

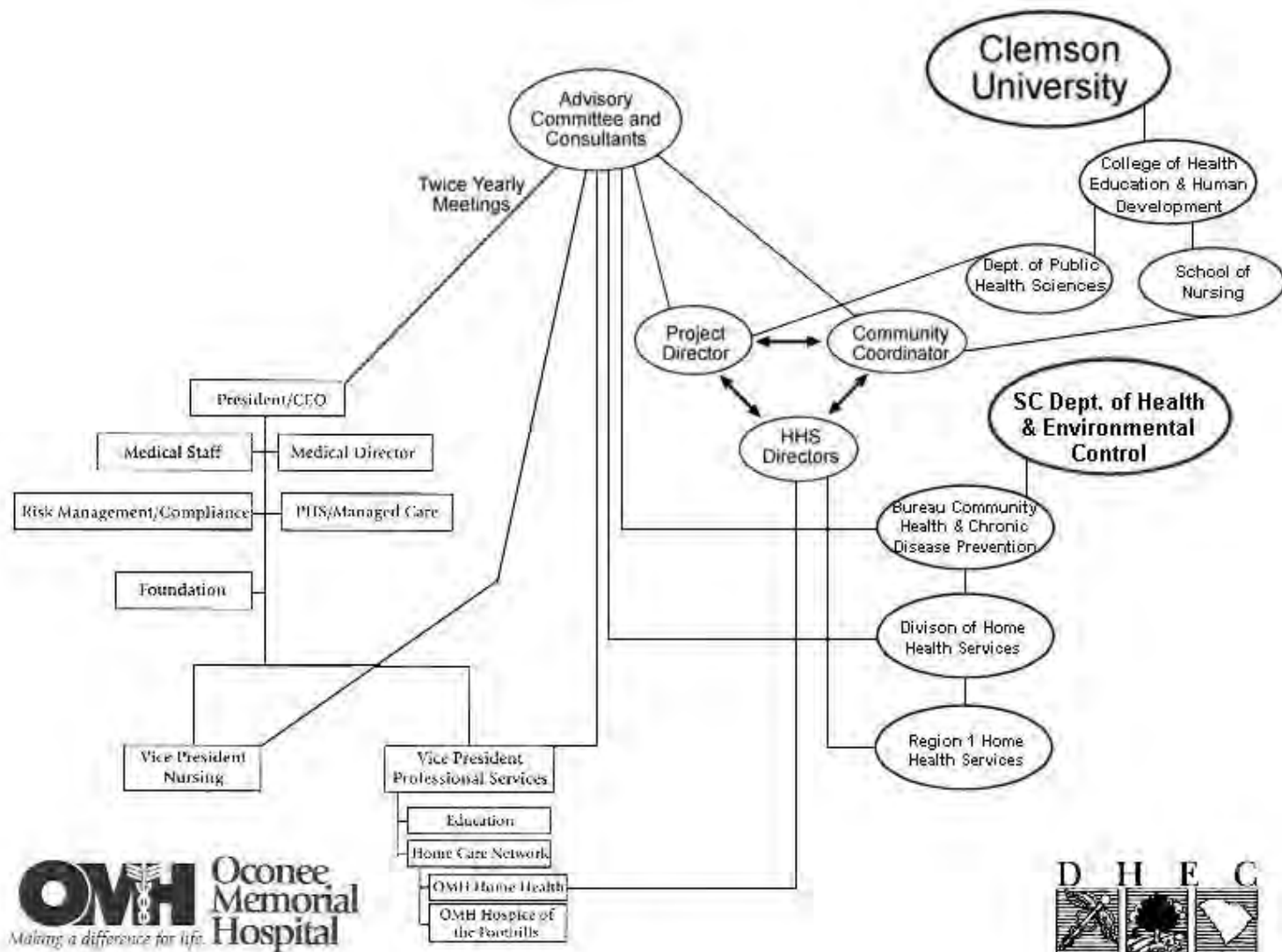
Impact of Community Health Workers on Older Adult Chronic Disease Management and Healthcare Costs

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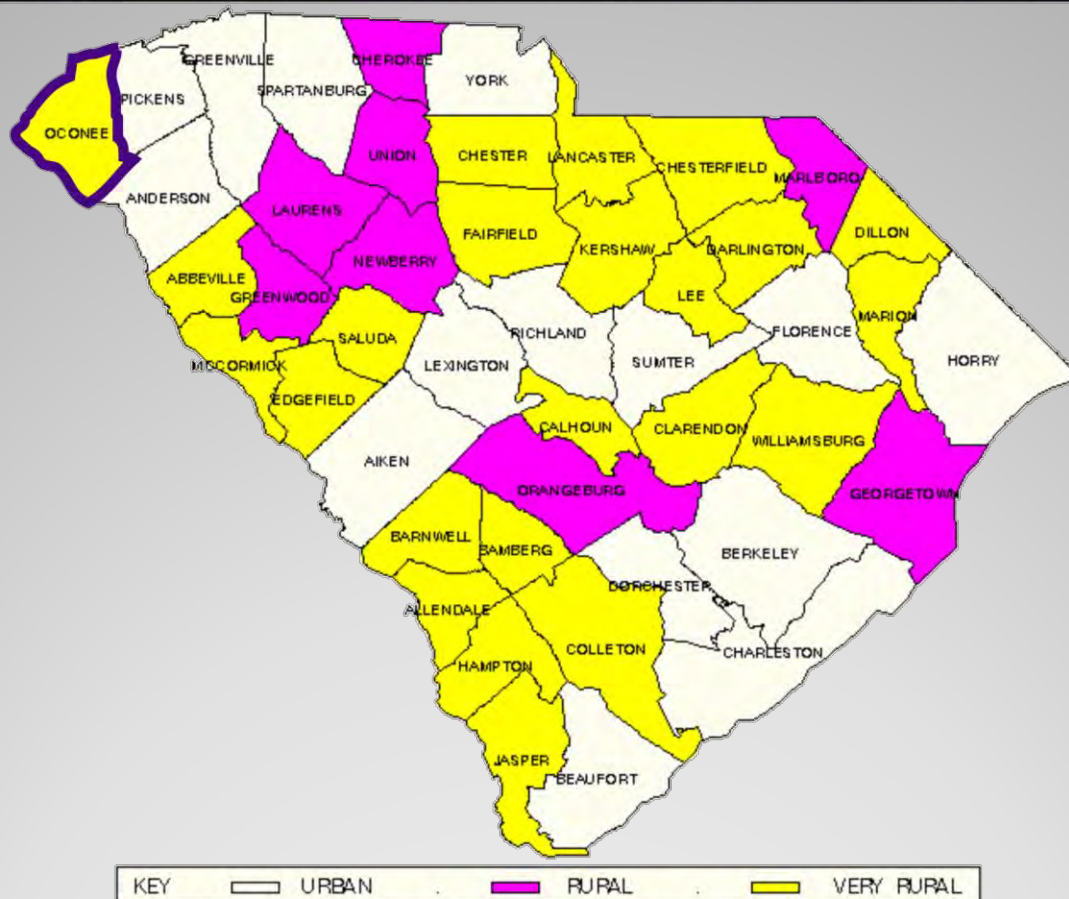
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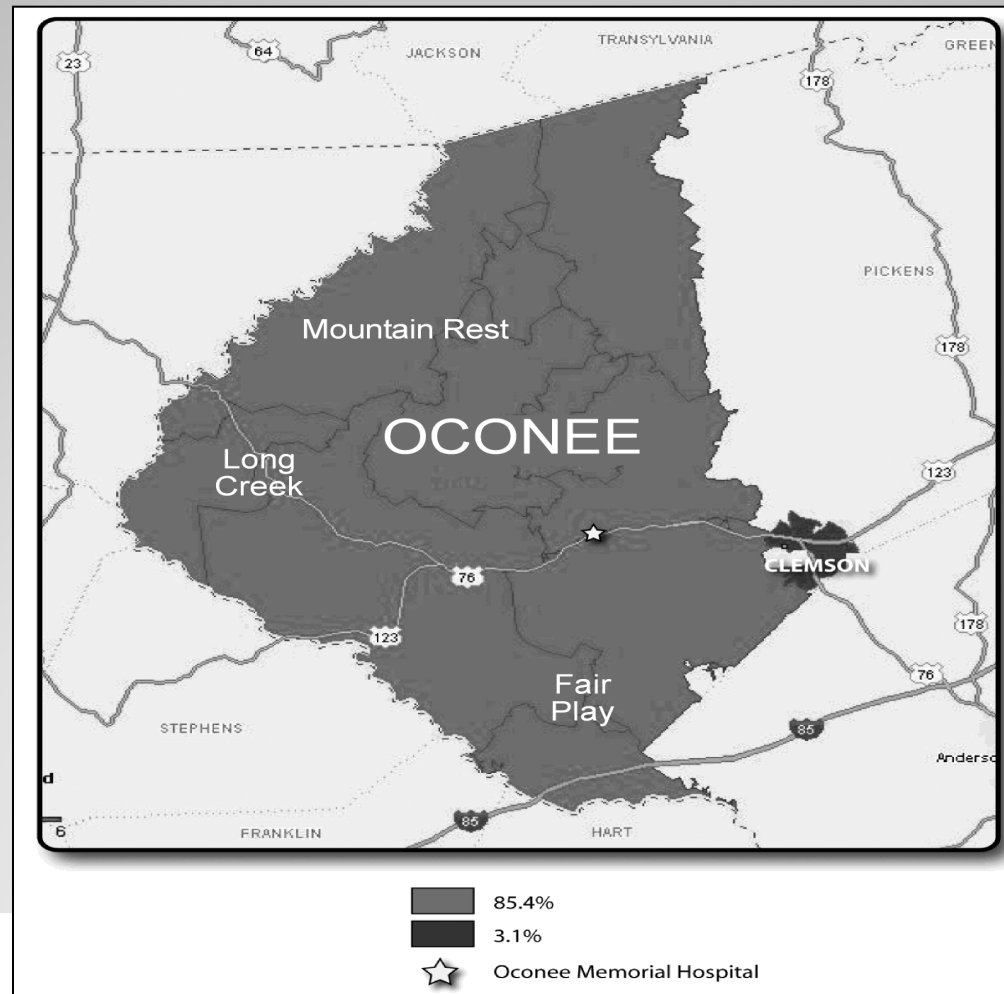
URBAN AND RURAL COUNTIES BASED ON SIZE OF LARGEST TOWN



SOURCE: S.C. B & C BD, OFFICE OF RESEARCH & STATISTICS
CNTY LINES

Oconee County, SC

Map of service area for Oconee Medical Center



Oconee County, SC

- Adults over the age of 65 years residing in Oconee County have higher rates of many chronic diseases and risk behaviors than their state and national counterparts.
- This county ranks 2nd in the state for the percentage of the population over 65 years of age at 15.6% (10,330).
- Of this population, 13.6% (1,405) live in poverty, compared to the national average of 9.9%.

Chronic Conditions and Risk Behaviors

Variable	65 years and older		
	Appalachia I Health District – Oconee & Anderson Counties	SC	US
High blood pressure ***	57.4%	57.7%	54.1%
High Cholesterol (yes)***	58.7%	52.9%	47.9%
Obesity****	24.2%	25.0%	23.1%
Diabetes (yes)****	21.2%	19.4%	16.1%
Not enough exercise*	64.6%	53.8%	52.8%
Current smoker****	12.3%	8.6%	9.1%

*Defined as those not meeting the physical activity recommendation of moderate physical activity for 30 or more minutes per day for 5 or more days per week, or vigorous activity for 20 or more minutes per day on 3 or more days.

***2003 Behavioral Risk Factor Surveillance Study

****2004 Behavioral Risk Factor Surveillance Study

Rural Home Health Agencies

- Compared to urban elders, rural elders receive fewer home health care services, have worse outcomes and are more likely to be hospitalized (Schlenker, 2002).
- Rural and urban home health patients differ in a number of ways, with rural patients more likely to have long-term care needs versus urban beneficiaries who are more likely to need post-acute care.
- At discharge, rural residents were less likely to have their goals met and more likely to have a poor prognosis (Gamm & Hutchison, et al, 2003).

SC Home Health Patients (age 65+) Hospitalization and ED Rate for 2001-2003*

SETTING	COUNTY	HH 2000 TOTALS	2001		2002		2003	
			TOTAL	PERCENT	TOTAL	PERCENT	TOTAL	PERCENT
ED	All Counties	40090	10870	27.11%	8548	21.32%	6915	17.25%
ED	Oconee	745	185	24.83%	170	22.82%	153	20.54%
IP	All Counties	40090	14827	36.98%	11239	28.03%	8887	22.17%
IP	Oconee	745	311	41.74%	236	31.68%	181	24.30%

- The percentage of home health patients over the age of 65 years in Oconee County admitted to the Emergency Department was greater than the average of all South Carolina counties in 2002 and 2003. Hospitalization rates have been higher for the past three years (2001, 2002 and 2003).

Note: Percentages based on number of home health patients by county identified in 2000

Note: ED = Emergency Department, IP = Inpatient Hospitalization

*SC Office of Research and Statistics, 8-2005

Emergent Care of Oconee County Home Health Patients - 2005**

Quality Measures for Oconee County, SC (OASIS indicators)	% for OMH Home Health	% for Appalachia I Home Health (DHEC)	State Average	National Average
Percentage of patients who had to be admitted to the hospital	34%	38%	30%	28%
Percentage of patients who need urgent, unplanned medical care	30%	26%	23%	21%

** Source: CMS website (www.medicare.gov/HHCompare), updated 7-14- 2005

OMC Discharge Data for Patients over 65 yr (12-03-03 to 11-30-04)

Discharge data	
Pneumonia	261
Acute respiratory failure	247
Congestive heart failure	158
Septicemia	127
Osteoarthros	114
Hypovolemia	73
Atrial fibrillation	63
Acute renal failure	61
OBS chronic bronchitis	57

Readmission data	
Congestive heart failure	46
Acute respiratory failure	45
Pneumonia	36
Septicemia, NOS	25
Hypovolemia	19
Acute renal failure	17
OBS Chronic bronchitis	10
Acute pancreatitis	9
Pulmonary Embolism	8

Emergency Department Visits, OMH 2003, Aged 65 Years and Older

Diseases of Circulatory System Diagnosis*	# of Visits	Total Charges
Acute Ischemic Heart Disease	8	\$32,829
Angina Pectoris	9	\$30,797
Arteriosclerotic Heart Disease	83	\$700,067
Cardiac Dysrhythmias	134	\$898,501
Congestive Heart Failure	123	\$648,904
Heart Attack	69	\$984,852
Hypertensive Heart Disorder	5	\$91,147
Pulmonary Heart Disease	16	\$416,244
Other Heart Disease	33	\$380,272

Diabetes	# of Visits	Total Charges
Diabetes with Complications	45	\$136,585
Diabetes without Complications	12	\$23,472
Selected Diseases of Respiratory System	# of Visits	Total Charges
Influenza*		
Pneumonia (All Forms)	293	\$2,469,620

Total: # of visits= 480 Total
Charges= \$4,183,613

*Diagnoses with fewer than 5 visits are not reported.

Inpatient Hospitalizations for Oconee County Residents, 2003, Aged 65 and Older

Diseases of Circulatory System Diagnosis*	# of Visits	Total Charges
Acute Ischemic Heart Disease	4	\$20,635
Acute Myocardial Infarction	111	\$3,187,507
Arteriosclerotic Heart Disease	189	\$6,500,866
Atherosclerosis	18	\$368,477
Cardiac Dysrhythmias	154	\$2,705,225
Congestive Heart Failure	161	\$1,992,979
Hypertensive Heart Disease	9	\$108,785
Pulmonary Heart Disease	28	\$799,308
Other Diseases of the Arteries	8	\$247,373
Other Heart Diseases	63	\$1,516,368

Diabetes	# of Visits	Total Charges
Diabetes w/ Complications	37	\$433,234
Diabetes w/o Complications	5	\$22,556
Selected Diseases of Respiratory System	# of Visits	Total Charges
Influenza*		
Pneumonia - All Forms	341	\$4,774,305

Total: # of visits=745

Total Charges= \$17,447,523

*Diagnoses with fewer than 5 visits are not reported.

In 2004, there were 482 OMH HHS Oconee County patients over 65 years of age and 150 DHEC HHS patients for a total of 632 clients. The majority of these clients had either CVD, CHF or DM

OMC HHA Strategic Planning

- **OMH HHA goals for 2006:**

- reduce ER admissions,
- reduce hospital readmissions,
- reduce futile care and/or inappropriate care.

- **Home health client challenges:**

- difficulty understanding role of home health and emergency plan,
- lack of chronic care management skills,
- nonadherence with medication and dietary regimen,
- need for ongoing support,
- need for socialization, and
- need for advocate to attend physician visits.

SC DHEC HHA Strategic Planning

- decrease hospitalization of HHS patients;
- decrease emergent care for HHS patients;
- increase patients ability to self manage oral medications after discharge.
 - **Challenges** include: increased level acuity of in home patient care requiring more resources and more staff time; increased paperwork required for all disciplines; and maintaining fiscal stability.

Barriers to Health Management

- Barriers that impact the ability of chronically ill older adults and their caregivers to manage their illnesses:
 - changes in the older adult's, and often the caregiver's, physical and mental health,
 - low educational levels,
 - limited financial resources,
 - risk behaviors; e.g. inactivity, smoking

Specific Challenges

- Inability to follow recommended health care regimen due to a lack of understanding and recall and a lack of support
- Inability to take medications as prescribed and to recognize significant side effects
- Inability to recognize “red flag” signs and symptoms that indicate a worsening of a chronic illness that requires intervention.

Specific challenges, con't

- Characteristics of the “rural culture” of independence, self-reliance, privacy and willingness to endure hardship, including serious health problems, that influence a rural elder to wait until they are more ill before seeking health care services (Parker, et al, 1992; Magilvy, et al.,1994).
- Lack of knowledge of community resources
- Lack of coordination of health care and related resources
- Lack of transportation, especially for those in remote areas of Mountain Rest, Long Creek and Fair Play.

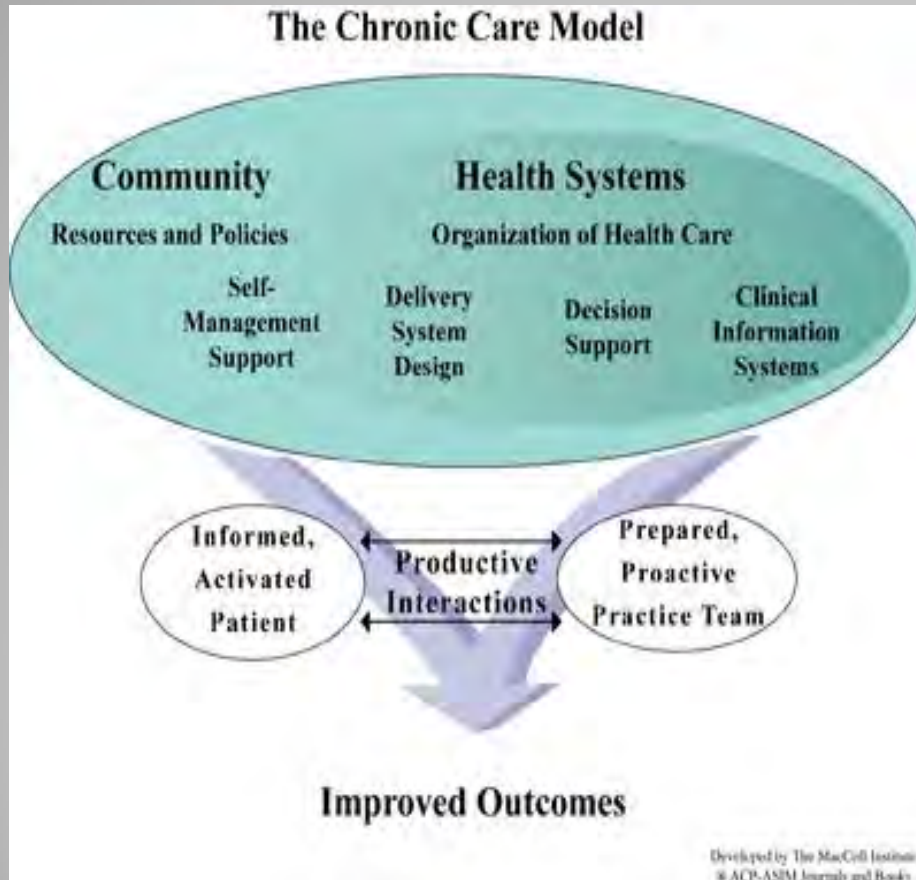
Lay Health Advisors

- Consortium partners, stakeholders, and focus group participants concluded that Lay Health Advisors or “Health Coaches” could play a key role in improving the ability of older adults to manage their chronic diseases.

Lay Health Advisors, con't

- The use of paraprofessionals such as Health Coaches to provide education and health care services is supported in the literature
- Lay health advisors have also proven effective in linking older adults to needed social services (Forti & Koerber, 2002).

The Chronic Care Model



- A plan was then developed to integrate this paraprofessional within the established care protocols of home health services, guided by the Chronic Care Model framework.

Project Focus

- Three chronic illnesses, CHF, diabetes, and CVD, were chosen for intervention for several reasons.
- First, these illnesses are common among older adults, with the prevalence of each increasing significantly as age increases and they significantly impact the ability of older adults to maintain their independence.
- Second, these illnesses require extensive daily management by the patient and/ or the family caregiver. Each of these illnesses requires significant lifestyle modification, along with pharmacological treatment, in order to prevent progression of the disease.

Project Focus, con't

- Further, each of these illnesses is a common cause for costly preventable emergency room visits and hospitalizations when not managed adequately.
- Finally, each of these illnesses has “red flag” signs and symptoms that, if recognized, can cue the patient and caregiver to seek medical advice at an earlier stage and therefore, avoid more expensive ED or hospital care

(Coleman, Smith, Frank, Min, Parry, & Kramer, 2004)

Project Focus, con't

- The Congressional Budget Office has found that among the small group of “high-cost” beneficiaries, who account for 75% of Medicare spending, more than 40% have coronary artery disease, 30% have CHF, and 30% have diabetes (Remington, 2005)
- The 14% of Medicare beneficiaries who have CHF account for 43% of Medicare spending. 62% of these patients had one or more hospitalizations per year between 1996 and 2003.

Project Focus, con't

- In 2001, nearly one in three patients with diabetes had two or more hospitalizations, with the cost per stay being three times higher than the average hospital stay. Low-income patients with diabetes are even more likely to have multiple hospitalizations than are higher income patients (Remington, 2005)
- As indicated in OMH discharge and readmission data and home health services data for those over 65 years of age, cases related to CHF, CVD and diabetes are prevalent

Recruitment

- Organization meetings
- Organization newsletters
- Newspaper ads
- Newspaper stories about Health Coaches
- Current Health Coaches

Health Coach Role

- Health Coaches are trained to:
 - Educate client about “red flags” as part of disease management
 - Conduct home safety check for fall and fire prevention
 - Arrange for appointments and transportation,
 - Educate about and encourage appropriate use of medications,
 - Educate about, encourage and monitor needed lifestyle changes, including changes in diet and activity levels,
 - Make referrals for other needed services such as smoking cessation, home repairs, utility bill assistance, etc.

Health Coach Training (30 hours)

Module 1 - Introduction

- Pretests
- Role of Health Coach
 - Parameters of role
 - Responsibilities
 - Background Check from SLED
 - Completion of IRB certification
 - Monthly meetings
 - Confidentiality
 - Paperwork – Informed Consent, Personal Health Records, OASIS items, Client contact log, Travel log needed for reimbursement

Health Coach Training, con't

- Module 2: Home Safety
- Module 3: Communication Skills
- Module 4: Psychosocial & Physical Aspects of Aging
- Module 5: Heart and Circulation
- Module 6: Stroke and Congestive Heart Failure
- Module 7: Diabetes
- Module 8: Pneumonia and Flu
- Module 9: Medications
- Module 10: Changing Health Behaviors
- Module 11: Improving adherence

Health Coach Training, con't

- Module 12: Human Subjects Protection
- Module 13: Community Resources
- Module 14: Review and posttest
 - Stipend and Travel reimbursement forms
 - Protocol
 - Evaluation of modules
 - Knowledge posttest
 - Equipment
 - Patient materials
- Visit from Current Health Coaches

Protocol

- During the HHS episode of care, RNs determine which patients are eligible by using the patient selection criteria.
 - over the age of 65 years,
 - reside in Oconee County or rural areas of Pickens & Anderson counties
 - have a diagnosis of CHF, DM, or CVD, and
 - have inadequate caregiving or care taking skills (according to OASIS)

Protocol, con't

- The RN then informs the patient about the Health Coach program.
- If the patient is interested, the RN faxes the following information to the Project Director, so that she can arrange for a Health Coach to accompany the HHS RN on the next visit.
 - Name of patient
 - Directions to their residence
 - Scheduled visitation dates and time for last two week of HHS
 - Cell phone number of HHS RN so that Health Coach can schedule home visit for introduction.

Protocol, con't

- The Project Director contacts a Health Coach about accepting the client. If the Coach can accept the client, the PD gives the Health Coach the RN contact information and sends directions to the client's home.
- The Health Coach arranges to meet the HHS RN on one home visit during the last two weeks of HHS to get to know the patient and the care plan.

Protocol, con't

- If, after the home visit, the patient is still interested in participating in the program, the RN obtains their signature on a Health Information release form which grants permission to release their care plan to the Health Coach.
- The Health Coach collects a signed informed consent from the patient.
- The patient, HHS RN and the Health Coach then determine priority areas for the Health Coach and the patient to address after HHS discharge.

Protocol, con't

- The Health Coach transfers relevant information such as parameters for acceptable glucose levels from the patient's care plan to a simpler Personal Health Diary that is then used by the patient to log their health status.
- After the client has been discharged from Home Health Services, the Health Coach continues to make home visits and phone calls according to the table below.

Health Coach Contact (X) With Client

Weekly Contact								
5 hrs					X	X		
4 hrs							X	
3 hrs								X
1 hr			X					
	Enter HHS	Month 1	Month 2	Discharge from HH	Month 1	Month 2	Month 3	Month 4

Schedule of Contact Hours

- After discharge from HHS, the Health Coach makes two one-hour home visits and three phone contacts each week for month 1 and 1 one-hour home visit and four phone contacts in month 2. In month 3, the HC makes no home visits with four phone calls weekly and in month 4, the HC makes no home visits with three phone calls per week.

Evaluative Measures

Developed by Dr. Amy Martin, Evaluation Consultant
Deputy Director & Research Assistant Professor,
SC Rural Health Research Center

- The Outcome and Assessment Information Set (OASIS), which is used by home health agencies and CMS, is used to assess the impact and outcomes.
- Selected OASIS items are used by the Health Coach to measure variables of interest at 2 months post HHS discharge, 4 months post HHS and 10 months post-HHS discharge.

Outcome Measures

- **Outcome Objective 1:** Number of emergency department visits related to CVD, CHF, DM, pneumonia, or influenza (will include OMH or other hospitals or urgent care providers).

Outcome Measures, con't

- **Outcome Objective 2:** Number of hospitalizations related to CVD, CHF, DM, pneumonia, or influenza (will include OMH or other hospitals or urgent care providers).

Impact Measures

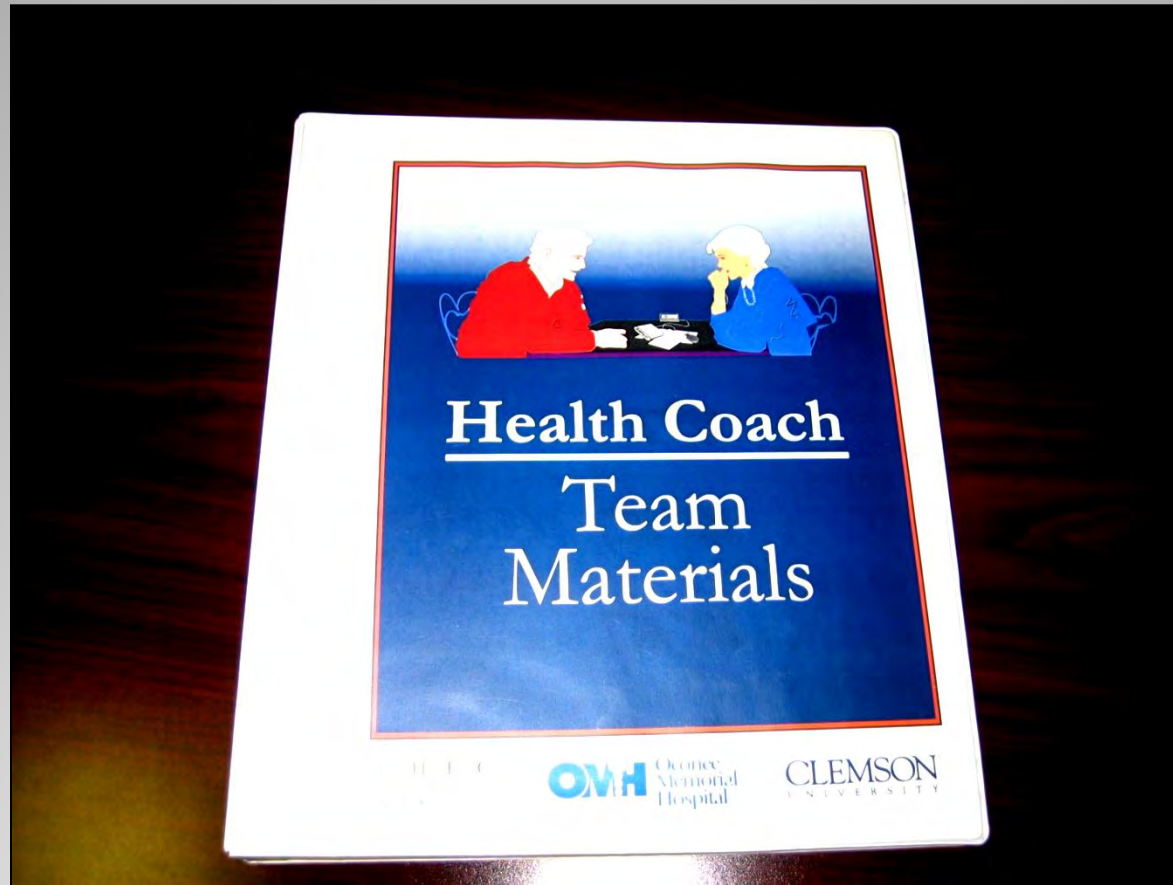
- Performing ADL's and IADL's.
- Medication adherence.
- Clients reporting reduced smoking levels.
- Clients referred for pneumonia or influenza immunization who receive immunization.
- Clients with home safety risks who reduced risk.

Impact Measures, con't

- Ability of client with hypertension to measure and monitor BP.
- Ability of client with PCP recommendation to lose weight or with CHF to measure and monitor changes in weight.
- Ability of clients with CHF to measure and monitor shortness of breath.
- Ability of clients with CHF to measure and monitor edema.
- Ability of clients with DM to measure and monitor blood glucose levels.
- Ability demonstrated by completing at least one week of Personal Health Diary



Health Coach Inaugural Class



Health Coach Materials

Stop
and
Think

Caution

Great
Control

Red Zone Means:

You need to be evaluated by a physician. If you have any of the following:

- Average blood sugars are over 210 or less than 70.
- Any blood sugar reading over _____
- Blood sugar drops below 70 more than once and you can't figure out why (See below for emergency treatment).
- New numbness or sores on the feet.

Call your physician _____

Phone number _____

Yellow Zone Means:

Your treatment may need adjustment. If you have:

- Average blood sugars between 150 and 210, you should improve your diet and activity habits.
- Blood sugar below 70, treat immediately by:
 - > Drinking 4 oz. (1/2 cup) of fruit juice or 6 oz. (3/4 cup) of regular (not diet) soda or eat 7 or 8 life savers or 1 tbsp of sugar or jelly.
 - > Wait 15 minutes and recheck your sugar. If still below 70, repeat above treatment.

If this happens more than once in a week or if your blood sugar does not go above 70 after 3 treatments see Red Zone as you will need to call your doctor.

Green Zone Means:

- Your blood sugars are under control. Average blood sugars typically under 150. Most fasting blood sugars under 150.
- Continue taking your medications as ordered.
- Continue routine blood glucose monitoring.
- Follow healthy eating habits.
- Keep all physician appointments.

Diabetes

Health Coach Materials con't

Name: _____

[illegible]





PRELIMINARY RESULTS

Clients with NO Emergent Care

N_{clients} = 33

Clients with No Emergent Care N=19/33 (57.6%)

Client #	Age	Enrolled in HH	Enrolled in HC Program	HH Diagnosis	ER / OMC Visits – Updated: October 8	Cost of Care
140	86	8/20/08	9/26/08	CHF, CVD	NO EMERGENT CARE	\$0.00
121	79	2/14/07	8/13/07	CHF, CVD	NO EMERGENT CARE	\$0.00
137	80	3/22/08	7/1/08	CVD	NO EMERGENT CARE	\$0.00
60	77	1/25/07	8/13/07	CVD	NO EMERGENT CARE	\$0.00
61	76	10/1/07	11/19/07	CVD, DM	NO EMERGENT CARE	\$0.00
139	66	8/7/08	8/26/08	CVD, DM	NO EMERGENT CARE	\$0.00
19	82	3/12/07	8/13/07	DM	NO EMERGENT CARE	\$0.00
991	78	12/30/07	6/6/08	DM	NO EMERGENT CARE	\$0.00
17	83	4/19/07	6/12/07	DM	NO EMERGENT CARE	\$0.00
80	63	8/5/07	9/27/07	DM	NO EMERGENT CARE	\$0.00
15	81	2/6/08	6/12/07	DM, CVD	NO EMERGENT CARE	\$0.00
133	84	3/11/08	7/14/08	DM, CVD	NO EMERGENT CARE	\$0.00
136	71	2/25/08	6/13/08	DM, CVD	NO EMERGENT CARE	\$0.00
35	77	4/24/08	6/19/08	DM, CVD	NO EMERGENT CARE	\$0.00
33	66	5/10/07	7/23/07	DM, CVD	NO EMERGENT CARE	\$0.00
210	72	6/14/08	9/8/08	DM, CVD	NO EMERGENT CARE	\$0.00
81	84	4/25/08	5/28/08	CVD	NO EMERGENT CARE	\$0.00
51	68	3/6/07	7/20/07	CVD	NO EMERGENT CARE	\$0.00
122	80	7/25/07	7/20/07	CVD	NO EMERGENT CARE	\$0.00
Sub Total:						\$0.00

Clients with Emergent Care

N_{clients} = 33

Clients with Emergent Care N=14 / 33 (42.4%)

Client #	Age	Enrolled in HH	Enrolled in HC Prog.	HH Diag.	ER / OMC Visits – Updated: October 8	Cost of Care (n=14)
21	91	8/22/06	11/30/06	CVD	10/28/07 END STAGE RENAL FAILURE, HTN, ANEMIA	\$9,643
135	73	12/3/07	6/17/08	DM	9/20/08 URINARY PROBLEM	\$897
13	61	8/23/06	3/1/07	DM	10/5/07 CHF, ACUTE RENAL FAILURE	\$6,482
22	96	9/8/06	3/8/07	CHF	1) 6/14/07 WEAKNESS; 2) 8/15/07 ABP PAIN; 3) 9/2/07 NOSE BLEED; 4) 9/15/07 NOSE BLEED	1) \$1,542 2) \$715 3) \$765 4) \$1,039
26	92	3/15/08	4/23/08	CVD	6/24/08 AMS (ALTERED MENTAL STATUS)	\$1,696
28	84	4/16/08	6/13/08	CVD	7/15/08 ABD PAIN DEMENTIA, INCONTINENCE	\$4,368
14	71	2/15/07	2/22/07	DM, CVD	9/12/07 ADM: GI BLEED	\$29,380
27	63	4/5/08	6/15/08	DM	1) 6/21/08 DEHYDRATION, DIARRHEA, 2) 7/13/08 RESP/FAILURE, COPD, CHF	1) \$16,430 2) \$22,283
132	86	2/28/08	4/22/08	CVD, CHF	1) 8/31/08 TIA (TRANSIENT ISCHEMIC ATTACK), 2) 9/4/08 LTC, 3) 9/26/08 KNEE PAIN	1) \$10,761 2) \$10,635, 3) \$988
10	69	9/25/07	11/8/07	CHF, DM, CVD	1/29/08 PNEUMONIA, CHF, COPD	\$1,063
34	75	4/21/08	6/6/08	CVD, DM	1) 7/25 BLOOD IN URINE – SIGNED OUT AMA 2) 7/28/08 ANEMIA, CRD, HYPONATREMIA, DM	1) 0 2) \$5,362
130	68	1/30/08	3/6/08	DM, CVD	1) 3/16/08 BLOOD SUGAR PROBLEM, 2) 4/7/08 DIZZNESS,	1) \$178, 2) \$2,911
23	78	3/18/07	6/15/07	DM	12/04/07 DM, WEAKNESS, HTN	\$5,111
70	62	7/8/07	9/25/07	CVD, DM	12/15/07 DIABETIC KETOACIDOSIS, MI, CRI	\$23,999
Sub Total						\$156,248
Average Cost of Care (per person)						\$11,161

CELLULITIS: Infection of skin, often related to diabetes and poor circulation / **DSYPNEA:** Shortness of breath / **SYNCOPE:** Brief loss of consciousness / **OCB:** Obstructive Chronic Bronchitis / **HYPERKALEMIA:** Greater than normal amount of potassium in the blood; seen frequently with acute renal failure.

Comparison Group with NO Emergent Care

N _{Comparison} = 38					
No Emergent Care, N=17/ 38 (44.7%)					
<i>Patient #</i>	<i>Age</i>	<i>Enrolled in HH</i>	<i>HH Diagnosis</i>	<i>Emergent Care/Adm to Hospital</i>	<i>Cost of Care</i>
10806	83	10/29/06	CVD	NO EMERGENT CARE	\$0.00
7440	68	12/13/06	CVD	NO EMERGENT CARE	\$0.00
10980	87	12/13/06	CVD	NO EMERGENT CARE	\$0.00
11776	73	6/13/07	CVD	NO EMERGENT CARE	\$0.00
13484	87	6/18/08	CVD	NO EMERGENT CARE	\$0.00
12491	86	6/22/08	CVD	NO EMERGENT CARE	\$0.00
13884	73	8/30/08	CVD	NO EMERGENT CARE	\$0.00
12437	91	11/6/08	CVD	NO EMERGENT CARE	\$0.00
11518	80	4/14/07	CVD	NO EMERGENT CARE	\$0.00
11861	83	7/1/07	DM	NO EMERGENT CARE	\$0.00
11714	62	5/27/07	DM	NO EMERGENT CARE	\$0.00
13056	72	3/17/08	DM	NO EMERGENT CARE	\$0.00
9911	91	3/30/07	DM	NO EMERGENT CARE	\$0.00
11158	81	1/25/07	DM	NO EMERGENT CARE	\$0.00
11622	89	7/2/07	DM	NO EMERGENT CARE	\$0.00
13425	68	6/6/08	DM	NO EMERGENT CARE	\$0.00
12425	71	10/27/08	DM, CVD	NO EMERGENT CARE	\$0.00
Sub Total					\$0.00

Comparison Group with Emergent Care

N Comparison = 38

Comparison Group with Emergent Care N=21 / 38 (55.3%)

Patient #	Age	Enrolled in HH	HH Diagnosis	Emergent Care/Adm to Hospital	Cost of Care (n=21)
10608	91	9/14/06	DM, CHF, CVD	1) 10/5/07 PNEUMONIA, 2) 10/20/07 FLU LIKE SYMPTOMS	1) \$46,250, 2) \$917
11067	73	7/26/07	DM	1) 8/1/07 NAUSEA/VOMITING, 2) 9/2/07 PROFOUND WEAKNESS	1) \$1,433 2) \$5,214
12723	62	1/5/08	DM	3/14/08 SEIZURE	\$13,233
11574	84	1/8/08	DM	1) 3/16/08 FALL, 2) 4/30/08 LEG PAIN, 3) 5/1/08 LEG PAIN 4) 5/6 OPO CVA/TIA, 5) 5/18, 6) 6/9/08 TIA, 7) 7/20/08 CONSTIPATION	1) \$1,892, 2) \$2,370, 3) \$1,523, 4) 9,534, 5) \$2,983, 6) \$23,837, 7) \$548
12863	83	2/5/08	CVD	2/7/08 GROIN PAIN/SWELLING	\$639
13077	64	4/24/08	DM, CHF, CVD	6/26/08 COPD, PNEUMONIA	\$18,794
13343	84	5/19/08	CVD, DM	8/27/08 FALL	\$389
13745	63	8/6/08	CVD	9/8/08 RIB/HAND PAIN	\$3,618
10508	87	8/24/06	DM	1) 1/4/07 FALL FX, 2) 1/22/08 CVA DECEASED	1) \$11,600, 2) \$29,661
11130	85	1/18/07	CVD, CHF	9/07 SYNCOPES*	\$363
11776	73	6/13/07	CVD	6/29/07 DIABETES, WOUND HTN	\$1,780
11255	82	2/20/07	CVD, CHF	7/22/07 EMS LOW BLOOD SUGAR	\$367
12179	73	2/13/08	DM	8/29/08 TIA	\$31,327
10344	80	7/14/06	CHF, DM, CVD	1) 11/13/06 HYPERKALEMIA, CKD, DM, 2) 11/17/06 EMS RESP/ DISTRESS/ DECEASED	1) \$3,835, 2) \$722
13175	61	4/14/08	CVD	1) 7/15/08 HAND INJURY, 2) 9/20/08 AFIB, PNEMONIA, CHF	1) \$130, 2) \$65,608
9298	87	11/30/06	DM, CVD	1) 9/20/07 FALLS, 2) 9/29/07 DSYNPEA*, R/O PE, 3) 9/5/07 CHF, AFIB, COPD	1) \$1,970 2) \$6,047, 3) \$47,392
11267	72	2/21/08	CHF, CVD, DM	1) 6/18/08 CHF, HTN, 2) 7/12/08 BACKPAIN, 3) 8/19/08 BREAST PAIN	1) \$12,493, 2) \$292, 3) \$724
11229	77	2/13/07	DM, CHF, CVD	1) 5/13/07 ELEVATED BLOOD SUGAR, 2) 6/18/08 ELEVATED BLOOD SUGAR, 3) 9/27/08 RESPIRATORY FAILURE	1) \$755 2) \$28,379, 3) \$40,737
12154	73	9/6/07	CHF	4/18/08 CELLULITIS*, PNEMONIA, COPD,CVD	\$19,721
5155	72	3/23/07	CVD	7/25/07 OPO CHEST PAIN	\$13,846
10549	73	8/30/06	DM	12/6/06 CELLULITIS*, OSTEOMYELITIS, DM, DIABETIC FOOT WOUND/AMPUTATION	\$23,347
Sub Total					\$474,270
Average Cost of Care (per person)					\$22,584

CELLULITIS: Infection of skin, often related to diabetes and poor circulation / **DSYPNEA:** Shortness of breath / **SYNCOPE:** Brief loss of consciousness / **OCB:** Obstructive Chronic Bronchitis / **HYPERKALEMIA:** Greater than normal amount of potassium in the blood; seen frequently with acute renal failure.

Pneumonia & Fall (Comparison and Clients)

Patient #	Enrolled in HH	HH Diagnosis	Emergent Care/Adm to Hospital	Cost of Care	
12154	9/6/07	CHF	4/18/08 CELLULITIS <u>PNEUMONIA</u> , COPD,CVD	\$19,721	
13175	4/14/08	CVD	9/20/08 AFIB, <u>PNEUMONIA</u> , CHF	\$65,608	
10608	9/14/06	DM, CVD, CHF	1) 10/5/07 <u>PNEUMONIA</u> 2) 10/20/07 <u>FLU</u> LIKE SYMPTOMS	1) \$46,250 2) \$917	
13077	4/24/08	DM, CVD, CHF	6/26/08 COPD, <u>PNEUMONIA</u>	\$18,794	
Total Cost:				\$151,290	
Patient #	Enrolled in HH	HH Diagnosis	Emergent Care/Adm to Hospital	Cost of Care	
11574	1/8/08	DM	3/16/08 <u>FALL</u>	\$1,892	
10508	8/24/06	DM	1/4/07 <u>FALL</u> FX	\$11,600	
9298	11/30/06	DM, CVD	9/20/07 <u>FALLS</u>	\$1,970	
13343	5/19/08	DM, CVD	8/27/08 <u>FALL</u>	\$389	
Total Cost:				\$15,851	
Client #	Enrolled in HH	HH Diagnosis	Enrolled in HC Program	ER / OMC Visits – Updated: October 8	Cost of Care
10	9/25/07	CHF, DM, CVD	11/8/07	1/29/08 <u>PNEUMONIA</u> CHF, COPD	\$1,063
Total Related Cost:					\$1,063

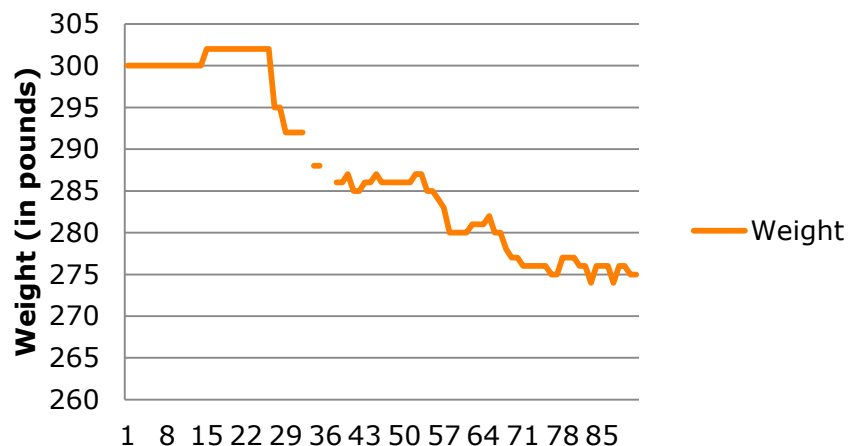
Emergent Care & Health Diary Reports, 12/19=63%, 8/14=57%

Client	Enrolled in HC Program	HH Diagnosis	ER / OMC Visits –Updated: October 8	Health Diaries Kept for at least 7 Days			
				Weight	BPs	BPd	BS
15	6/12/07	DM, CVD	NO EMERGENT CARE	-	-	-	-
17	6/12/07	DM	NO EMERGENT CARE	10	117	117	117
51	7/20/07	CVD	NO EMERGENT CARE	-	5	5	4
33	7/23/07	DM, CVD	NO EMERGENT CARE	96	91	89	100
60	8/13/07	CVD	NO EMERGENT CARE	19	27	25	19
121	8/13/07	CHF, CVD	NO EMERGENT CARE	92	91	91	92
19	8/13/07	DM	NO EMERGENT CARE	13	13	13	42
122	9/7/07	CVD	NO EMERGENT CARE	86	88	88	-
80	9/27/07	DM	NO EMERGENT CARE	20	27	27	27
61	11/19/07	CVD, DM	NO EMERGENT CARE	-	-	-	-
81	5/28/08	CVD	NO EMERGENT CARE	-	-	-	-
991	6/6/08	DM	NO EMERGENT CARE	11	16	16	19
136	6/13/08	DM, CVD	NO EMERGENT CARE	109	110	110	109
35	6/19/08	DM, CVD	NO EMERGENT CARE	-	14	14	27
137	7/1/08	CVD	NO EMERGENT CARE	-	-	-	-
133	7/14/08	DM, CVD	NO EMERGENT CARE	-	28	28	82
139	8/26/08	CVD, DM	NO EMERGENT CARE	-	-	-	-
210	9/8/08	DM, CVD	NO EMERGENT CARE	-	-	-	-
140	9/26/08	CHF, CVD	NO EMERGENT CARE	-	-	-	-
21	11/30/06	CVD		-	-	-	-
14	2/22/07	DM, CVD		88	93	93	93
13	3/1/07	DM		396	406	405	406
22	3/8/07	CHF		28	28	28	-
10	11/8/07	CHF, DM, CVD		-	-	-	-
132	4/22/08	CVD, CHF		39	36	36	-
26	4/23/08	CVD		-	103	103	-
28	6/13/08	CVD		-	-	-	-
27	6/15/08	DM		-	-	-	-
135	6/17/08	DM		-	-	-	-
23	6/15/07	DM		16	16	16	16
70	9/25/07	CVD, DM		17	17	17	21
130	3/6/08	DM, CVD		-	-	-	-
34	6/6/08	CVD, DM		48	49	49	106

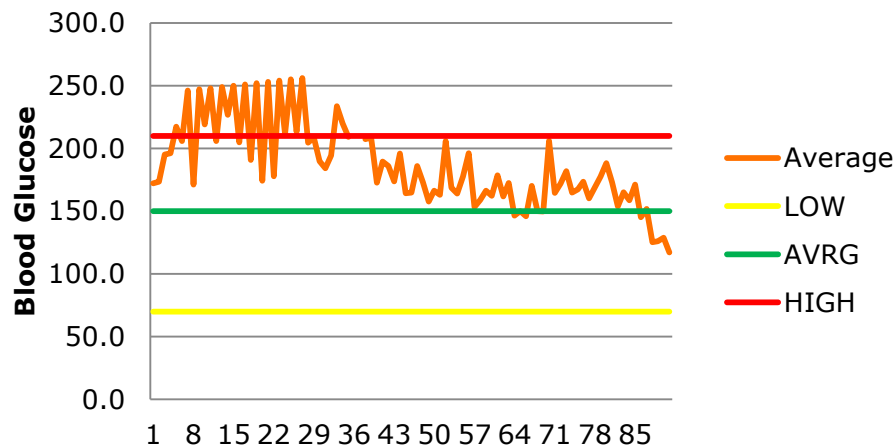
Examples from Cases

Client #136 (Male, 71yrs old, DM, CVD)

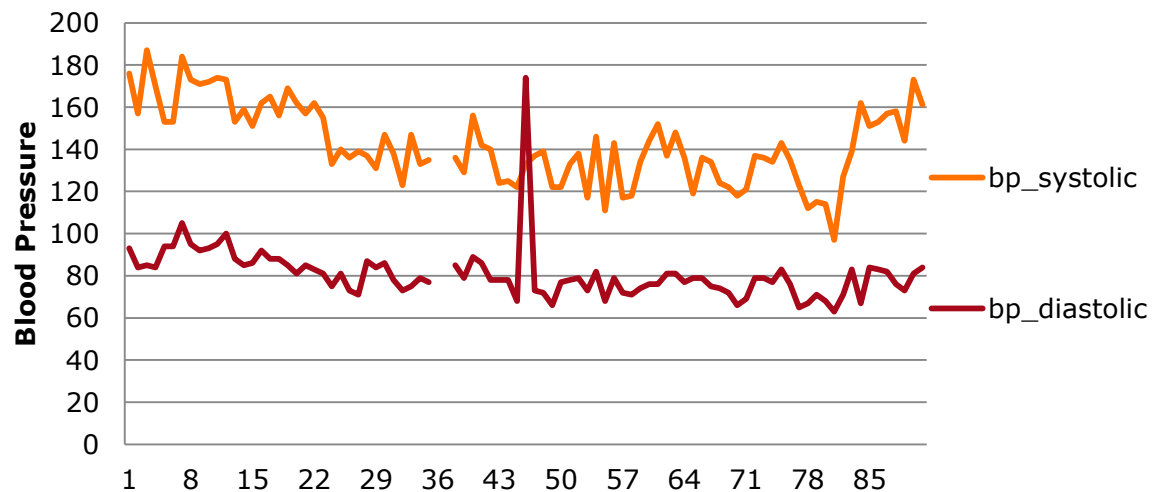
Weight (Daily)



Blood Glucose (Daily)



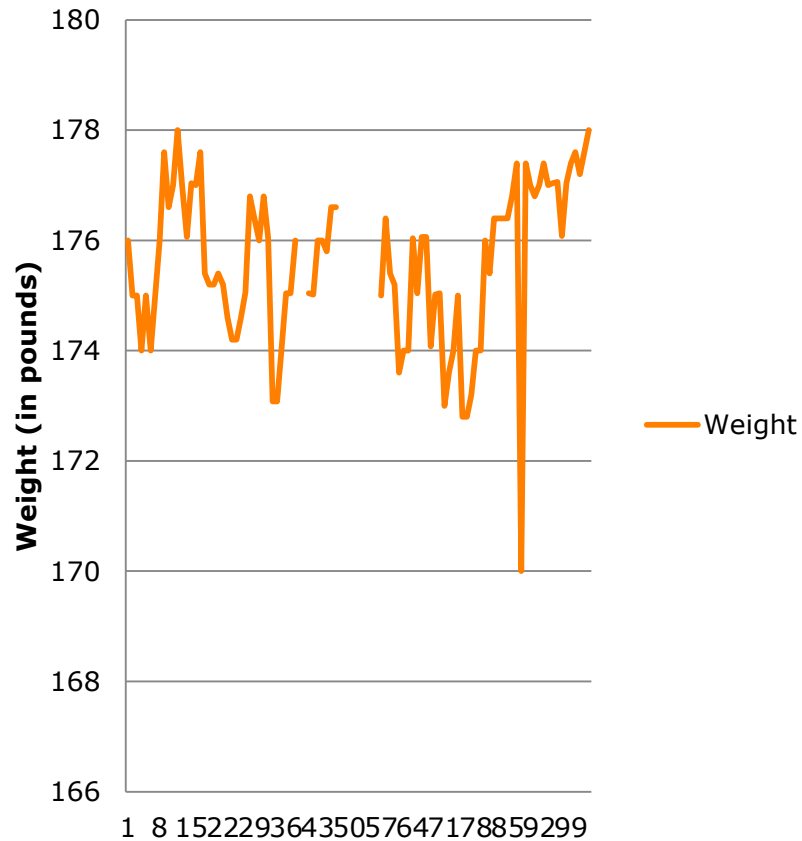
Blood Pressure (Daily)



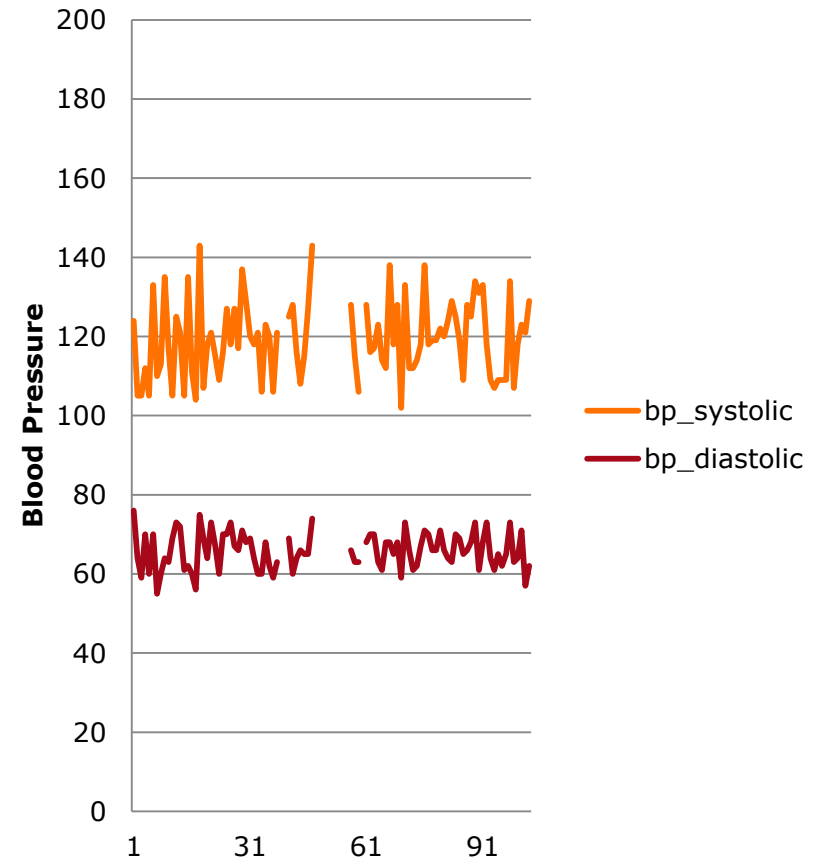
Client #121

(Female, 80yrs old, Hypertension & CHF)

Daily Weight



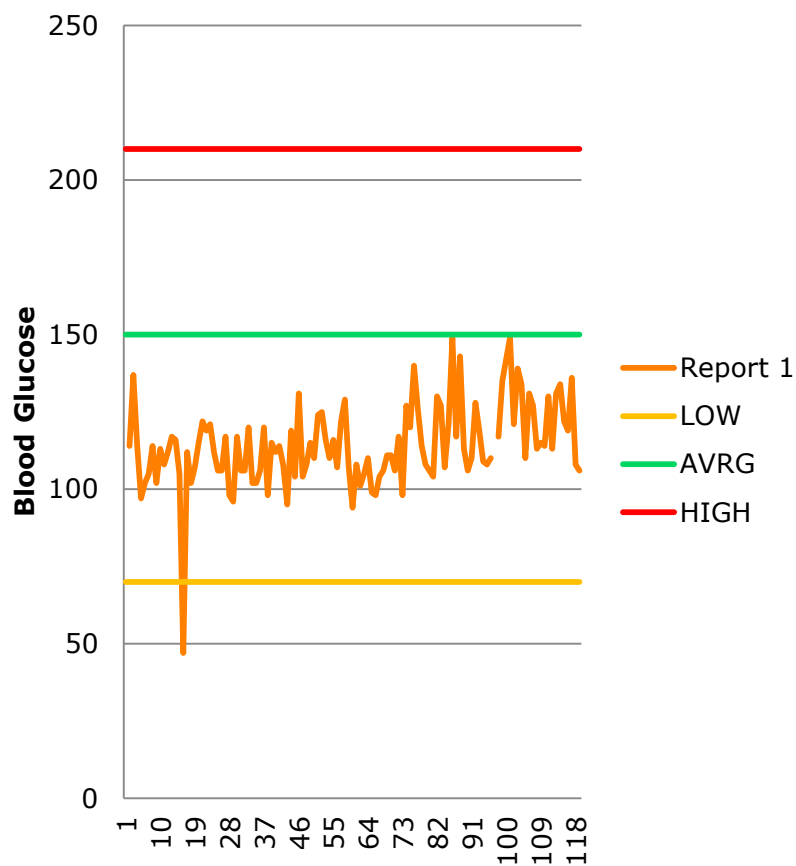
Blood Pressure (Daily)



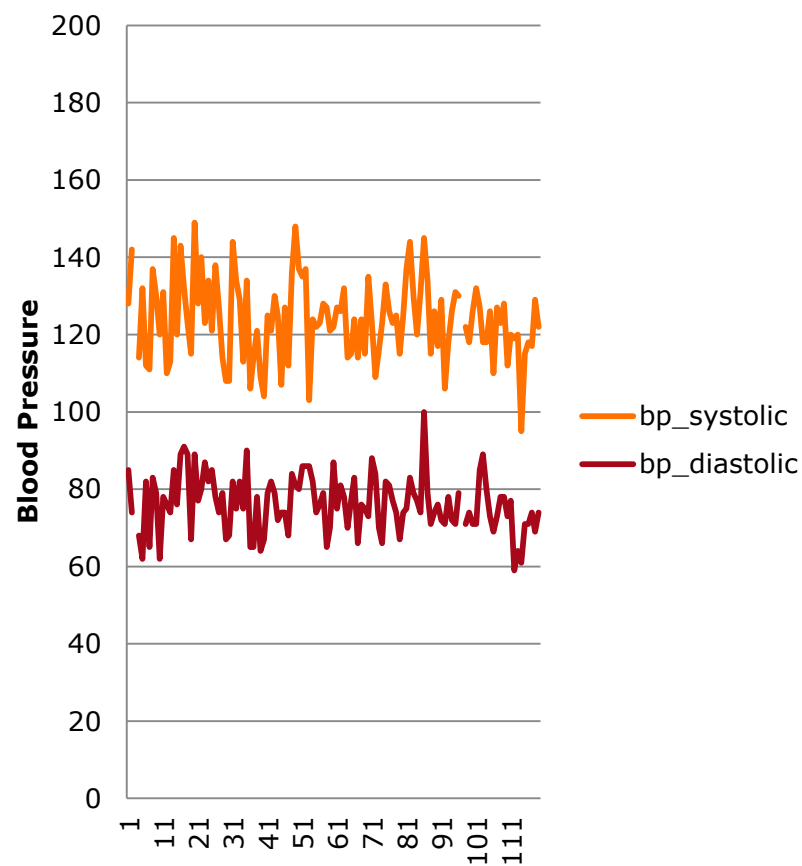
Client #17

(Female, 82yrs old, Diabetes)

Blood Glucose (Daily)



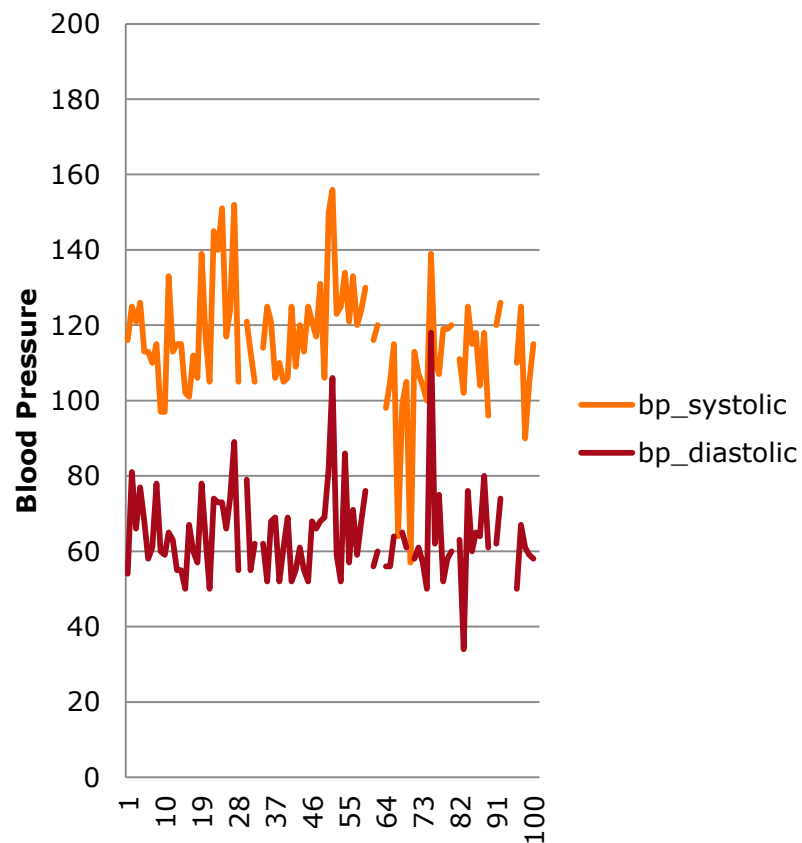
Blood Pressure (Daily)



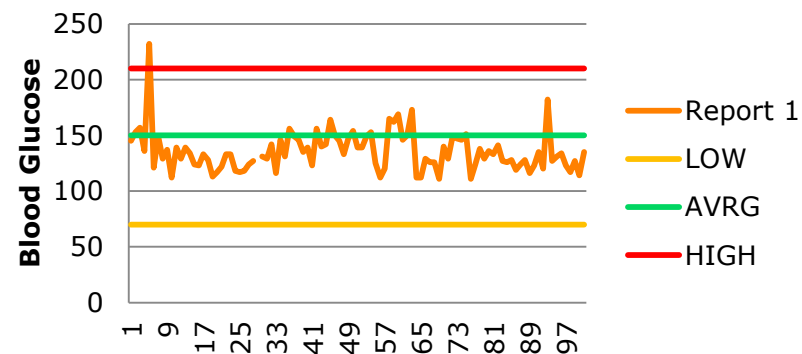
Client #33

(Female, 65yrs old, Diabetes & Hypertension)

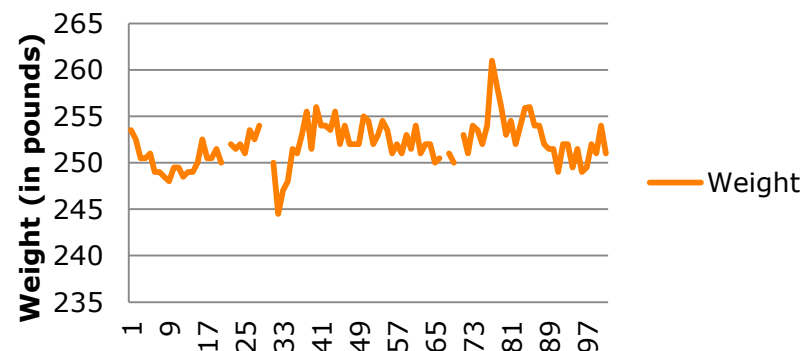
Blood Pressure (Daily)



Blood Glucose (Daily)

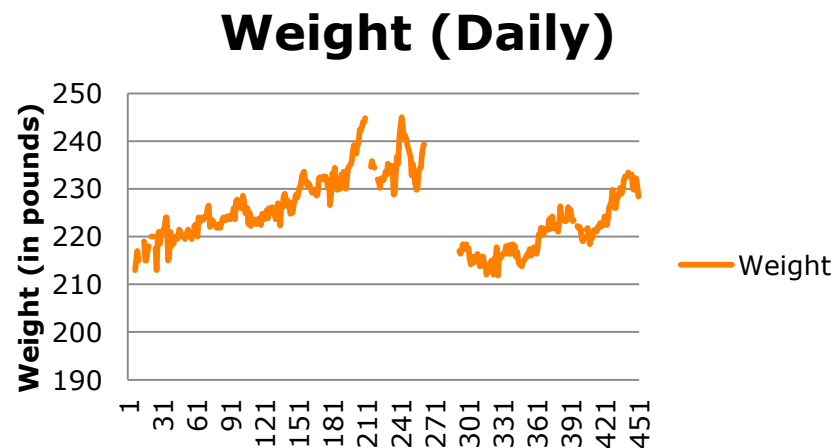
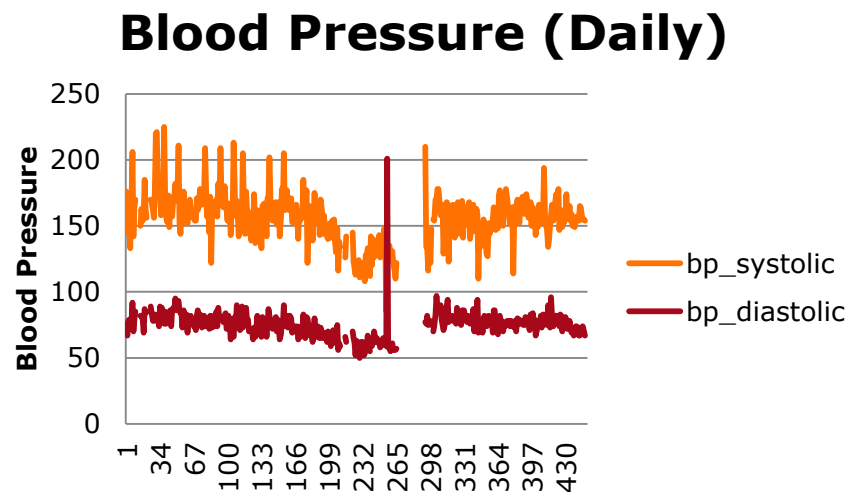
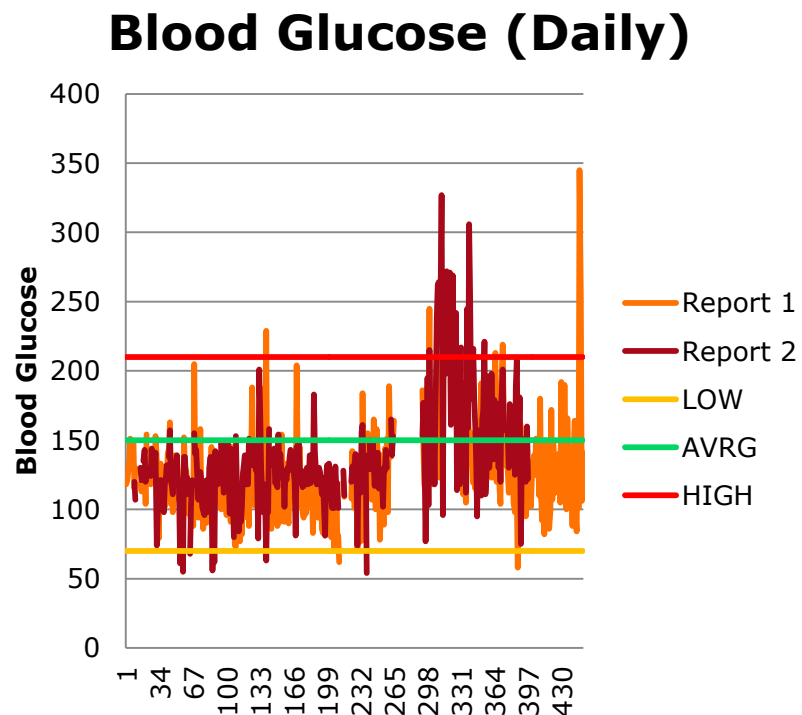


Daily Weight



Client #13

(Female, 60yrs old, Diabetes)





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