



# HIPPOCRATIC COUNCIL INNOVATOR GRANT APPLICATION 2010-2011

*Student-run CHF  
and COPD follow-  
up clinic  
- In partnership  
with Sandwich  
Community Health  
Centre -*



## PART 1 – Identifying Information

Title of Project:	Student-run CHF and COPD follow-up clinic at the Sandwich Community Health Centre
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## PART 2 – Project Description

Congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) are two highly prevalent and debilitating conditions that affect the Canadian population at large<sup>1</sup>. Both conditions not only require extensive hospital admission, but are cited to be the primary causes of hospital readmissions worldwide after initial management<sup>2,3</sup>.

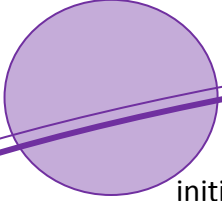
Studies show that approximately 30-40% of patients with heart failure are readmitted within 6 months of discharge, with approximately 40% of readmissions being preventable<sup>4</sup>.

In the COPD patient population, more than 10% of those with an acute exacerbation are readmitted to hospital within 4 weeks of discharge, with approximately 50% readmitted (one or more times) within a year<sup>3</sup>. Exacerbation of COPD is the number one cause of hospital admission worldwide<sup>5</sup>.

Post-discharge management of CHF and COPD patients require strict medical management. For patients who comply with treatment and have routine monitoring for their condition post-discharge, studies have shown both clear mortality benefits within that following year and reduced hospital readmissions<sup>2,3</sup>. Tele-consultation (daily phone follow-up) for one month post-discharge for COPD patients reduced readmission rates by 10% within the first month and was associated with a 36% decrease in CHF readmissions<sup>2</sup>.

The Windsor-Essex community represents one of the highest COPD and CHF patient-per-capita ratios in Canada, with over 11,000 and 2,200 COPD and CHF patients respectively<sup>6</sup>. The Sandwich Community Health Centre (SCHC), with whom we are partnering, is located in a low socio-economic region of Windsor (*see additional info for clinic details*). It is known that individuals of low social-economic status are less likely to receive adequate medical care, and thus the risk of hospital admission and mortality is compounded in this population.

A proactive approach to managing patients with COPD and CHF will 1) bring mortality and quality of life benefits to these patients, and 2) relieve the burden of healthcare costs from hospital readmissions. We hope to institute a student-driven



initiative in collaboration with the SCHC to provide ongoing monitoring and follow-up of COPD and CHF patients in the Windsor-Essex Community by organizing:

1. Monthly COPD and CHF education sessions in coordination with medical educators of the SCHC to get patients and family members of patients familiar with their chronic condition. These sessions would also serve as a meet & greet for patients, medical students and clinic staff.
2. Weekly follow-up clinics at the SCHC run by Schulich medical students for COPD and CHF patients following hospital discharge. Clinics will supervised by up to two physicians or nurse practitioners of the SCHC.
3. Daily phone follow-up by medical students with patients seen in the clinics for the first month after hospital discharge. Patients will be called to verify compliance with medications and treatment recommendations, as well to assess their overall wellbeing.

*Please see Appendix D – Project Overview Calendar for specific details on the three branches of the proposed project.*



## PART 3 – Selection Grading/Requirements

### *Why is your project innovative?*

Firstly, this will be the Windsor community's only student-run clinic, providing a novel opportunity for Schulich students to put their clinical skills into practice. Secondly, we are specifically targeting resources at persons with CHF and COPD (populations at highest risk of hospital re-admissions) in a region with towering incidences of these diseases, thereby significantly benefitting a vulnerable patient population, while lowering health care costs from re-admissions. Currently, the only COPD and CHF clinics that exist in South-Western Ontario are in Sarnia.

Lastly, our project incorporates three distinct forms of health promotion techniques to attain our goals: education through monthly talks by medical specialists, weekly follow-up clinics, and compliance promotion via daily tele-consultation during the first month post-discharge. The tele-consultations are essential as they encourage the patient to learn/adjust to a schedule for proper daily disease management during a vital period. The technique of tele-consultation has been used in Denmark for COPD and Italy for CHF, both with very successful outcome measures<sup>2,3</sup>.

### *What is your objective with this initiative?*

- SCHULICH: To fulfill the vision of the Schulich School of Medicine and Dentistry as an agent that shapes the future of healthcare by initiating a student-run COPD and CHF clinic that to this date has yet to exist in Canada
- WINDSOR CAMPUS: To provide Schulich Windsor an outreach opportunity for its growing student body, further expanding our service to Windsor & Essex County
- COMMUNITY: To bridge access to medicine for the low socioeconomic population serviced by the SCHC
- STUDENTS: To provide student opportunities to practice their skills in history taking, physical examination and health advocacy, while directly benefiting the health and well-being of patients in their community
- PATIENTS: To better monitor and control the health of post-discharged COPD and CHF patients, which have been shown to decrease hospital readmission (reducing healthcare costs), lower patient mortality, and improve patient satisfaction.



*How will medical students be involved?*

Founder responsibilities:

- Recruit and schedule medical student volunteers
- Coordinate with the NPs and the MDs involved in overseeing the clinic to provide training/orientation sessions for all volunteers.
- Ensure that proper medical equipment, examination rooms, and supervision is available
- Organize monthly educational seminars on topics relating to COPD and CHF

Volunteer responsibilities:

- Attend a training session run by SCHC on clinic duties, phone follow up and SCHC protocol. Non Disclosure Agreement will be signed.
- Student pairs perform a brief history, directed physical exam, and verification of medication/treatment compliance with CPOD and CHF patients (1 patient/hour). Students will work off a history template\* which includes common 'red-flags' to rule out. (One 3-hour shift/month/student)\*\*
- Present findings of history/physical to the supervising NP/MD, who will make any medical recommendations to the patients directly
- Conduct phone check-ins with patients (*See Appendix E for phone script*), logging essential health indicators and soliciting pertinent negatives (One-2-hour shift/month/student)\*\*

*\*for checklist template, see Appendix A*

*\*\*for calculations, please see Appendix B*

*How do you plan on publicizing the initiative?*

This initiative will be publicized through monthly public seminars on COPD and CHF, which double as an informal means of educating patients about the clinic. Direct announcement of the project will be made to the community via local newspapers, i.e. Windsor Star, which has a health reporter whom has already been working with Schulich Windsor for student initiatives.

Patient recruitment will occur through two different avenues. Primary physicians with the SCHC will be directing their COPD and CHF patients to the follow-up clinic following a hospital admission. The second avenue will be a direct referral of patients from Respiriology or Cardiology at the Windsor hospitals due to admission for COPD or CHF exacerbation.

A survey assessing student interest confirmed that there are more than adequate numbers of eager volunteers. *See Appendix C for survey & results.* Future notices to students regarding the initiative will continue to be through email correspondence and formally during a volunteer recruitment information session to be held in early January.

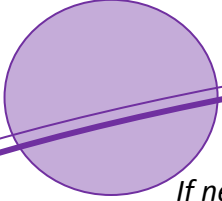
*What additional resources are required for the project?*

<b>TALKS/MEET&amp;GREETINGS</b>	<b><u>When/how often</u></b>	<b><u>Resources needed</u></b>
COPD	Scheduled for 1 <sup>st</sup> Monday of every other month	Speaker (respirologist) Food and beverages Pamphlets/Info sheet summaries
CHF	Scheduled for 1 <sup>st</sup> Monday of every other month (staggered with COPD talk)	Speaker (cardiologist) Food and beverages Pamphlets/Info sheet summaries

<b>WEEKLY CLINICS</b>	The room and NP/resident will be provided by the clinic. Most physical exam equipment is also provided ( <i>see budget</i> )	
COPD	Every Tuesday 5-8pm	Spirometer, finger oxygen saturation monitor
CHF	Every Thursday 5-8pm	Stethoscope ( <i>provided by student</i> )

<b>DAILY PHONE CHECK-INS</b>	Each participating patient will be have phone check-ins for the first month post hospital discharge	Student volunteers will make brief 5-10 minute calls to the patient from 5-7 PM. Clinic phones, desks, and computers will be used. NPs/MDs on site will be consulted by students in cases of concern.

*\*Please see Appendix D for calendar*



*If necessary, how can the project be sustained for future years?*

The funds requested are required to launch this project and will be directed towards essential fixed costs such as specific medical equipment. After this equipment has been purchased, subsequent maintenance costs will be minimal, making this project sustainable in the long-term. Successful demonstration of the clinic will allow further funding to be sought from the Local Integration Health Network thus ensuring the ongoing sustainability and possible expansion of this student initiative.

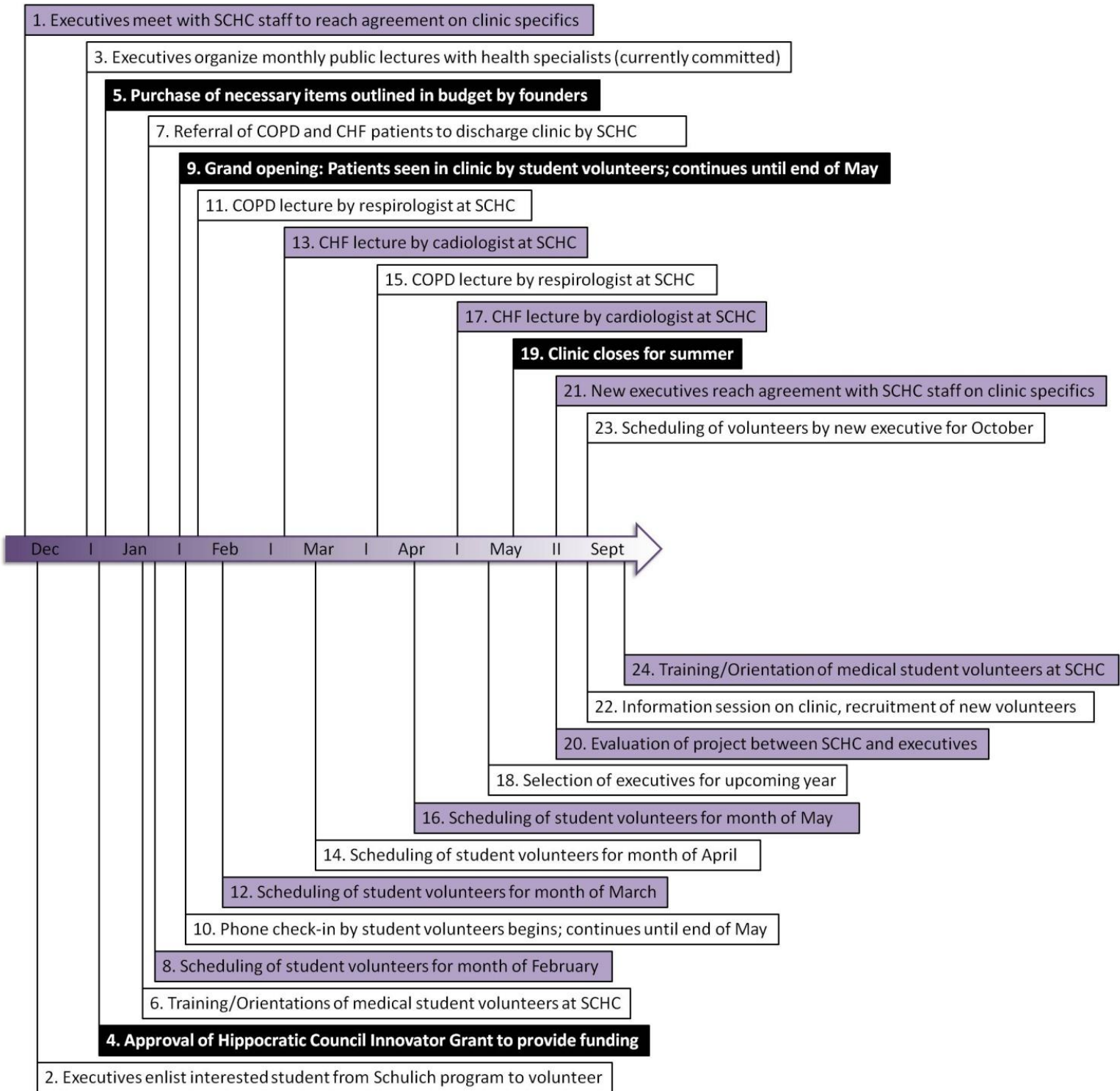
If successful, this project can be expanded to the London campus as most of the logistical components would have been proven practical by that time (ie schedule of volunteers, patients, logistics of tele-consultation, etc). All that would be necessary is to find a health clinic willing to provide one/two health staff supervisors for the project and dedicate time for facility use. A start up cost similar to ours would be sought through a grant or other external funding.

## PART 4 – Detailed Budget

*\*We budgeted all ongoing costs until May 2011. Reimbursement would take place after initial equipment/items are acquired (see timeline), monthly for food and beverages, and after new ongoing items are bought in September 2011 and January 2012.*

Item	Purpose	Cost
MINISPIR PC Based USB based Spirometer	Used to assess COPD patients.	<b>\$1112.00</b>
File Folders	Folders will be used to store the patient's chart information as well as the logs of the phone call follow-up.	4 boxes x 100/box = 4 x 18.79 = <b>\$75.16</b>
Paper + Miscellaneous office supplies	Office supplies needed to log the patient's history and physical examination findings and the phone call follow-up.	<b>\$200.00</b>
1 year liability insurance – <i>see Additional info: Liability for more details</i>	Insurance for the monthly educational talks.	<b>\$800.00</b>
Food and beverage	Food and beverage to be served at the monthly talks/meet&greet, for the months of February to May of 2011 and September to May 2012	\$75 x 12 = <b>\$ 900</b>
Phones x4	<i>Provided by clinic</i>	<b>\$0</b>
Computer for spirometer	<i>Provided by clinic</i>	<b>\$0</b>
Basic Physical Exam supplies (gowns, scale, etc.)	<i>Provided by clinic</i>	<b>\$0</b>
Stethoscopes, ophthalmoscope, blood pressure cuff,	<i>Provided by clinic</i>	<b>\$0</b>
Finger oxygen saturation monitor	<i>Provided by clinic</i>	<b>\$0</b>
Electrocardiogram	<i>Provided by clinic</i>	<b>\$0</b>
	Subtotal	\$3087.16
	HST (13%)	\$401.33
	<b>Total</b>	<b>\$3488.49</b>

## PART 5 – Detailed Timeline





## **PART 6 – Additional Information**

### *Sandwich Community Health Centre (SCHC)*

The SCHC opened 20 years ago to provide additional health resources to Windsor's west end, previously known as Old Sandwich Towne. This area is the most densely populated area in Windsor/Essex County, with the lowest per capita income and has persistently been medically under-served .

(see <http://www.sandwichchc.org/res/Default/catchmentareamapdoc.pdf> for map)

The SCHC addresses the physical, emotional and social well-being of the community members through the provision of primary health care as well as various health promotions services, such as the Men's and Women's health clinics, an extensive diabetes program, and a variety of health promotion programs.

### *Mentor Details*

Lynda Monik is the CEO of the Windsor Essex Community Health Centre, the overriding organization within which the SCHC and Teen Health Centre fall. We approached her with the idea of a student run clinic, and together we decided that 2 population specific clinics on COPD and CHF would provide the greatest benefit to the current health care needs of the region. She has worked closely with us to determine the feasibility of this project as well as acted as a liaison for us to ask for the potential participation of some of the health care staff already working at the clinic.

### *Liability*

Our clinics as well as phone follow-ups will take place at/from the SCHC, and will be supervised by one or two doctors or nurse practitioners. As the student-run clinic project is held in partnership with SCHC, we have clarified that any participation in the medical care of the patients will take place under supervision from SCHC staff and will not involve students giving medical advice, and thus, the ultimate liability for our participation will fall under SCHC.

\*We listed liability insurance as an expense to cover the monthly educational sessions; however, this expense is **likely not necessary** if the physician speakers are part of the clinic and the talks are hosted at the clinic (the administration at SCHC would have to clarify with their insurance provider, but this all could not be done until we can go ahead and book speakers).



# Appendices

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# Appendix A- History and Physical Exam Checklist

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Our history and physical exam checklist that would be used in both clinics is modified from the current form used by Windsor hospitalists at Hotel Dieu Grace Hospital. It has been reviewed by our Windsor PCCM coordinator (Dr. Sophia Thomas) as well as our clinical skills coordinator (Gloria Bortolin) who is a nurse.

The checklist is organized into History (2 pages), Exacerbation of condition (COPD/CHF), and Physical Exam (one page for visit 1, one page for visits 2-5).

Physical exam findings documented by the medical students will be reviewed by the doctor/nurse practitioner supervising the clinic for that day.

month / day / year

# HISTORY - Visit #: 1 2 3 4 5

Examiner 1: \_\_\_\_\_

Patient: \_\_\_\_\_

**FLUENT LANGUAGE:** Engl other:

Examiner 2: \_\_\_\_\_

**AGE** M / F S / M / W / D / SP

**Occupation:**

**LIVING:** alone / with: in 1 or 2 storey house / apt / rest home / nursing home

**CCAC** nurse x / week ; homemaker hrs x days / week

**USUAL LEVEL OF FUNCTION:**

indep ambul / ADL: cane walker std / roll wheelchair 1 / 2 assist ambul driving Y / N  
assist ADL: dressing feeding toilet bathing meal prep house wk groceries finances

**POWER OF ATTORNEY:**

**CC:**

**HPI:**

(Use back of sheet for extra space)

**MEDICATIONS:** (OTC, herbals, laxatives, ASA, BCP, insulin, oxygen, antihist., etc.)  
(Frequency medication is taken at, time of day, dosage )

**ALLERGIES:**

**SMOKES** cigs/day X yrs; quit ( pack yrs) **ALCOHOL:** / week

**STREET DRUGS:**

**BLOOD TRANSFUSION:**

**EXERCISE:**

**CAFFEINE:** /day

**PAST SURGERY:** 1 / 2 / 3 / 4 CABG / PTCA

pacemaker

Other:

**MEDICAL HISTORY:** cancer

CAD	hyperlipidemia	sleep apnea	CRF / dialysis	dementia
MI	stroke	GERD / HH	pyelonephritis	anemia
CHF	DVT / PE	peptic ulcer	renal stones	thyroid
HTN	COPD	hep B / C	BPH	seizures
AFib	pneumonia	Crohn's / UC	gout	depression
PVD	asthma	diverticulosis	OA / RA	anxiety
diabetes 1 / 2	TB	BS range:	osteoporosis	alcoholism
			other:	

**FAMILY HISTORY:** Sibs:

Patient: \_\_\_\_\_  
month / day / year

Mother: alive / died age

Father: alive / died age

Children:

**HOSPITAL ADMISSIONS in past 12 months:**

**REVIEW OF SYSTEMS:**

change in wt

change appetite

fatigue

fever / chills

night sweats

trouble sleeping

**H&N:** headache

change in vision

decreased hearing R L

tinnitus

vertigo

epistaxis

chewing / swallowing

hoarseness

**BREASTS:** br lumps

discharge nipples

lumps under arms mammogram

**RESP:** cough

Phlegm / blood

wheezing

SOB / OE / at rest / 2 fl stairs

freq bronchitis

**CVS:** chest p / tightness / heaviness  
at rest / activity

NTG use

palpitations

usual BP

fainting / lightheaded

SOA / a.m. / p.m.

orthopnea

PND

leg cramps / at rest / at night

walking

cold / blue feet

varicose veins

**GI:** nausea / vomiting

vomiting bld / coffee grnds

heartburn

belching / bloating gastroscopy

H pylori +

abd pain / ac / pc

jaundice / itching

BM freq colonoscopy

blood / black / incontinence

**GU:** dysuria

hematuria

urinary frequency

>8 / 24 hr; > 2 / night

urinary urgency / incontinence

freq UTI

F: menopause vag d/c / bleeding

M: last PSA

lumps in testicles

hesitancy / dribbling / poor stream

**B&E:** stiff / painful / swollen joints

neck thoracic sp LS sp

shoulder R / L elbow R / L

wrist R / L hand R / L

hip R / L knee R / L

ankle R / L foot R / L

**CNS:** muscle weakness

parasthesia

seizures

memory loss

hallucinations

**SKIN:** eczema

rash / itching

petechiae / purpura

**PSYCH:** anxiety / panic attacks

depression

agitation

# Exacerbations of Condition: – Visit #: 1 2 3 4 5

Patient: \_\_\_\_\_

month / day / year

Is the patient of breath? Y / N

Under what conditions:

Do you notice that rings, watches, socks or shoes are tighter than before? Y / N

Is there difficulty sleeping? Y / N

If yes, has it worsened or improved?

How many pillows do you use to sleep at night?

Do you require assuming a more upright position than before? Y / N

Do you cough regularly?

productive Y / N

color

blood Y / N

Do you find yourself wheezing upon physical exertion? Y / N

Under what circumstances or activities?

Do you find yourself getting sick often? Y / N

If so, do you find your sickness last longer than your friends?

# PHYSICAL EXAM – VISIT 1 ONLY

Patient: \_\_\_\_\_

month/day/year
----------------

WT	Temp	RR	O2	<i>lpm</i>	FEV1	FVC
HR	BP supine	BP sitting		SpO2	FEV1/FVC	

General Appearance:

### H&N:

occipital nodes  
lids / sclera / conj  
pupils  
fundus  
ears  
nose  
teeth / gums  
pharynx  
thyroid  
ant / post cx nodes  
carotid bruits R / L

### CHEST:

AP diam  
accessory muscles Y / N  
dullness  
A/E: poor moder good  
Indrawing  
crackles  
harsh breath sounds  
bronchial breath sounds  
wheezes

### SKIN:

capillary refill  
petechiae / purpura  
lesions

### CVS:

HS  
rhythm  
apex thrill  
murmur  
gallop rub  
JVD hepatojug reflex Y / N  
SOA  
Cyanosis  
Clubbing  
pulses: femoral R L  
popliteal R L  
post tib R L  
dors ped R L  
varicose veins  
stasis dermatitis  
deep calf tenderness R / L

### ABDOMEN:

invert / evert umbili  
normal distended scaphoid  
scars  
tender  
guarding  
masses  
liver  
spleen  
bruits

### B&E:

Neck  
Shoulders  
elbows  
wrists / hands  
back  
hips  
knees  
ankles / feet  
edema

### CNS:

alert confused drowsy stuporus  
time  
place  
person  
speech: articulate, coherent, fluent  
tremor  
pronator drift R / L  
muscle atrophy  
flaccidity  
rigidity  
weakness  
gait  
finger-nose-finger  
heel-knee-shin

**ASSESSMENT / PLAN:**

# PHYSICAL EXAM – Visit #: 2 3 4 5

Patient: \_\_\_\_\_

month/day/year
----------------

WT	Temp	RR	O2	<i>lpm</i>	FEV1	FVC
HR	BP supine	BP sitting		SpO2	FEV1/FVC	

General Appearance:

### H&N:

Ears  
Eyes  
Nose  
Carotid bruits  
lids / sclera / conj

### Chest:

Indrawing  
AP diam  
accessory muscles Y / N  
dullness  
A/E: poor moder good  
wheezes  
crackles  
harsh breath sounds  
bronchial breath sounds

### ABDOMEN:

masses  
liver  
spleen  
bruits

### B&E

Ankles / feet edema

### SKIN:

petechiae / purpura  
capillary refill

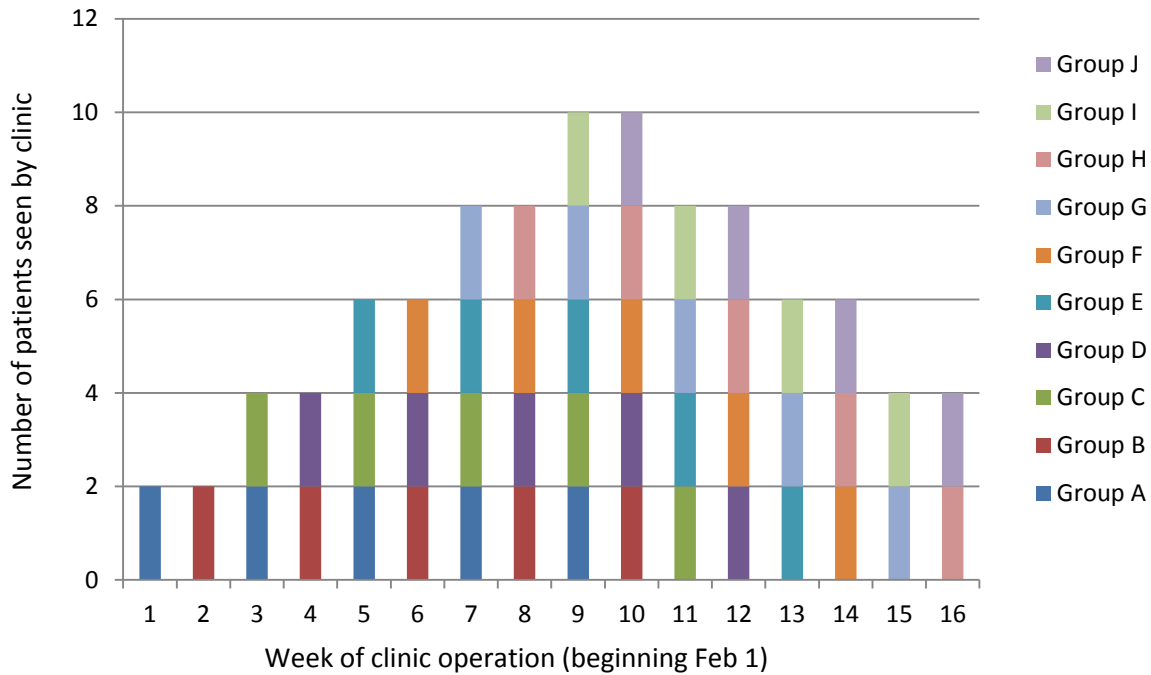
### CVS:

HS  
rhythm  
apex thrill  
murmur  
gallop rub  
JVD hepatojug reflex Y / N  
SOA  
clubbing  
cyanosis  
pulses: femoral R / L  
          popliteal R / L  
          post tib R / L dors ped R / L

varicose veins  
stasis dermatitis  
deep calf tenderness R / L

### ASSESSMENT / PLAN:

# Appendix B- Volunteer requirement calculations



**Fig. 1 – Quantifying patient load per clinic (either COPD or CHF) per week.**

**PATIENTS:**

**CLINIC:**

2 new patients will be accepted into each of the 2 clinics every week until week 10 (allocated into groups A-J according to week of first visit). Each patient is scheduled for 5 clinic visits (initial visit + 2, 4, 6, 8 weeks afterwards). A total of 40 patients (20 COPD; 20 CHF) will be seen and followed-up with during the 16 week period from February to May 2011.

**TELE-CONSULT FOLLOW-UP:**

Each patient will be followed up with daily for a 4 week period beginning from their initial visit to the clinic. Each patient will be called daily (Mon – Fri) by a student from the clinic for approximately 10min each (see Appendix E for tele-consultation script).



## VOLUNTEERS:

### CLINIC:

Each patient will be seen by 2 student volunteers for 1h (max 3 patients/shift). As the number of patients seen in each clinic (COPD & CHF) varies from 4 to 20 per week, the number of clinic volunteers will range from 4 to 16 per week accordingly.

Although the maximum number of shifts/month required for February to May 2011 is 56 (Appendix D), the maximum number based on our model is:

$$4 \text{ wks} \times 2 \text{ clinics/week} \times 8 \text{ students[max]/clinic} = 64 \text{ shifts/month}$$

Note that the volunteer interest (72 shifts/month – see Appendix C) exceeds this demand, indicating that there should be no vacant shifts.

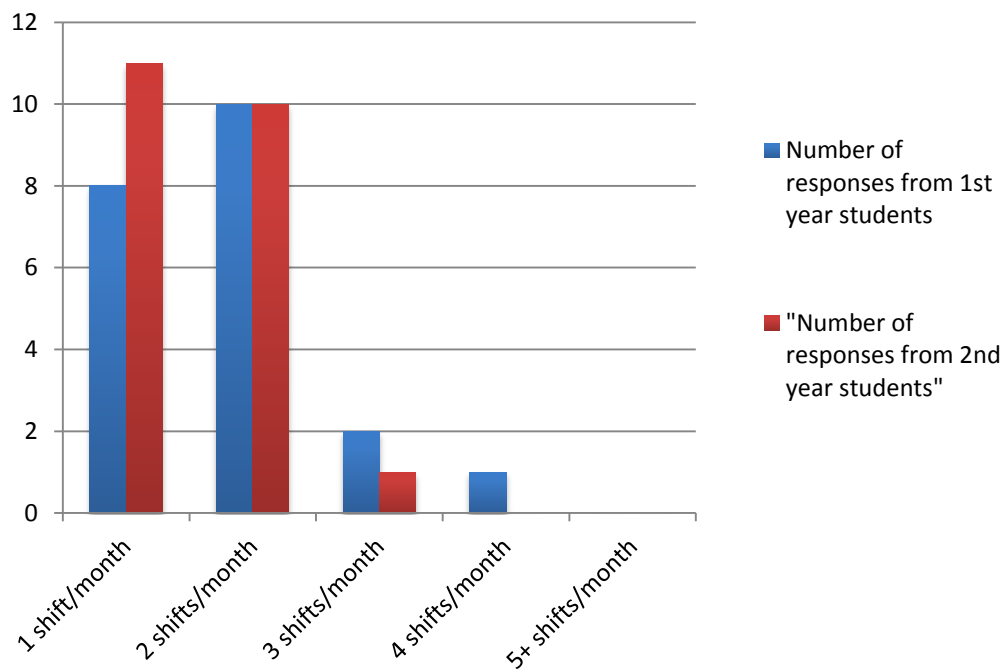
### TELE-CONSULT FOLLOW-UP:

Student volunteer shifts for tele-consult last 2h. During this time, volunteers are expected to follow up with a maximum of 8 patients (COPD, CHF, or both) as well as debrief with the NP/MD on duty regarding any red flags reported by the patients over the phone. The number of patients being followed-up via tele-consultation on any one day ranges from 2 to 16, so there will be either 1 or 2 student volunteers scheduled for making calls accordingly.

Calls will be placed from the SCHC office from daily Monday to Friday. The theoretical maximum number of shifts per month is 44, however during initial operating period of the clinic the only month that near this maximum is April with 41 shifts required. (Appendix D). Again, note that surveys indicate that there are enough volunteers available to ensure that all shifts are filled, even at this maximal level.

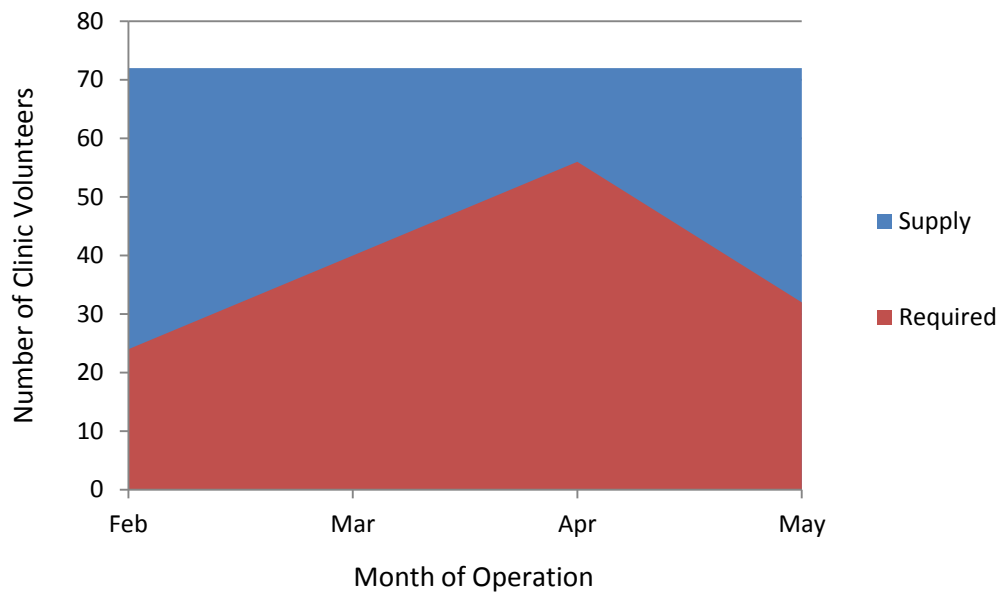
# Appendix C: Volunteer Interest Survey Results

A survey was conducted on the Windsor cohort of the Schulich School of Medicine & Dentistry to evaluate the level of interest, the willingness to commit to shifts, and the level of comfort in exercising the technical skills required. A brief synopsis of the initiative that explained the initiative was sent out along with the survey, and the data was collected after a period of 72 hours. The survey was sent out to 68 medical students and 43 responses were received, 22 from 2<sup>nd</sup> year medical students and 21 from 1<sup>st</sup> year medical students. The data was sorted into graphs and analyzed.

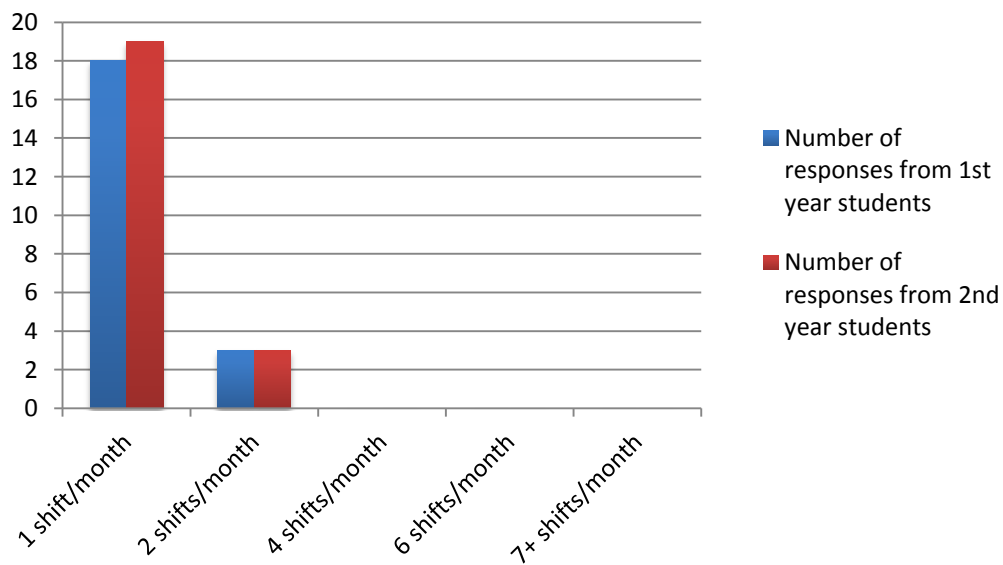


**Fig. 2 – Quantifying commitment student interested at volunteering in clinic**

Based on figure 1, we anticipate to that there is enough volunteer interest to fulfill a maximum of 72 shifts per month. The data suggests that throughout our initial period of operation, there is a constant surplus of students willing to commit to the required shifts. This is visually represented in figure 2.

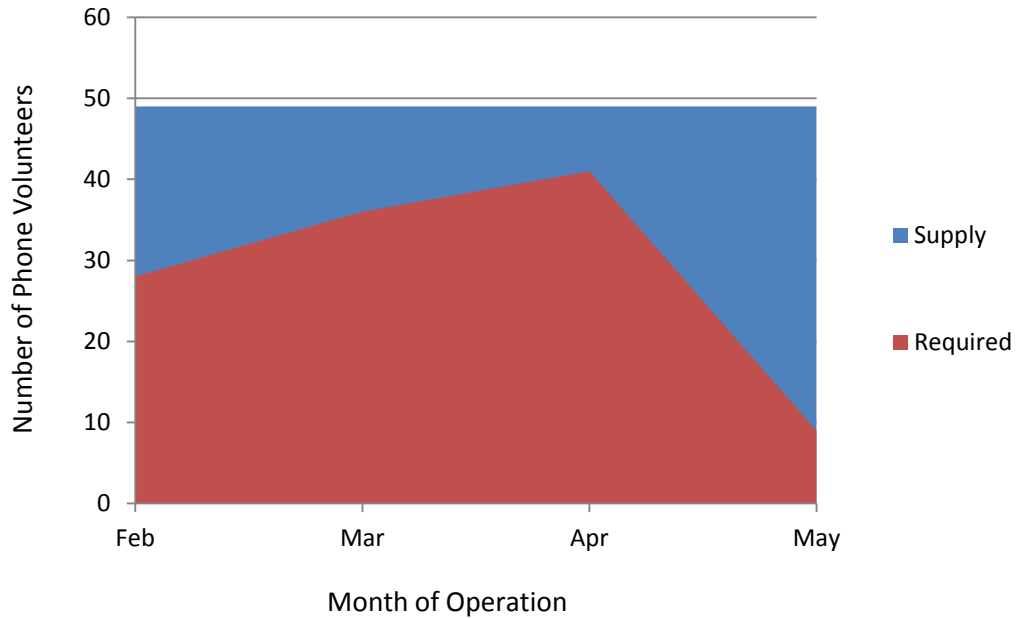


**Fig. 3 – Comparison of volunteer shift commitments to clinic requirements during the initial operating period. The rising level of required volunteers is to address the fact that up to week 10, new patients are being enlisted at the clinic in addition to those who currently being followed-up during that period.**

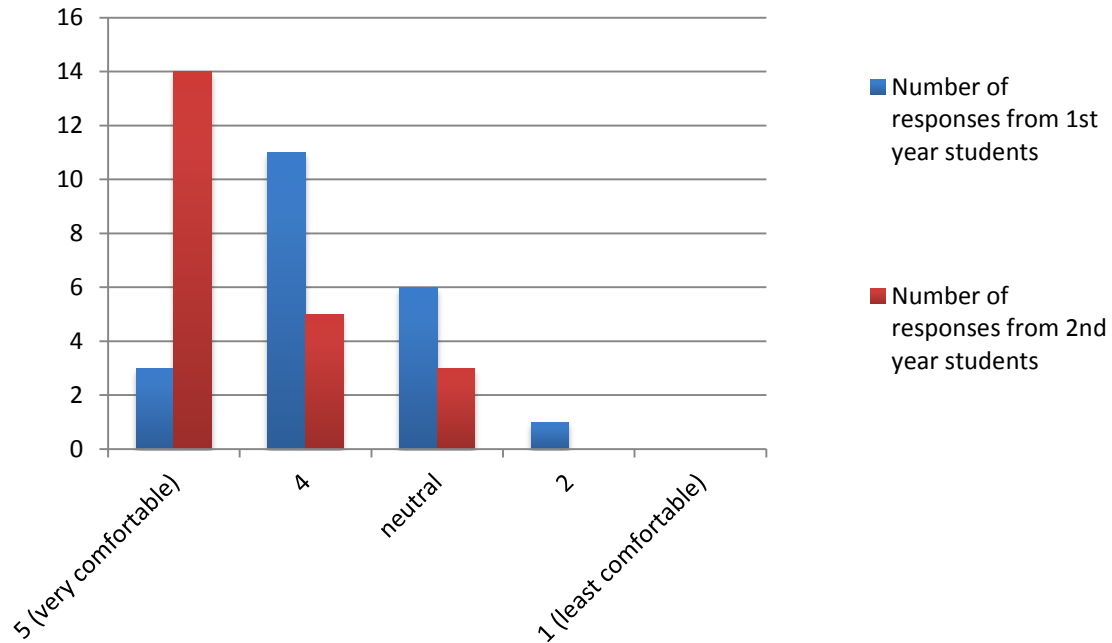


**Fig. 4 – Assessing the number of 2-hour phone call follow-up shifts students interested in this initiative are willing to commit per month.**

Strictly based on the survey, it is estimated that we are capable of filling a maximum of 49 shifts per month (Fig. 4). This suggests that at no point during our initial period of operation will there be a greater tele-consulting shift requirement than can be provided by student volunteers (Fig. 5).

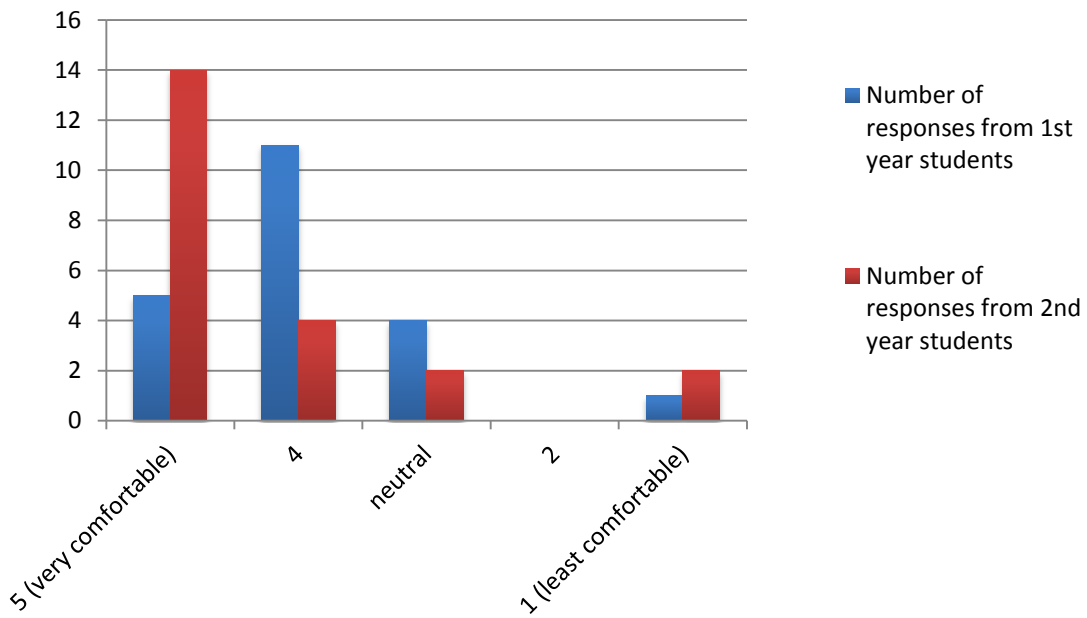


**Fig. 5 – Comparison of volunteer shift commitments to phone call follow-up requirements during the initial operating period. The varying level of volunteers required reflects the different anticipated patient loads during this period according to our model.**



**Fig. 6 – The level of comfort among first and second year medical students in performing a history and physical exam under the supervision and guidance of qualified medical personnel on site.**

Strictly based on the data illustrated in figure 6, there a high degree of comfort among students in terms of their personal aptitude in history taking and physical exams with second years being more comfortable than first years. The significance of this data lies in 1) the student body communicating a high level of confidence when it comes to participating in the technical skills required by the discharge clinic and 2) recognizes that first year medical students are less confident, which emphasizes the importance in re-enforcing history taking and physical examination skills during the orientation sessions for those students and provides support to the idea of paring student volunteers.



**Fig. 7 – The level of comfort among first and second year medical students in performing phone-call follow-ups under the supervision and guidance of qualified medical personnel on site.**

The level of comfort associated with performing tele-consulting with the assistance of a script and check-list on a scale of 1 to 5 was also assessed and is shown in figure 7. As first and second year Schulich students do not receive any formal training in communicating to patients over the phone, the decreased comfort with this aspect of the project was anticipated and addressed through the allocation training sessions in this area. These sessions on phone call follow-ups are intended to instil confidence in the student volunteers and make the tele-consultants more comfortable in performing their shift duties.



# Appendix D- Project Overview Calendar

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## Clinics

Clinics are tentatively scheduled to run at the SCHC from 5-8 PM on Tuesdays (COPD) and Thursdays (CHF). Days and times were selected based on 1) The availability of medical personnel to supervise students and 2) availability of COPD and CHF patients to attend the clinic. Student pairs will see 1 patient/h and debrief with the medical staff member on site that day. Any pertinent negatives found will be followed up by the medical staff.

## Phone follow-up:

Students will report to the SCHC for their shifts from 5-7pm and be assigned a patient load of up to 8 patients to call. The telephone script is designed to be no longer than 10 minutes. The student records their conversations on the patient charts, which will remain on –site at all times. In the event that a red flag does arise, the student will be able to pass the conversation to the MD/NP on site that will address the situation.

## Monthly Seminars:

One hour monthly talks will be delivered primarily directed towards patients of COPD or CHF by a qualified medical specialist, with the assistance of medical students. The purpose of the talk is to educate patients about the disease, its epidemiology, pathogenesis, prognosis, the significance of therapeutics, and the implications of non-compliance. These talks will also take the time to educate patients how to use an inhaler or how to read food labels effectively (to control salt/diet). The talks are followed an hour long meet and greet to give a chance for patients to meet some of the students and staff who will be participating in their health care.

## February 2011

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3	4	5
Clinic				COPD: A 2 SV		CHF: A 2 SV		
Phone					COPD: A 1 SV	COPD: A 1 SV	COPD: A CHF: A 1 SV	
		6	7	8	9	10	11	12
Clinic			COPD Seminar	COPD: B 2 SV		CHF: B 2 SV		
Phone			COPD: A CHF: A 1 SV	COPD: A CHF: A 1 SV	COPD: BA CHF: A 1 SV	COPD: BA CHF: A 1 SV	COPD: BA CHF: BA 1 SV	
		13	14	15	16	17	18	19
Clinic				COPD: CA 4 SV		CHF: CA 4 SV		
Phone			COPD: BA CHF: BA 1 SV	COPD: BA CHF: BA 1 SV	COPD: CBA CHF: BA 2 SV	COPD: CBA CHF: BA 2 SV	COPD: CBA CHF: CBA 2 SV	
		20	21	22	23	24	25	26
Clinic				COPD: DB 4 SV		CHF: DB 4 SV		
Phone			COPD: CBA CHF: CBA 2 SV	COPD: CBA CHF: CBA 2 SV	COPD: DCBA CHF: CBA 2 SV	COPD: DCBA CHF: CBA 2 SV	COPD: DCBA CHF: DCBA 2 SV	
		27	28	<b>Month Summary:</b> -16 new patients (ABCD) -16 on roster (ABCD) -Student Volunteers: 52 Clinic: 24 Phone: 28				
Clinic								
Phone			COPD: DCBA CHF: DCBA 2 SV					

Abbreviations: SV = student volunteer

Letters (A-J) represent patients with COPD or CHF; each letter represents two people.

\*Note: each post-discharged patient receives 1 month of tele-consultation and visits the clinic bi-weekly for 2 months

## March 2011

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Clinic				COPD: ECA 4 SV		CHF: ECA 4 SV		
Phone				COPD: DCBA CHF: DCBA 2 SV	COPD: EDCB CHF: DCBA 2 SV	COPD: EDCB CHF: DCBA 2 SV	COPD: EDCB CHF: EDCB 2 SV	
		<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Clinic			CHF Seminar	COPD: FDB 4 SV		CHF: FDB 4 SV		
Phone			COPD: EDCB CHF: EDCB 2 SV	COPD: EDCB CHF: EDCB 2 SV	COPD: FEDC CHF: EDCB 2 SV	COPD: FEDC CHF: EDCB 2 SV	COPD: FEDC CHF: FEDC 2 SV	
		<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>
March Break								
		<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>
Clinic				COPD: GECA 6 SV		CHF: GECA 6 SV		
Phone			COPD: FEDC CHF: FEDC 2 SV	COPD: FEDC CHF: FEDC 2 SV	COPD: GFED CHF: FEDC 2 SV	COPD: GFED CHF: FEDC 2 SV	COPD: GFED CHF: GFED 2 SV	
		<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	<b>Month Summary:</b> -16 new patients (EFGH) -32 on roster (ABCDEFGH) -Student Volunteers: 76 Clinic: 40 Phone: 36	
Clinic				COPD: HFDB 6 SV		CHF: HFDB 6 SV		
Phone			COPD: GFED CHF: GFED 2 SV	COPD: GFED CHF: GFED 2 SV	COPD: HGFE CHF: GFED 2 SV	COPD: HGFE CHF: GFED 2 SV		

## April 2011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1	2
Clinic	<b>Month Summary:</b> -8 new patients (IJ) -24 on roster (EFGHIJ) -Student Volunteers: 97 Clinic: 56 Phone: 41						
Phone						COPD: HGFE CHF: HGFE 2 SV	
	3	4	5	6	7	8	9
Clinic		COPD Seminar	COPD: IGECA 8 SV		CHF: IGECA 8 SV		
Phone		COPD: HGFE CHF: HGFE 2 SV	COPD: HGFE CHF: HGFE 2 SV	COPD: IHGF CHF: HGFE 2 SV	COPD: IHGF CHF: HGFE 2 SV	COPD: IHGF CHF: IHGF 2 SV	
	10	11	12	13	14	15	16
Clinic			COPD: JHFDB 8 SV		CHF: JHFDB 8 SV		
Phone		COPD: IHGF CHF: IHGF 2 SV	COPD: IHGF CHF: IHGF 2 SV	COPD: JIHG CHF: IHGF 2 SV	COPD: JIHG CHF: IHGF 2 SV	COPD: JIHG CHF: JIHG 2 SV	
	17	18	19	20	21	22	23
Clinic			COPD: IGEC 6 SV		CHF: IGEC 6 SV		
Phone		COPD: JIHG CHF: JIHG 2 SV	COPD: JIHG CHF: JIHG 2 SV	COPD: JIH CHF: JIHG 2 SV	COPD: JIH CHF: JIHG 2 SV	COPD: JIH CHF: JIH 2 SV	
	24	25	26	27	28	29	30
Clinic			COPD: JHFD 6 SV		CHF: JHFD 6 SV		
Phone		COPD: JIH CHF: JIH 2 SV	COPD: JIH CHF: JIH 2 SV	COPD: JI CHF: JIH 2 SV	COPD: JI CHF: JIH 2 SV	COPD: JI CHF: JI 1 SV	

## May 2011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6	7
Clinic		CHF Seminar	COPD: IGE 4 SV		CHF: IGE 4 SV		
Phone		COPD: JI CHF: JI 1 SV	COPD: JI CHF: JI 1 SV	COPD: J CHF: JI 1 SV	COPD: J CHF: JI 1 SV	COPD: J CHF: J 1 SV	
	8	9	10	11	12	13	14
Clinic			COPD: JHF 4 SV		CHF: JHF 4 SV		
Phone		COPD: J CHF: J 1 SV	COPD: J CHF: J 1 SV	CHF: J 1 SV	CHF: J 1 SV		
	15	16	17	18	19	20	21
Clinic			COPD: IG 4 SV		CHF: IG 4 SV		
	22	23	24	25	26	27	28
Clinic			COPD: JH 4 SV		CHF: JH 4 SV		
	29	30	31	<b>Month Summary:</b> -24 on roster (EFGHIJ), 0 new patients -Student Volunteers: 41 Clinic: 32 Phone: 9			

<b>Total patients seen by clinic: 40</b> COPD: 20 CHF: 20  <b>Total Volunteer blocks: 306</b> Phone: 28 + 36 + 41 + 9 = 114 Clinic: 24 + 40 + 56 + 32 = 152
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# Appendix E- Model Tele-consultation Script and Checklist

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## COPD/CHF Tele-consultation Script

Overview:

Introduce yourself:

- State why you are calling
- Ask permission to speak to client.
  - Example: “Hello *Ms. Smith* my name is *Joe*, I am a medical student at the Sandwich Clinic Health Centre working with *Dr. Paul*. I am calling you today to follow-up on your COPD and see how you are doing. Is it a good time to talk?”

If client does not agree to the follow-up inquire as to when would be a better time to call make note.

If client agrees to follow-up:

Present Illness:

- Inquire about the patient’s present condition:
  - Example:
    - How are you doing today?
    - How are you feeling today?
- Inquire if the client condition has changed:
  - Example:
    - Has anything changed since yesterday?
    - Is it getting better or worse?

Medications:

- Inquire about the medications the patient is taking:
  - Example:
    - Have you taken your medications today?
    - Are the medications bothering you in anyway?
    - Do you still have enough medication?
    - Is your oxygen tank in good supply?



Social Status:

- Inquire about the patient's nutritional status
  - Example:
    - Have you eaten today?
    -

Conclusion:

- Inquire if the client is worried about anything?
  - Example:
    - Is there anything else of concern?
    - Do you have any questions?
- Thank client

### **COPD Red flags**

- **Clinical signs of tiring, or decreased level of consciousness**
- **Fixed inspiratory and expiratory wheezing**
- **Swelling of the face and tongue (angioedema)**

### **CHF Red Flags**

- **Sudden weight gain.**
- **Shortness of breath with your usual activities.**
- **Getting up at night with difficulty breathing.**
- **Short of breath even when lying down.**
- **Coughing and wheezing.**
- **Coughing up frothy red sputum (phlegm).**
- **Chest pain.**
- **Heart palpitations or irregular heart beats.**
- **New or increased swelling of the feet or legs.**
- **Abdominal pain, nausea or lack of appetite.**



**COPD Checklist: (adopted from COPD management checklist)**

Date: \_\_\_\_\_

1. Has your breathing been worse than usual? Yes / No
2. Have you coughed more than usual? Yes / No
3. Have you coughed up more mucus than usual? Yes / No
4. Has your mucus been thicker than usual? Yes / No
5. Has your mucus been a different color than usual? Yes / No
6. Have you been wheezing? Yes / No
7. Have you been awakened by your breathing? Yes / No  
Is it more or less than normal? Yes/No
8. About how many hours have you been sleeping each night?  
\_\_\_\_\_
9. How would you describe your appetite? Decreased / Normal / Increased
10. Have you lost weight? Yes / No (not necessarily asked every time)  
If yes, how much? \_\_\_\_\_
11. What activities have you been doing?  
\_\_\_\_\_
12. Is there any activity that is harder to do because of your breathing? Yes / No  
(elaborate)  
\_\_\_\_\_
13. Overall, is your health better, the same, or worse?  
\_\_\_\_\_
14. Did you use your breathing medicine today? Yes / No  
Have you started to take any new medicines? Including herbs? Yes/No (explain)  
\_\_\_\_\_
15. Do you or anyone in your household smoke? Yes/ No  
Should also to make note:
  - Have you gotten your flu shot? Are you up to date on your immunizations?

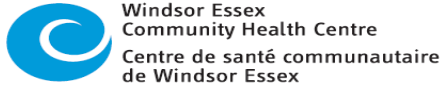


**CHF checklist: (adopted from the AARP checklist for CHF)**

Date \_\_\_\_\_

1. Have you noticed any chest pain or discomfort? Any heart palpitations? Irregular beats?
2. Has there been any change to your breathing?
3. Have you been coughing?
4. Is there sputum with your cough? What color is it?
5. What is your energy level today? Has it changed a lot?
6. Any pain in your abdominal (belly) area?
7. Any new signs of edema?
8. What is your weight? Noticed any weight sudden weight gain?
9. Have you been eating properly? Low sodium, low cholesterol diet?
10. What is your blood pressure today?
11. Have you been taking your medications?
12. Have you getting physical activity?
13. How was your sleep last night? Has the quality of your sleep changed?
14. Do you feel short of breath even when lying down?
15. Overall do you feel better/worse/ same?

# Appendix F- Letter of Support



December 7, 2010

Dear Hippocratic Council Innovator Grant Committee members ,

This is a letter of support regarding the Chronic Obstructive Pulmonary Disease (COPD) and Chronic Heart Failure (CHF) clinic project.

Chronic Obstructive Pulmonary Disease (COPD) is one of the top five diagnoses treated in the emergency room of local hospitals. COPD is on of the list of top five diagnosis for adults admitted to hospital. COPD has been one of the top five diagnoses for patients admitted to hospital for over the past ten years. According to the Erie St. Clair LHIN, the incidences of COPD are greater in Windsor-Essex County than in any other area of the province.

Schulich School of Medicine and Dentistry students Andrea, Ding, John and Mackenzie approached the Windsor Essex Community Health Centre to work on a sustainable project.

The WECHC fully supports the medical student's initiative to establish a COPD and CHF clinic at one of the Centre's sites. The benefit to patients is exposure to medical students who have a special interest in this field, and to receive a comprehensive history and physical. Finally, there is the opportunity for the medical students to be supported in their learning by an inter-professional team.

The benefit to the clients will be a coordinated approach to help the client learn about their disease, how to manage it and realize a sense of interdependence for those living with a chronic disease.

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## Appendix G- References:

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