disease, mainly heart disease, stroke
- Cancer
- Chronic respiratory diseases
- Diabetes

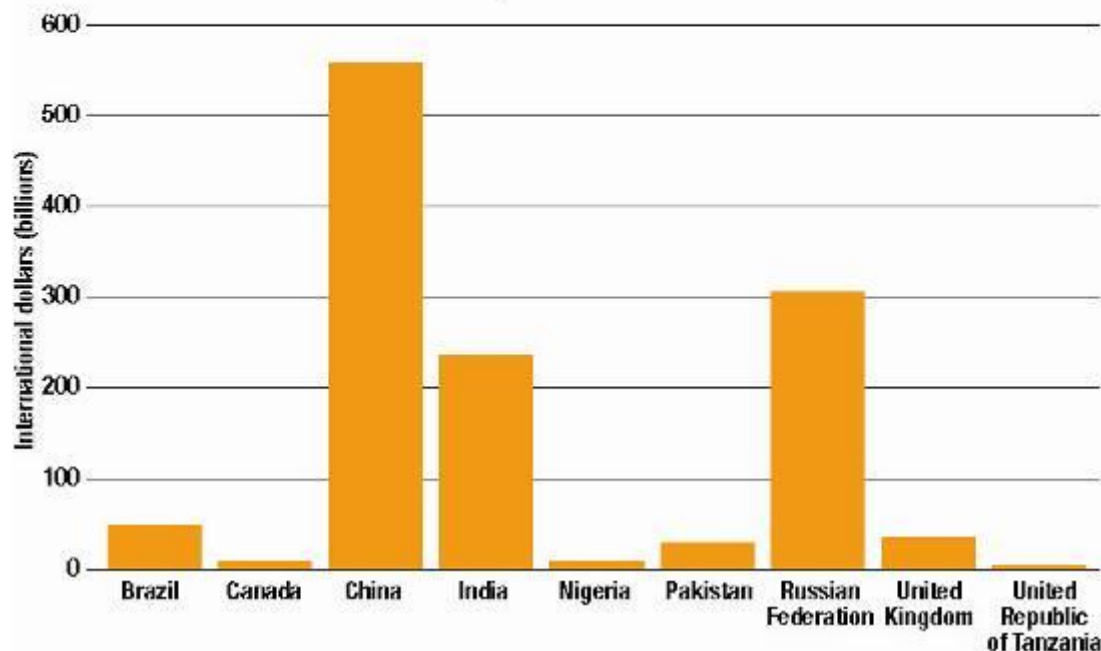
PROJECTED DEATHS BY CAUSE FOR HIGH-, MIDDLE- AND LOW-INCOME COUNTRIES



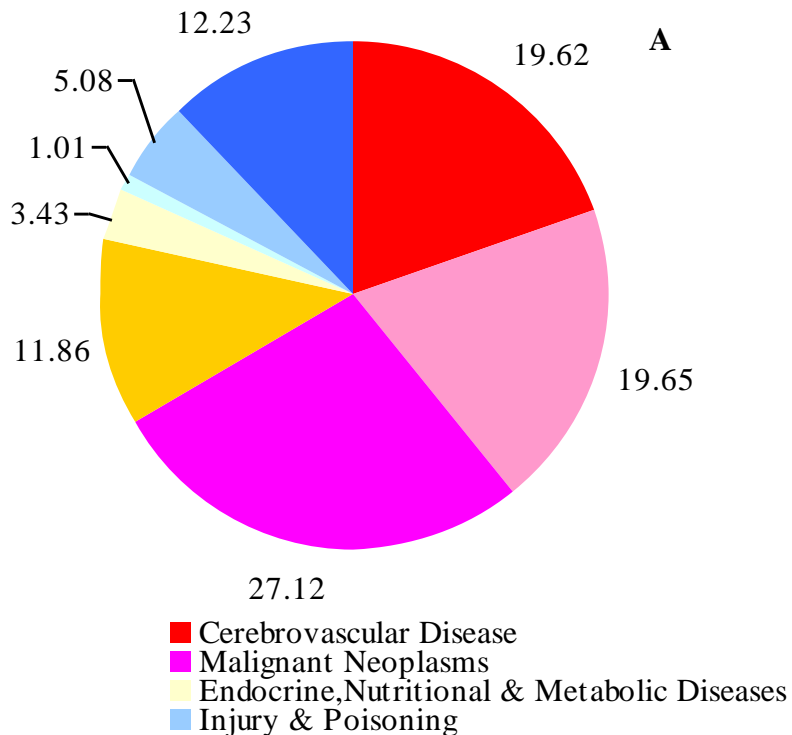
The economic impact: billions

Projected foregone national income

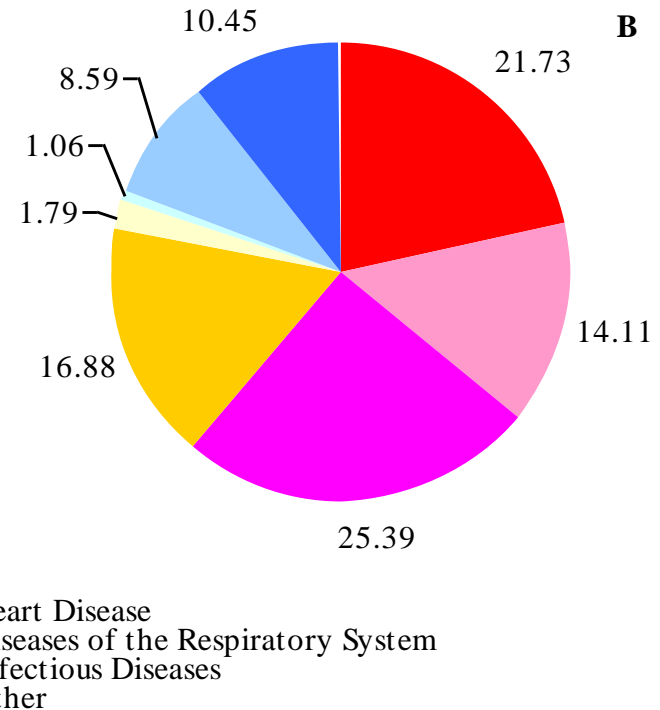
due to heart disease, stroke and diabetes
in selected countries, 2005–2015



Leading causes of death: China, 2008



Urban



Rural

Potential challenges in control of chronic diseases in China

- **Low levels of awareness and policy support**
- **Very few prevention-oriented interventions**
- **Low levels of economic and social development in rural areas**
- **Under-insurance**

Potential challenges in control of chronic diseases in China

- **Scarce and poorly allocated healthcare resources**
- **Limited healthcare facilities and equipment**
- **Primary care providers and community health workers: minimal training in controlling chronic diseases**

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Background

Rural China:

- **an enormous burden of premature cardiovascular disease**
- **low awareness, poor control and limited resources**
- **evidence-based clinical guidelines for the management of hypertension and cardiovascular disease well established, but not implemented in rural areas**

Background

Rural China:

- **ample scientific evidence on the effects of high salt intake on hypertension, cardiovascular disease and other health problems**
- **salt reduction programs absent in rural China**



**High cardiovascular risk
management and sodium
reduction in rural villages in
China: a cluster-randomized
controlled complex pragmatic
trial**



Study goal:

To develop, implement, and evaluate effective, low-cost, and sustainable interventions for cardiovascular disease prevention and management suitable for widespread implementation in rural China

Specific aims:

To evaluate the effects of 2 interventions:

- Simple, low cost standardized management of CVD high-risk patients, delivered by primary care providers**
- A community-based sodium reduction program, delivered by community health educators with local supply of low-sodium salt**

CRHI

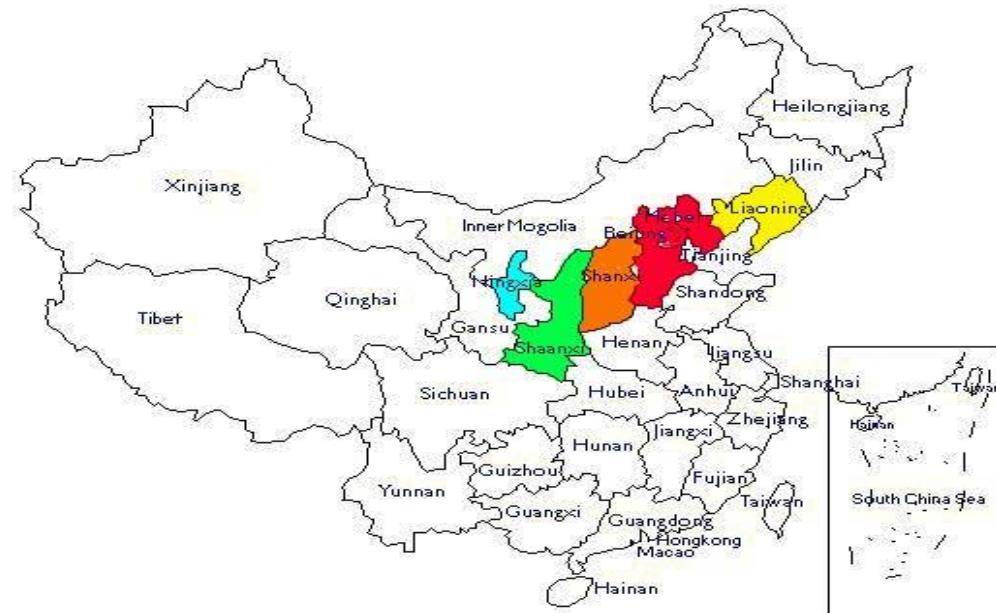


LIFESEEDS

中国农村健康行动

Study design:

- Cluster-randomized, controlled trial
- 120 rural villages from:
 - 120 townships
 - 10 counties
 - 5 provinces



CRHI



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Standardized Management (A)

Yes

No

Yes

A and B

B only

Sodium Reduction (B)

No

A only

Neither A nor B

120 clusters (townships), 30 in each group

CRHI



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中国农村健康行动

- **Principles**
 - **Evidence-based (efficacious)**
 - **Low-cost**
 - **Simplified (tailored to village doctors)**
- **Long-term goals**
 - **Sustainable**
 - **Can be promoted to and adopted by other areas (once proven effective)**

CRHI: standardized management

- **Standardized management of high risk patients**
 - Train village doctors to screen, manage, follow-up, and refer high-risk patients
 - Village doctors implement the management after the training
- **Performance feedback**
 - Centralized web-based database on digitization of CMR
 - Key performance indicators (KPI)
 - Performance feedback regularly
- **Incentives to providers**
 - Performance based
 - In cooperation with local health authority

CRHI: sodium reduction



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- **Community health education and promotion**
 - Delivered by community health educators
 - Multi-channel dissemination
 - Targeting the general population and high-risk individuals
 - Promotion of low-sodium salt use (65% sodium, 25% potassium, 10% magnesium)
- **Local supply of low-sodium salt**
 - Making low-sodium salt available at village convenience store
 - One village in each county to have price subsidy to make low-sodium salt the same price as regular salt

Proportion of High-Risk Individuals among Older Adults (men ≥ 50 /women ≥ 60)

Results from the baseline survey

Province, County	Men		Women		Total	
	N=	%H-R	N=	%H-R	N=	%H-R
Liaoning, Zhangwu	243	34.57	244	57.38	487	46.00
Liaoning, Fengcheng	247	32.79	233	43.78	480	38.13
Hebei, Luqian	255	26.67	256	38.67	511	32.68
Hebei, Anguo	246	34.96	245	44.49	491	39.71
Shanxi, Yangcheng	258	24.03	259	37.07	517	30.56
Shanxi, Gaoping	271	27.68	268	37.31	539	32.47
Shaanxi, Chang'an	256	26.56	257	33.46	513	30.02
Shaanxi, Lintong	247	23.48	250	31.20	497	27.36
Ningxia, Pingluo	238	19.75	232	35.78	470	27.66
Ningxia, Qingtongxia	253	21.74	257	48.25	510	35.10
Total	2514	27.21	2501	40.66	5015	33.92

High-risk: History of coronary heart disease, stroke, diabetes, or stage II hypertension (systolic blood pressure ≥ 160 mm Hg)

CRHI: Current Status of the Intervention

- **Standardized management**
 - Central training of county cardiologists in Oct 2010
 - County-wide training of village doctors in November and again December 2010
 - A total of 1,600 high-risk patients currently being managed by the village doctors
- **Sodium reduction**
 - Central training of county health educators in April 2011
 - County-wide training of township health educators in May and again June 2011
 - All intervention villages have low-sodium salt now and 56 villages have initiated the health education programs (the other 4 will do so by June 4th).

CRHI: Future Plans



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- **Timelines**

- Intervention of the current phase to end in **Sep 2012**
- Ongoing process evaluations
- Economic and outcome evaluations **Oct. 2012**

- **Future plans**

- Utilisation of the network as a research platform for other studies
- Promotion to wider areas by Ministry of Health, if proven effective

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CRHI



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中国农村健康行动

- **Flagship project of the China International Centre for Chronic Disease Prevention**

CRHI



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中国农村健康行动

- **Flagship project of the China International Centre for Chronic Disease Prevention (CICCDP):**
 - **Chronic Disease**
 - **Prevention**
 - **International**
 - **China**

CICCDP: Program of Work



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CICCDP



Imperial College
London



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