Update of China-ADNI

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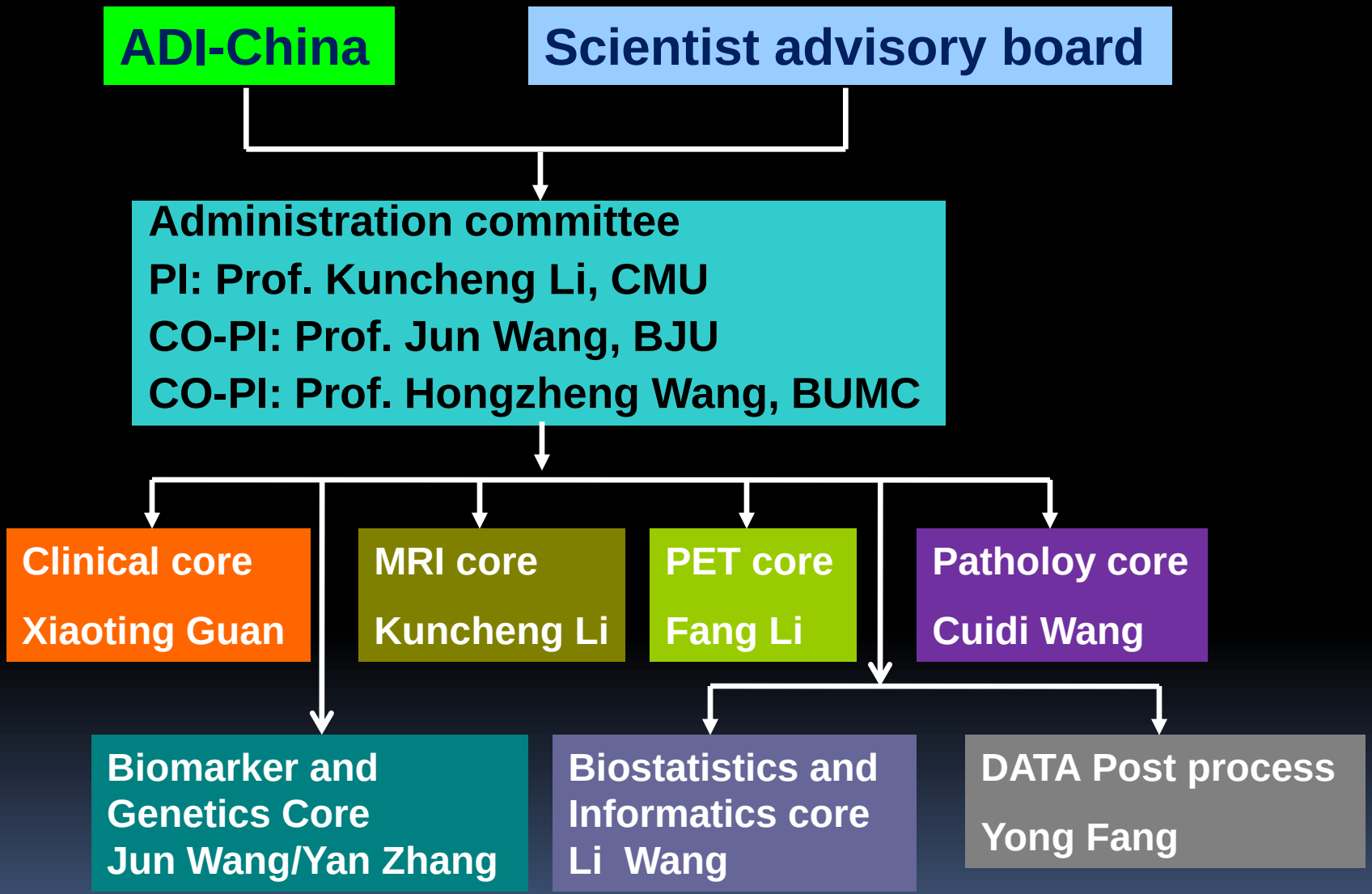
CHINA-ADNI

WW-ADNI 2014, Copenhagen, Denmark

CHINA-ADNI

Outline

- **General situation of China-ADNI**
- Progress of the main cores


ADI-China
Scientist advisory board
Administration committee
PI: Prof. Kuncheng Li, CMU
CO-PI: Prof. Jun Wang, BJU
CO-PI: Prof. Hongzheng Wang, BUMC
Clinical core
Xiaoting Guan
MRI core
Kuncheng Li
PET core
Fang Li
Patholoy core
Cuidi Wang
Biomarker and Genetics Core
Jun Wang/Yan Zhang
Biostatistics and Informatics core
Li Wang
DATA Post process
Yong Fang

Research plan---subjects

800-1000 subjects (80 sites)			
Normal	*Early MCI*	*Late MCI*	*Mild AD*
200-250	*200-250*	*200-250*	*200-250*

Research plan---examinations

- Neuropsychological battery
- Biomarkers:

  Blood: Apo E polymorphism, Amyloid 40/42, tau

  CSF: Amyloid 40/42, tau
- MRI: Multi-modality
- PET: FDG-PET

- 5 cities, 10 sites joined to this study,

  distributed in the northern, eastern, central and southwestern part of china mainland.

Enrolled subjects

- 25 New subjects enrolled in the year past, totally 41 cases:

Normal	*Early MCI*	*Late MCI*	*Mild AD*
6	*20*	*7*	*8*

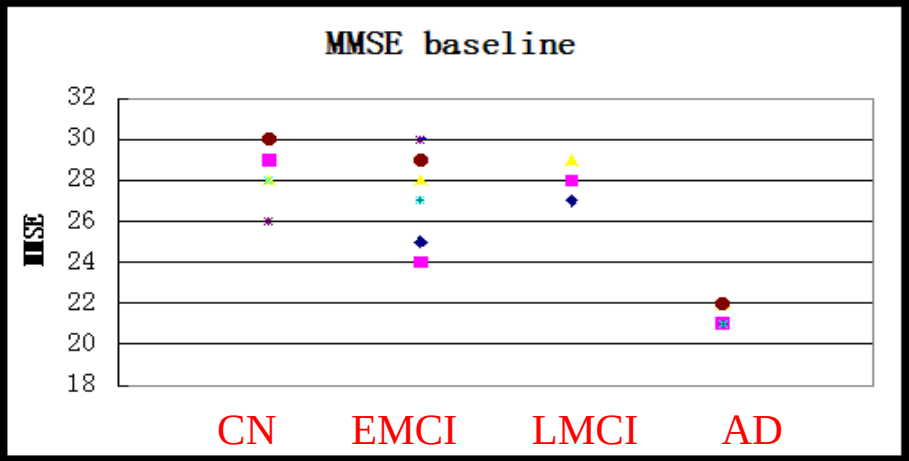
Outline

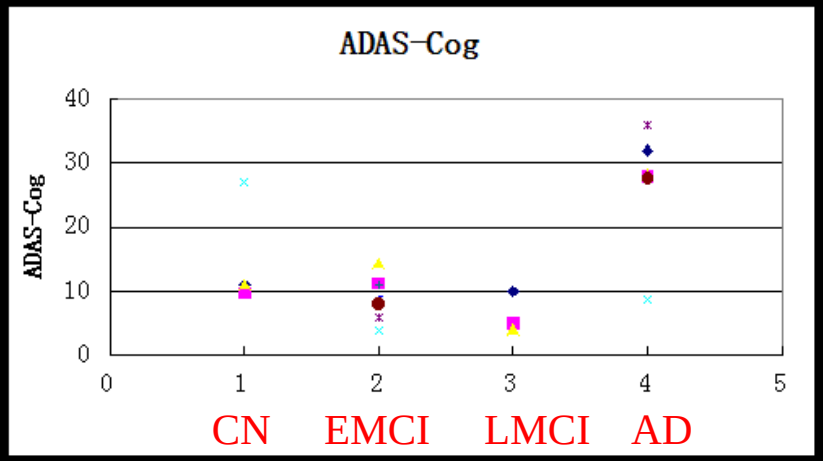
- General situation of China-ADNI
- **Progress of the main cores**

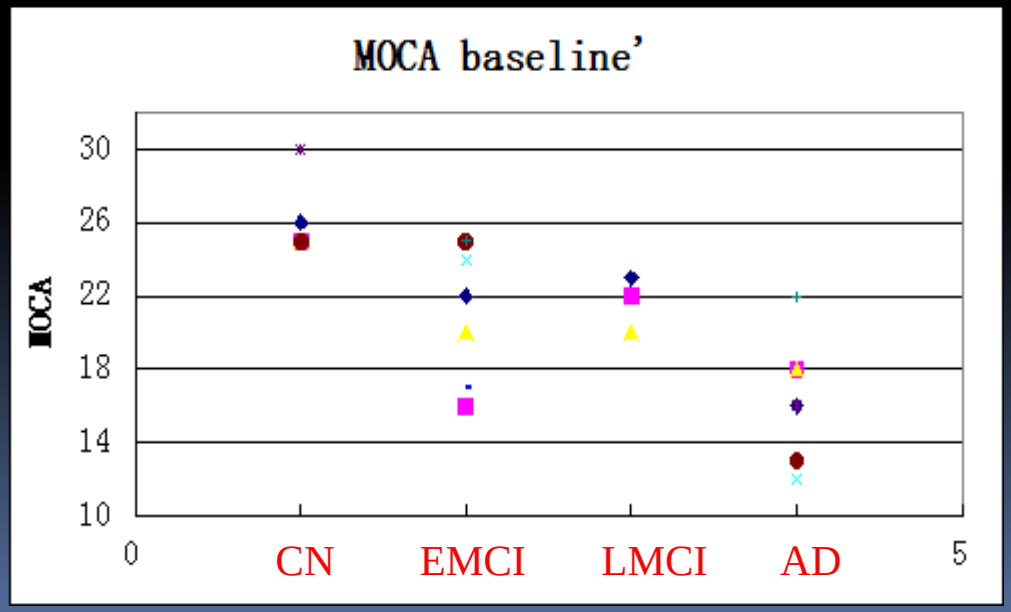
Neuropsychological battery

- Screen: MMSE, LM-I, LM-II, GDS, CDR
- Baseline: MoCA, BNT, Rey AVLT(30’ Delay), NPI, FAQ
- 6 month later: MMSE, CDR, MoCA, BNT, Rey AVLT(30’ Delay), NPI, FAQ
- 12 month later: MMSE, LM-I, LM-II, GDS, CDR, MoCA , BNT, Rey AVLT(30’ Delay), NPI, FAQ

Baseline data







Biomarker study

Diagnosis	APOE type	Aβ42 (pg/ml)	Aβ40 (pg/ml)
NC	ε2/3	49	
NC	ε3/3	35	
NC	ε2/2	36	
eMCI	ε3/3	/	
eMCI	ε2/2	/	
l MCI	ε3/3	/	
l MCI	ε3/3	137.12	
l MCI	ε4/4	137.34	
eMCI	ε3/3	110.19	
eMCI	ε2/3	281	
l MCI	ε3/3	81	
eMCI	ε3/3	*	24
eMCI	ε3/3	*	38
eMCI	ε3/3	*	108
MCI	ε2/3	65	
AD	ε3/3	30	
AD	ε2/3	47	
AD	ε3/3	48	
AD	ε2/3	39	
AD	ε3/3	62	

Genetics study

- a chinese family with early-onset AD inherited in autosomal dominant manner
- the age of onset was 46.6 ± 7.7 years (five affected individuals in two generations)
- using genetic analysis of three collected patients' DNA samples, heterozygous *APP* gene mutation and *APP* K724M gene mutation was identified

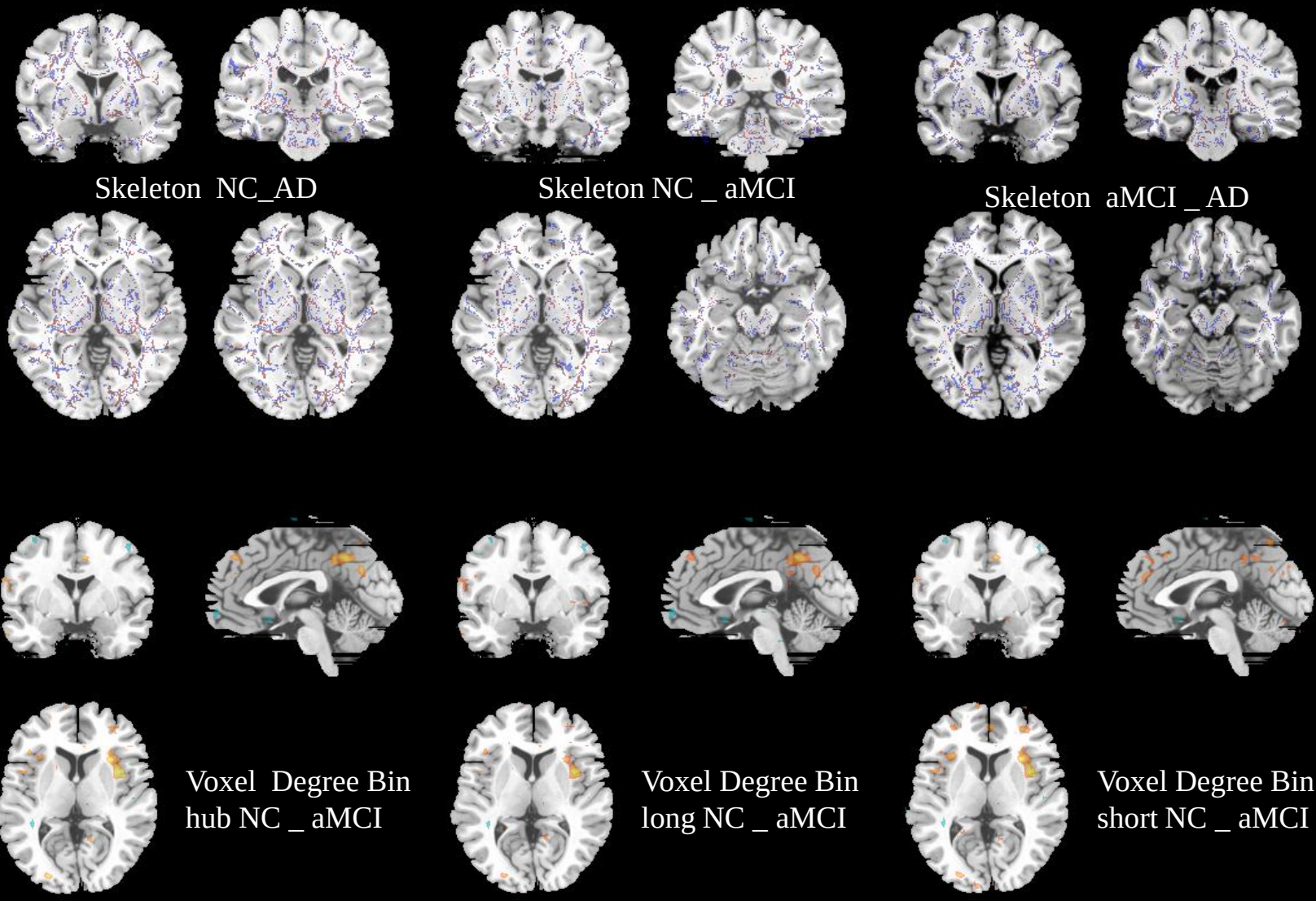
MRI Study

- Standard protocol for MRI acquisition
- Quality control among different sites
- Improve the post-processing methods

MRI Protocol

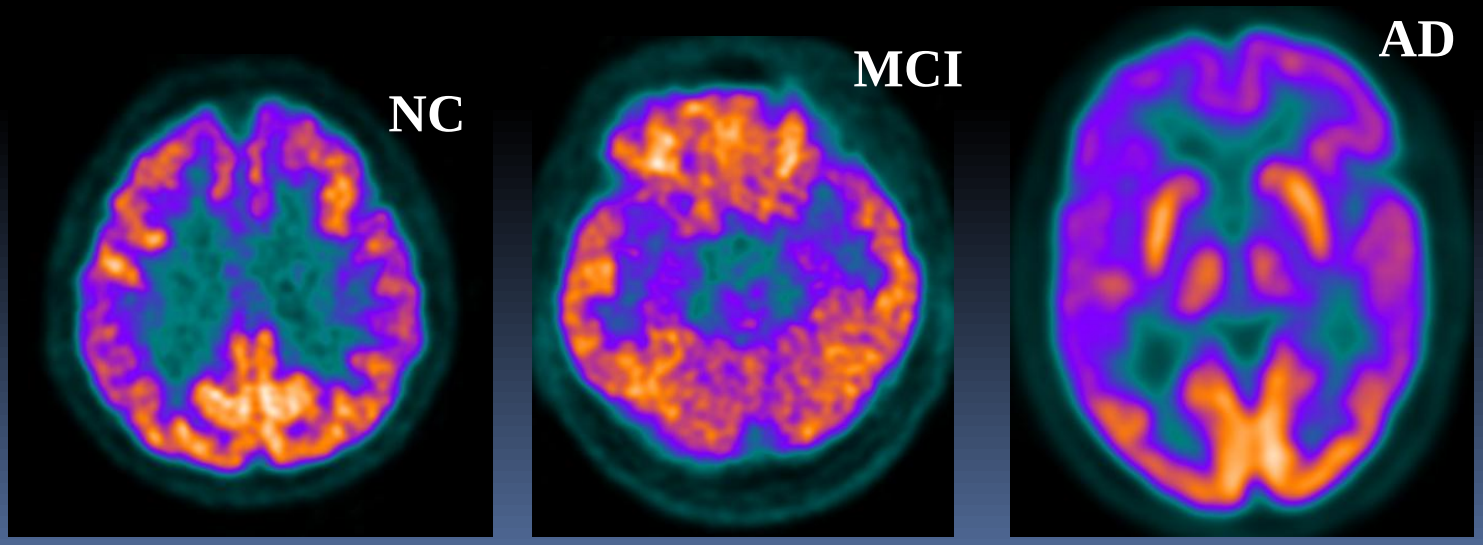
- 3D T1 volume
- Diffusion tensor imaging
- Resting state fMRI
- Arterial spin labelling
- Susceptibility weighted imaging

TBSS Results



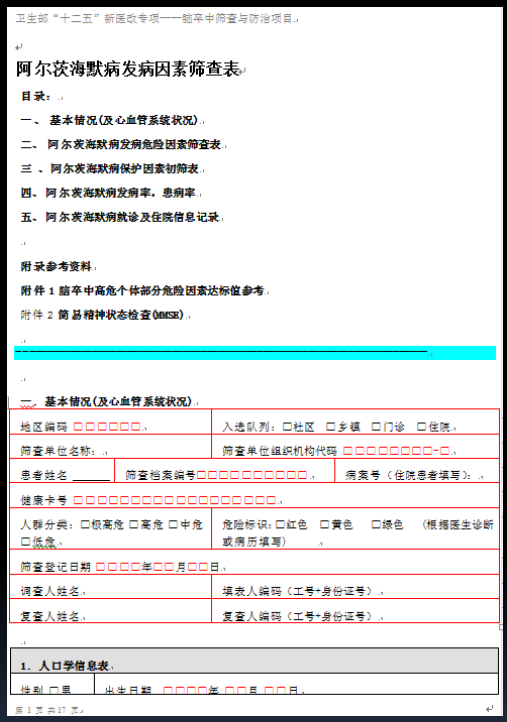
PET Study

- Imaging quality control with phantom
- WW-ADNI examination protocol
- FDG-PET
- No AV-45-PET examination were performed



Epidemiological research

- Last year, one site in southwest china carried out an epidemiological research on AD in 10049 cases older than 40 years.
- As a result, 228(2.269%) were suspected of cognition impairment, including 199(1.98%) cases of AD and 29(0.289%) cases of vascular dementia.



卫生部“十二五”新医改专项——脑卒中筛查与防治项目

阿尔茨海默病发病因素筛查表

目录：

一、 基本情况(及心血管系统状况)

二、 阿尔茨海默病发病危险因素筛查表

三 、阿尔茨海默病保护因素初筛表

四、 阿尔茨海默病发病率，患病率

五、 阿尔茨海默病就诊及住院信息记录

附录参考资料

附件 1 脑卒中高危个体部分危险因素达标值参考

附件 2 简易精神状态检查(MMSE)

一、基本情况(及心血管系统状况)

地区编码 □□□□□□	入选队列：□社区 □乡镇 □门诊 □住院
筛查单位名称：	筛查单位组织机构代码 □□□□□□□□-□
患者姓名 _____	筛查档案编号□□□□□□□□□□ 病案号（住院患者填写）：
健康卡号 □□□□□□□□□□□□□□□□□□	
人群分类：□极高危 □高危 □中危 □低危	危险标识：□红色 □黄色 □绿色 （根据医生诊断或病历填写）
筛查登记日期 □□□□年□□月□□日	
调查人姓名	填表人编码（工号+身份证号）
复查人姓名	复查人编码（工号+身份证号）

1. 人口学信息表

性别 □男	出生日期 □□□□年 □□月 □□日

第 1 页 共 17 页

With the age increase, morbidity in women is higher than that in men

Physical training and intellectual activity may be helpful for prevention of dementia.

Low fiber diet and cardio-cerebrovascular disease may be high risk factor

- **Many thanks to the support from WW-ADNI**