Ageing, Health & Chronic Diseases in SA: Preliminary Results of a population based Study on global AGEing and adult health

Nancy (Refilwe) Phaswana-Mafuya, PhD
Principal Investigator (South African leg of SAGE)
Director, Human Sciences Research Council

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Presentation overview

- Background: evolution, scope and coverage
- Goal and Objectives of SAGE
- Purpose of the Presentation
- Methods
- Selected Results: Risk factors, chronic conditions & health system responsiveness
- Discussion/Conclusions
- Selected References
- Acknowledgements

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SAGE originated from WHS and is conducted in 6 countries with increasing # of individuals aged 50+ (UN Population Division, 2005)

	Percentage 50+, by age		Number (in thousands) 50+, by year		Percentage 60+,by year		Number (in thousands) 60+, by year	
Area/Country	**2005**	**2025**	**2005**	**2025**	**2005**	**2025**	**2005**	**2025**
World	19.3	26.1	1,246,893	2,064,186	10.4	15.1	672,386	1,192,603
More developed	33.2	40.8	402,437	509,472	20.2	27.5	244,083	342,951
Less developed	16.1	23.4	844,455	1,554,714	8.2	12.8	428,304	849,652
China	21.9	36.1	287,808	520,689	10.9	20.1	143,907	289,985
Ghana	11.3	14.7	2,507	4,538	5.7	7.7	1,257	2,369
India	15.5	22.3	170,694	311,006	7.9	12.0	87,509	168,146
Mexico	14.8	26.2	15,880	33,918	7.8	14.2	8,354	18,337
Russian federation	30.2	37	43,287	47,814	17.1	24.2	24,475	31,412
South Africa	14.3	18.4	6,764	8,891	6,8	11.5	3,213	5,559

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Goal and Objectives of SAGE

- Limited understanding exists on the magnitude, dynamics, individual and social determinants of ill-health in older ages across SSA
- The goal of the Study on global AGEing and adult health (SAGE) is to develop a broader understanding of ageing and health by:
  - obtaining reliable, valid and comparable data on health status and health system responsiveness among individuals aged 50+ years in nationally representative samples;
  - examining patterns and dynamics of age-related changes in health and well-being using longitudinal follow-up of survey respondents as they age;
  - supplementing and cross-validating self-reported measures of health through measured performance tests for selected health domains; and
  - collecting data on health examinations and biomarkers to improve reliability of data on morbidity, risk factors and monitor the effect of interventions.

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Purpose of presentation

To share preliminary results of SAGE:

- Prevalence of risk factors for chronic diseases based on WHO STEPWISE APPROACH to surveillance of risk factors : smoking, alcohol, diet, physical activity, BMI, WHR & blood pressure
- Self-reported prevalence of chronic conditions: stroke, angina pectoris, diabetes mellitus, osteoarthritis, chronic lung disease, asthma, etc
- Health systems responsiveness - need for health care services and utilization of health care in terms of inpatient and outpatient treatment

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Study Design

- SAGE design draws heavily on WHS
- SAGE is a face to face nationally representative longitudinal household and cross-sequential panel study
- The survey is designed to be nationally representative of the population aged 50+ years, with a smaller cohort of respondents aged 18-49 for comparison purposes.
- This survey programme is projected to run twice over 5-10 years.
- SAGE Wave II is planned to take place last quarter of 2010, first quarter of 2011

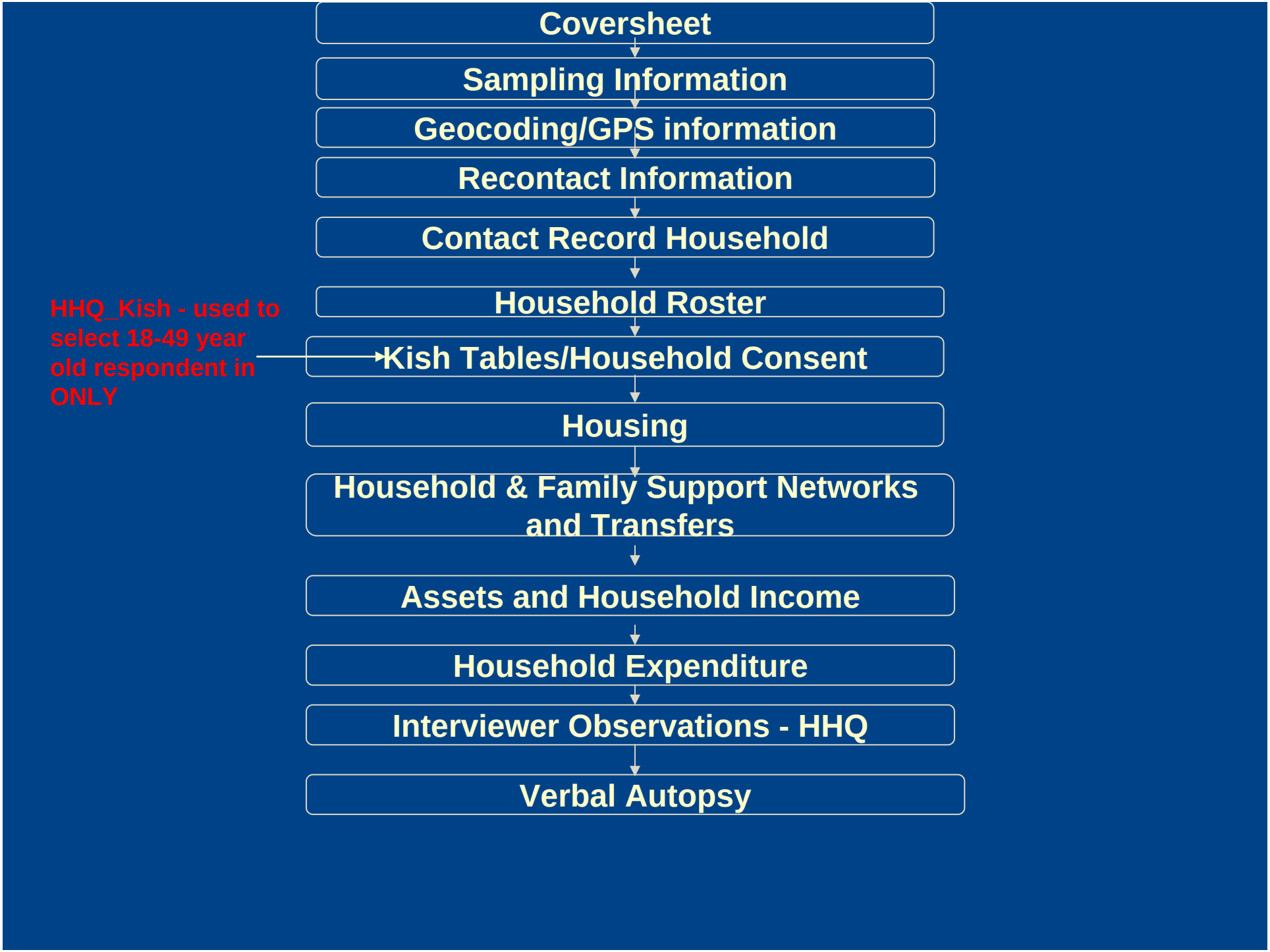
Sampling

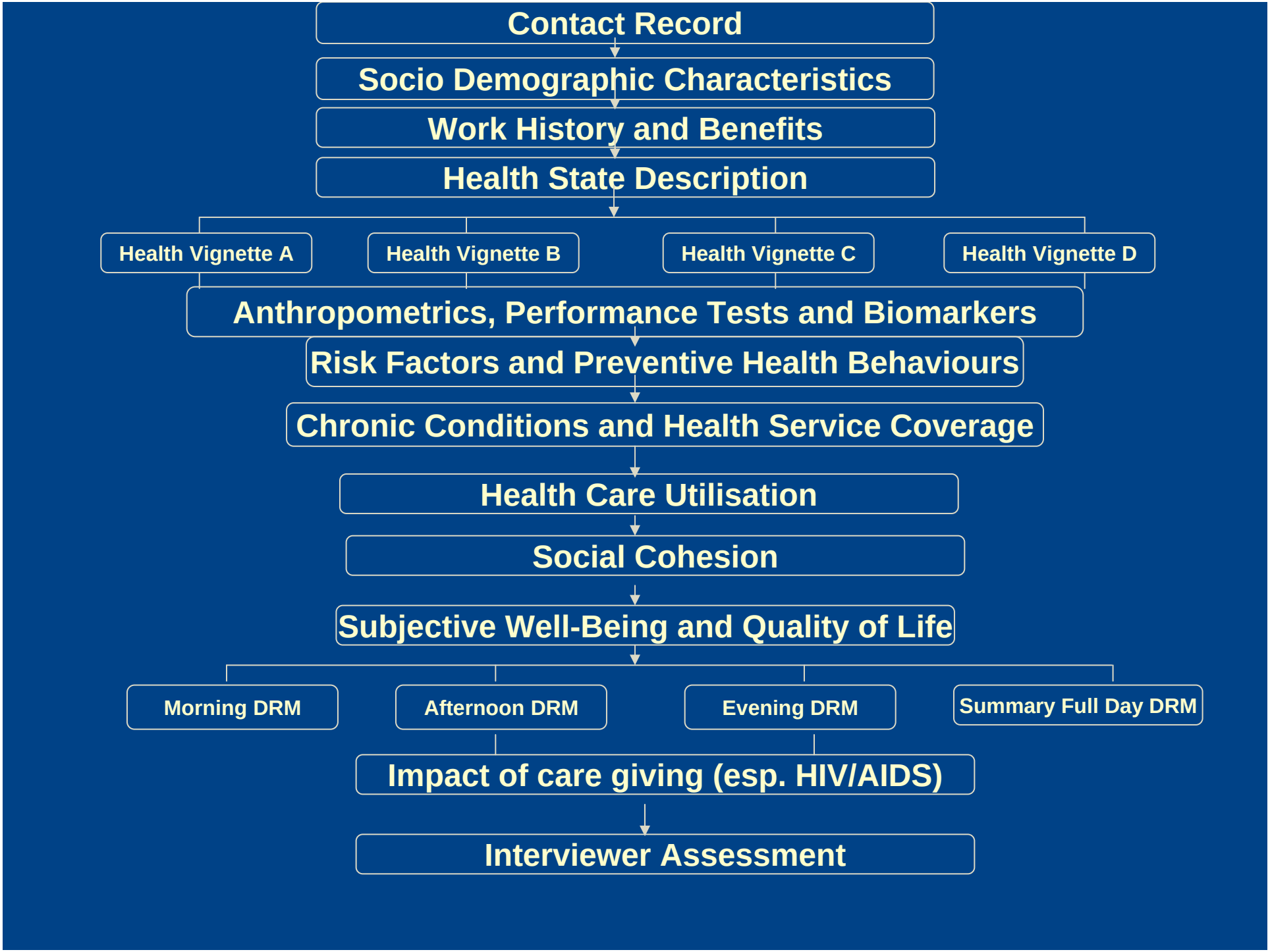
- Multistage Stratified Random Cluster Sample with HSRC's Master Sample (HSRC 2002) used as sampling frame
- HSRC Master Sample has 1000 EAs based on Census 2001 (Stats SA, 2001)
- 600 EAs were randomly drawn from the HSRC Master using **SURVEYSELECT** (Kalton, 1983 & Cochran, 1977); of these 396 (66%) were realized
- In each sampled EA, a systematic random sample of 30 HH was done (totalling 18 000 HH); of these 4083 were realized
- In the selected VPs, all people aged 50+ were selected, 3500 were realized (targeted sample = 5000 individuals)
- 2 persons aged 18-49 were randomly chosen in the remainder of HH which did not have a 50+ within each EA
- If the selected household had >1person aged 18-49, Kish Grid (Kish,1987, 1965) was used to randomly choose one person (totalling 1200); of these about 500 were realized (targeted sample = 1000)
- Sampling weights are still being finalized

SAGE Instrument

The WHS questionnaire was used as a starting Point (http://www3.who.int/whs/) . It was revised following:

- A **review** of 16 cross-national/longitudinal ageing surveys
- **Recommendations** from experts in the field
- **Cognitive testing in** South Africa & Viet Nam by StatsSweden
-
- A **pretest** in Ghana, Viet Nam and Tanzania
- The instrument has 2 main parts:
  - 1) household questionnaire;
  - 2) individual questionnaire;
- Proxy questionnaire used for cognitively impaired respondents after screening them


Coversheet
Sampling Information
Geocoding/GPS information
Recontact Information
Contact Record Household
Household Roster
HHQ_Kish - used to select 18-49 year old respondent in ONLY
Kish Tables/Household Consent
Housing
Household & Family Support Networks and Transfers
Assets and Household Income
Household Expenditure
Interviewer Observations - HHQ
Verbal Autopsy


Contact Record
Socio Demographic Characteristics
Work History and Benefits
Health State Description
Health Vignette A
Health Vignette B
Health Vignette C
Health Vignette D
Anthropometrics, Performance Tests and Biomarkers
Risk Factors and Preventive Health Behaviours
Chronic Conditions and Health Service Coverage
Health Care Utilisation
Social Cohesion
Subjective Well-Being and Quality of Life
Morning DRM
Afternoon DRM
Evening DRM
Summary Full Day DRM
Impact of care giving (esp. HIV/AIDS)
Interviewer Assessment

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MAJOR RISK FACTORS

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Prevalence of smoking (cigarettes, cigars, pipes, snuff or chewed tobacco) and average daily tobacco consumption (sniffing, inhaling, chewing)

Characteristics	Distribution of smoking status of current smokers			All	Mean daily tobacco consumption	No. of Respondents
	Current daily smoker	Smoker, not daily	Not current smoker	Never-smoker		
Age Group (years)						
18-49	73.3	17.0	7.4	65.7	0.00	413
50-59	62.3	13.6	22.0	63.8	1.95	1410
60-69	60.1	12.9	24.4	63.0	3.17	1016
70+	64.6	10.5	23.4	69.2	3.73	724
Sex						
Male	45.84	39.10	51.27	54.0	2.86	1274
Female	54.16	60.90	48.73	70.63	1.93	2289
Residence						
Urban	64.35	60.42	70.13	64.6	3.43	3009
Rural	35.65	39.58	29.87	63.3	0.58	1531
Total				**64.5**		

- The prevalence of smoking was generally low across age groups; most of those who reported to smoke were current daily smokers.
- The mean daily tobacco consumption **increased with age** and was higher for males than females.

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Prevalence of alcohol consumption (commercial and home-brewed beverage quantified by alcohol content and quantity)

	Alcohol consumption (%)			
		From past week drinkers		
Characteristics	Life time abstainers	Social Drinkers	Infrequent binge drinkers	Frequent binge drinkers
Age Group (years)				
18-49	73.1	63.2	35.3	1.5
50-59	72.4	76.1	18.9	5.0
60-69	74.0	77.2	17.9	4.8
70+	75.7	77.0	18.4	4.6
Sex				
Male	61.4	72.9	25.5	5.6
Female	80.3	77.6	19.6	2.7
Residence				
Urban	73.4	74.8	20.1	5.1
Rural	70.2	76.9	18.7	4.4
Total	73.6			

- >70% were lifetime abstainers: women (80.3%)/men (61.4%)
- Most past week drinkers were social drinkers: **increased with age**.
- 18.4%- 35.3% were non heavy binge drinkers (1-2 days per week with 5+ standard drinks in last 7 days)
- Only a few were frequent binge drinkers (3+ days per week with 5+ standard drinks in last 7 days).

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Percentage with insufficient intake of fruit and vegetables and insufficient physical activity

Characteristics	*Insufficient intake of fruit	**Insufficient intake of vegetables	***Insufficient physical activity
Sex			
Male	96.9	94.6	85.4
Female	97.3	96.6	87.3
Age group			
18-49	97.7	97.7	55.1
50-59	96.9	94.9	54.8
60-69	97.5	95.8	66.3
70+	97.1	96.9	72.2
Residence			
Urban	97.2	95.8	93.2
Rural	96.6	96.4	92.1
Total	97.2	95.9	

- 5 fruit servings a day; 5 vegetable servings a day; 150 min per week
- >94% across age groups, geotype, gender took insufficient fruit/veg
- Insufficient physical activity **increased with age**

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Percentage of underweight, overweight and obese respondents and BMI

Characteristics	Prevalence of			Normal nutritional status (%)	Mean BMI
	Underweight (%)	Overweight (%)	Obesity (%)		
Sex					
Male	6.0	61.5	33.1	29.0	29.0
Female	4.3	73.9	47.4	32.6	32.6
Age group					
18-49	5.9	62.2	35.1	30.5	30.5
50-59	4.0	71.6	44.5	31.9	31.9
60-69	4.7	70.6	46.1	31.2	31.2
70+	6.4	68.0	36.9	30.3	30.3
Residence					
Urban	4.7	72.8	44.9	31.7	31.7
Rural	5.6	63.5	35.5	30.1	30.1
Marital Status					
Never married/cohabiting	7.6	64.2	40.4	31.7	31.7
Currently married	4.0	71.5	42.4	30.7	30.7
Cohabiting	8.0	54.0	28.4	28.1	28.1
Separated/Divorced	4.1	56.4	41.5	29.7	29.7
Widowed	4.4	40.1	45.2	32.4	32.4
Total	**5.0**	**69.6**	41.7	25.4	

- High prevalence rates of 47.4% and 33.1% of obesity for women/men
- Obesity was highest in the **age group of 60 to 69 years (46.1%)** and among urban dwellers (44.9%).
- The mean BMI was 29.0% (overweight) and 32.6%(obese) for men/ women respectively

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Mean waist & hip circumferences and WHR

Characteristics	Mean waist circumference	Mean hip circumference	Waist Hip Ratio >=0.8f/0.9m
Sex			
Male	120.5	135.7	53.1
Female	129.9	146.7	85.7
Age group			Male/ Female
18-49	141.1	147.8	48.7/ 78.3
50-59	121.7	139.5	51.5/ 85.1
60-69	132.0	147.3	57.8/ 86.5
70+	120.2	139.9	53.3/ 88.7
Residence			
Urban	130.1	147.3	54.2/ 85.9
Rural	113.2	128.0	51.2/ 85.3
Marital Status			
Never married/cohabiting	139.5	148.8	
Currently married	123.4	139.1	
Cohabiting	105.5	122.4	
Separated/Divorced	113.2	125.9	
Widowed	129.0	149.1	
Total	**126.6**	**142.8**	**46.1**

•85% of women and 50% of men had a WHR of > 0.80 and 0.90 respectively

Mean systolic and diastolic blood pressure and pulse rate

Characteristics	Mean systolic Blood pressure	Mean diastolic Blood pressure	Mean pulse Rate	No. of respondents
Sex				
Male	141.61	94.46	74.94	1231
Female	146.96	95.16	77.12	2224
Age group				
18-49	132.01	89.98	76.49	401
50-59	142.71	96.37	77.12	1356
60-69	147.21	95.90	75.99	989
7079	148.30	94.17	75.63	521
80+	145.74	91.82	74.31	188
Residence				
Urban	143.57	94.51	76.24	2910
Rural	145.02	95.89	76.32	1494
Marital Status				
Never married/cohabiting	142.80	95.40	78.21	584
Currently married	141.13	95.52	75.09	1340
Cohabiting	143.06	96.90	78.74	177
Separated/Divorced	145.65	96.59	75.99	248
Widowed	147.10	95.67	76.46	1041

- Mean systolic BP was 141.61/146.96 mmHg for men/women
- Mean diastolic BP was 94.46/ 95.16 for men/women
- High BP was observed in respondents aged 50+ years
- These results indicate that respondents were hypertensive
- Self-reported prevalence of hypertension was 23.2%/32.9% hypertension

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Self reported prevalence of NCDs

Prevalence rates for a selected number of chronic conditions calculated by self-report and also by symptom reporting (sufficient specificity and sensitivity)

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Prevalence of Athritis/Stroke by SR and SX, % CTx and RTx

Characteristics	Arthritis				Stroke			
	SR	Sx	CTx	RTx	SR	Sx	CTx	RTx
Sex								
Male	15.05	20.75	68.72	76.97	4.25	3.32	54.72	58.82
Female	25.66	30.48	67.86	75.40	3.28	2.59	58.97	58.11
Age group								
18-49	6.67	8.97	70.37	76.92	1.28	1.55	100.00	100.00
50-59	20.70	25.80	72.00	77.74	3.18	2.44	63.04	60.00
60-69	28.66	33.47	65.82	76.28	4.08	3.66	52.38	56.41
70+	23.60	30.87	64.81	71.43	5.16	3.25	50.00	52.78
Residence								
Urban	24.09	28.96	70.43	77.44	4.02	2.58	57.72	60.50
Rural	15.76	21.76	64.66	73.16	2.55	3.31	73.17	71.79
Marital Status								
Never married	18.29	26.64	69.23	76.70	3.02	1.07	55.56	50.00
Currently married	19.44	23.55	70.75	74.90	3.49	2.88	62.50	60.87
Cohabiting	9.88	16.86	41.18	76.47	1.74	1.16	100.00	100.00
Separated/Divorced	23.14	29.46	63.16	80.70	4.55	4.98	61.54	58.33
Widowed	28.78	32.87	68.60	75.68	4.35	3.66	50.00	57.78

Arthritis was **higher for 50+ age category** and Stroke **increased with age**

- **SR = self-reported diagnosed condition;**
- **Sx = symptom-based calculation of condition;**
- **CTx = current (in last 2 weeks) therapy;**
- **RTx = recent (last 12 months) therapy;**

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Prevalence of Angina/Diabetes by SR and SX, % CTx and RTx

Characteristics	Angina				Diabetes		
	SR	Sx	CTx	RTx	SR	CTx	RTx
Sex							
Male	5.02	6.46	78.69	77.97	6.72	87.80	83.75
Female	6.00	9.24	75.19	78.95	10.57	84.26	82.98
Age group							
18-49	1.79	4.63	71.43	57.14	3.08	75.00	75.00
50-59	5.76	9.41	76.62	83.12	7.73	81.31	79.05
60-69	7.11	8.68	78.57	81.16	11.72	87.83	86.09
70+	5.60	7.52	72.50	69.23	12.09	87.95	85.54
Residence							
Urban	6.06	7.65	77.53	80.23	11.84	84.35	82.80
Rural	4.40	8.47	68.18	70.77	4.75	84.72	81.94
Marital Status							
Never married	3.55	6.94	70.00	80.00	7.28	90.48	88.10
Currently married	5.81	7.13	81.82	81.58	9.30	84.55	80.99
Cohabiting	3.49	8.14	57.14	57.14	4.07	75.00	75.00
Separated/Divorced	4.55	9.54	66.67	66.67	6.20	88.24	82.35
Widowed	7.52	10.29	75.32	78.95	12.27	84.13	84.13

Angina **was higher for 50+ age category;** Diabetes **increased with age**

Prevalence of CLD/Asthma by SR and SX, % CTx and RTx

Characteristics	Chronic lung disease				Asthma			
	SR	Sx	CTx	RTx	SR	Sx	CTx	RTx
Sex								
Male	1.87	1.96	53.57	62.96	4.51	3.66	81.48	84.91
Female	2.54	2.63	54.55	61.90	4.71	3.89	74.07	79.44
Age group								
18-49	0.77	1.28	25.00	33.33	2.82	2.06	63.64	45.45
50-59	2.50	2.81	55.26	67.57	4.85	3.80	78.57	6.76
60-69	2.51	2.30	59.38	67.74	5.86	4.51	75.44	80.70
70+	2.51	2.36	50.00	47.37	3.54	3.84	79.17	83.33
Residence								
Urban	2.22	2.40	58.75	60.53	5.04	3.85	76.16	81.21
Rural	2.34	2.34	43.24	59.46	3.30	3.03	78.00	76.00
Marital Status								
Never married	1.78	2.13	58.33	54.55	3.91	3.39	73.91	73.91
Currently married	2.09	1.86	58.82	75.00	4.18	3.41	83.64	87.27
Cohabiting	2.91	3.51	14.29	28.57	5.81	4.09	83.33	83.33
Separated/Divorced	2.89	1.66	44.44	44.44	4.96	3.32	33.33	61.54
Widowed	2.47	3.27	58.62	64.29	5.54	4.75	80.36	82.14

CLD **increased with age** and Asthma was **higher for 50+ age category**

Prevalence of Edentulism/Cataracts by SR/SX, % CTx/RTx

Characteristics	Edentulism			Cataracts		
	(%)	Missing	N	(%)	Missing	N
Sex						
Male	7.06	7.7	1274	4.16	2.87	1274
Female	10.00	5.33	2289	4.76	7.69	2289
Age group						
18-49	2.66	5.57	413	1.21	5.57	413
50-59	7.45	6.45	1410	2.48	6.45	1410
60-69	10.43	5.91	1016	5.81	5.91	1016
70+	13.40	6.35	724	8.70	6.35	724
Residence						
Urban	11.80	5.65	3009	5.28	5.65	3009
Rural	3.40	5.09	1531	3.20	5.09	1531
Marital Status						
Never married	9.00	6.17	600	3.33	6.17	600
Currently married	8.70	7.98	1403	3.78	7.98	1403
Cohabiting	2.78	4.44	180	3.33	4.44	1274
Separated/Divorced	7.91	4.35	253	3.95	4.35	253
Widowed	10.76	4.53	1059	6.80	4.53	1059

Edentulism and cataracts **increased with age**

Percent distribution of respondents needing/receiving health care

Characteristics	Needed health care			No. of respondents	Received health care in the last three years			No. of Respondents
	More than 3 years ago	In the last 3 years	Never needed		Inpatient care	Out patient care	Did not receive health care	
Sex								
Male	25.65	71.82	1.01	1274	4.66	52.96	37.77	1274
Female	21.74	77.85	1.26	2289	3.83	64.75	33.98	2289
Age group								
18-49	22.75	76.52	1.55	413	6.87	48.73	45.29	413
50-59	25.52	73.15	0.83	1410	3.48	58.19	35.59	1410
60-69	22.17	77.14	1.05	1016	4.06	64.5	32.12	1016
70+	20.02	78.18	1.79	724	3.87	66.16	33.56	724
Marital Status								
Never married/cohabiting	27.59	71.37	1.25	600	3.44	58.42	33.29	600
Currently married	20.78	76.72	0.61	1403	4.78	58.51	37.66	1403
Cohabiting	33.22	67.04	1.19	180	3.58	45.11	39.38	180
Separated/Divorced	24.48	75.13	2.11	253	2.55	60.11	35.66	253
Widowed	20.97	79.05	1.71	1059	3.89	67.42	32.61	1059
Total	23.13	75.7	1.17	3563	4.13	60.54	35.34	3563

- A total of three quarters needed health care in last three years (75.7%).
- It is important to note that more than two-thirds (35.3%) did no receive health care service

Discussion/Conclusions

- An important methodological contribution - use of **direct health examinations, anthropometrics, biomarkers and vignettes** to measure health status of the elderly population in order to get true prevalence of morbidity
- Results show that South Africans aged 50+ are at risk for NCDs as demonstrated by the high prevalence of risk factors which **increased with age**
- Four most prevalent self-reported chronic conditions in descending order among men and women respectively: hypertension, arthritis, edentulism and diabetes and they **all increased with age**
- Follow up studies will show trends and patterns of risk factors and NCDs to guide policy and programme development
- Cross country comparisons will provide an opportunity to learn from other countries
- Preliminary results show that ageing is a determinant for most chronic NCDs
- There are no NCD programmes in South Africa specifically for this age group
- Evidence-based prevention efforts targeting this age group are urgently needed.

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  - Ms Margaret Mbelle – PhD Intern
  - Mr Shandir Ramlagan – PhD Intern
  - Ms Gladys Matseke – Masters Intern
  - Ms Khanyisa Phaweni – Masters Intern

Social Aspects of HIV/AIDS and Health

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