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Service blueprinting: a novel formative evaluation method for care of heart attacks

Femida Gwadry-Sridhar, Evelyn Vingilis, Stacey Guy, Linda Hebel

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The research institute of London Health Sciences Centre and St. Joseph's Health Care, London.

London Health Sciences Centre
St Joseph's Health Care London
Western

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AGENDA

- ✓ Introducing the health problem
- ✓ The aspect of the problem we attempt to address
- ✓ Why business methodology fit objective
- ✓ How we conducted the study
- ✓ Results of the study
- ✓ Discussing these results
- ✓ Future directions

Heart attack care in Canada

- Heart attack mortality rates above OECD member country average [1]
- Regional variation indicates need for improvement
- Rates of hospitalization and mortality vary among provinces and institutions e.g. 10.2 % Alberta, 13% Saskatchewan [2, 3, 4,5]
- Complex => identify process and pathways of care

Objective

Understand the process of health care delivery for patients with heart attack.

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Assessing quality – Process evaluation

- Need to assess delivery of services through system level, inter-department and intra-hospital lens
- Improvement => quality management evaluative models spread from private to public sector organizations [6]
- Examined advantages and disadvantages of most commonly used quality management evaluative models
- Process maps, developed by the industrial sector, are effective way to understand existing processes [7]

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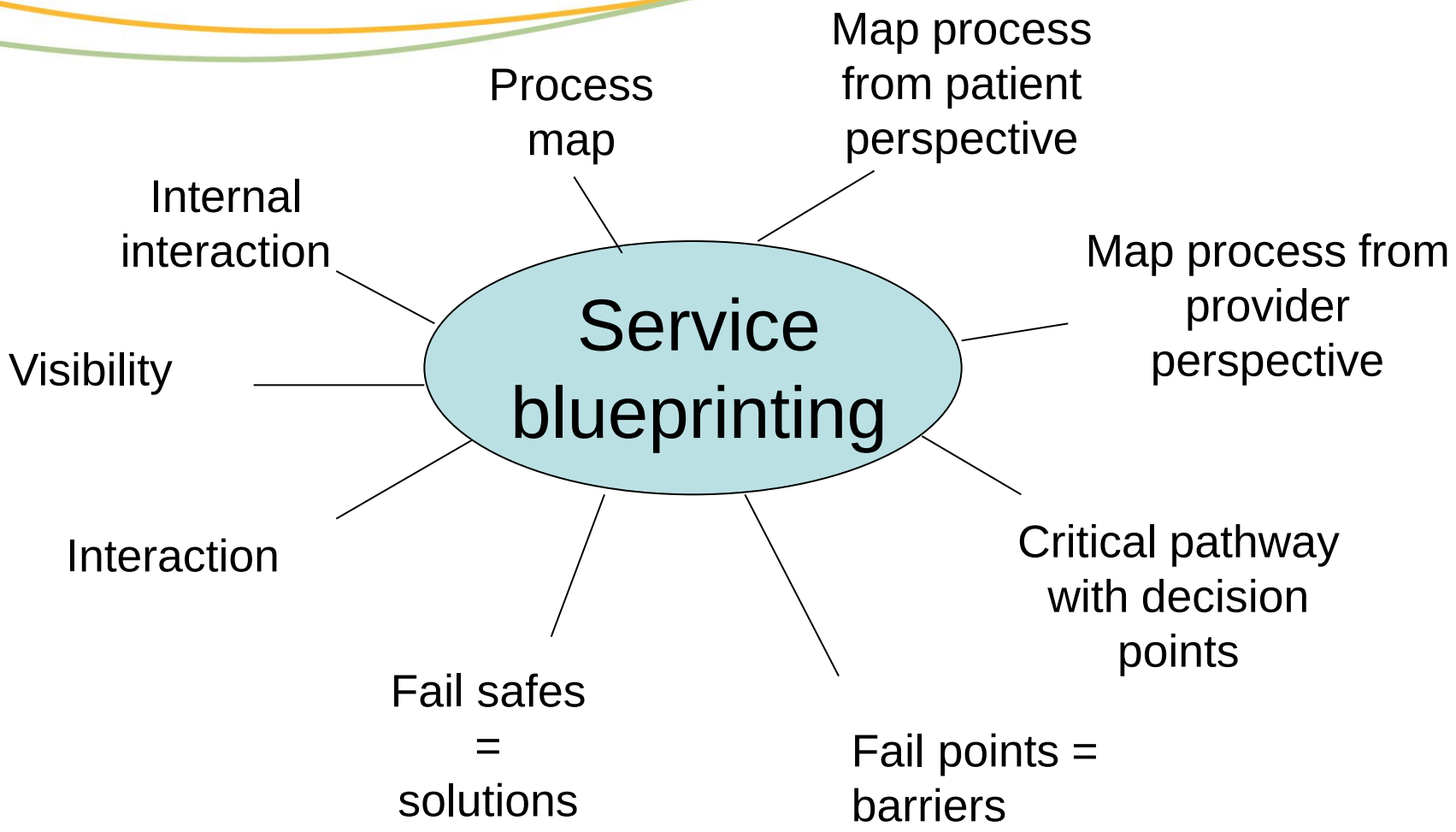
Service blueprinting



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Applying service blueprinting to heart attack care REB #10673E

Methods

- Service within 8 Ontario hospitals => in-depth insight into operations and delivery.
- Sample N = 31
- Benchmark vs. non-benchmark
- Review Canadian Cardiovascular Outcomes Research Team guidelines
- Semi-structured interview guide => stakeholder interviews
- 2 phases of interviews => blueprint

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Methods

- Examined key processes.
- Each activity has potential problems and possible solutions.
- Verbatim transcripts analyzed with ethnographic content analysis.
- Validity => triangulation => participants able to confirm or deny initial map developed based on interviews represented their experience.
- Reliability and rigor => detailed records, systematic collection of data.

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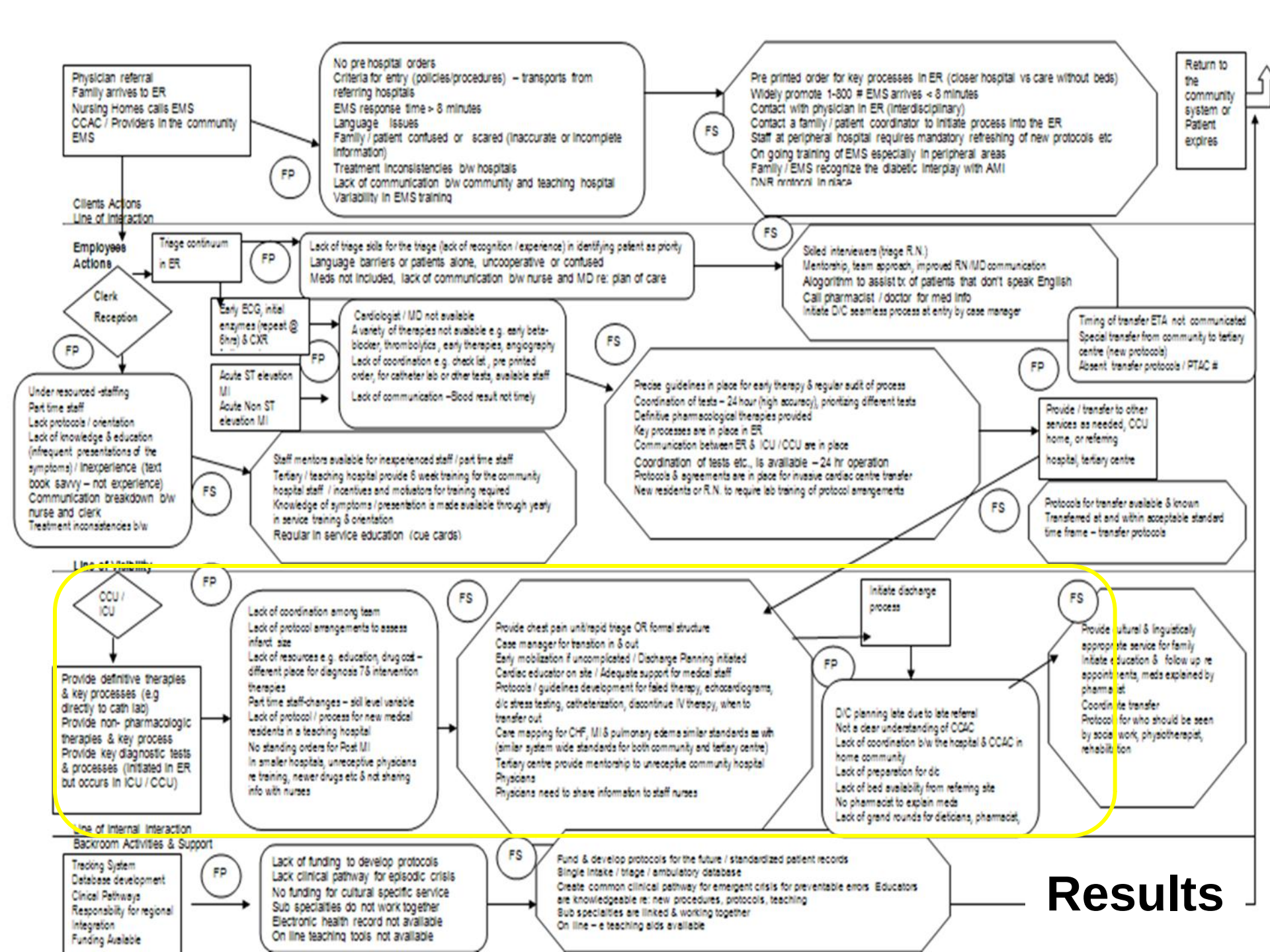
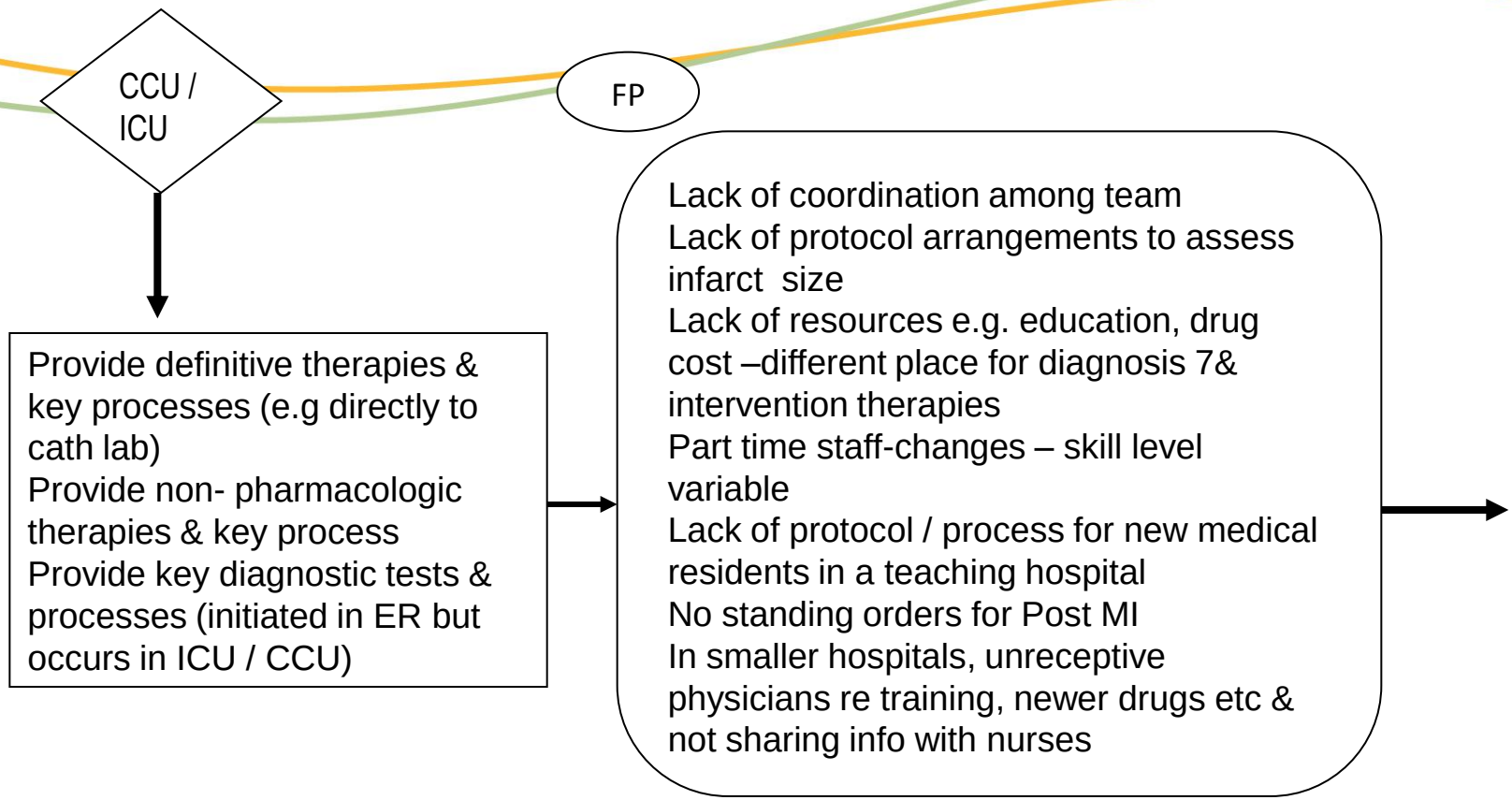
Seminal encounters

1. Patient arrives via physician referral, family, nursing home, CCAC, EMS	5. Acute ST elevation MI or acute non ST elevation assessment
2. Initiation of the triage continuum	6. CCU/ ICU transfer
3. Encounter with the clerk	7. Discharge process initiated
4. Early ECG and enzyme assessment	8. Backroom activities and support


Physician referral
Family arrives to ER
Nursing Homes calls EMS
CCAC / Providers in the community
EMS
No pre hospital orders
Criteria for entry (policies/procedures) – transports from referring hospitals
EMS response time > 8 minutes
Language issues
Family / patient confused or scared (inaccurate or incomplete information)
Treatment inconsistencies b/w hospitals
Lack of communication b/w community and teaching hospital
Variability in EMS training
FP
Pre printed order for key processes in ER (closer hospital vs care without beds)
Widely promote 1-800 # EMS arrives < 8 minutes
Contact with physician in ER (interdisciplinary)
Contact a family / patient coordinator to initiate process into the ER
Staff at peripheral hospital requires mandatory refreshing of new protocols etc
On going training of EMS especially in peripheral areas
Family / EMS recognize the diabetic interplay with AMI
DNR protocol in place
FS
Return to the community system or Patient expires
Clients Actions
Line of Interaction
Employees Actions
Triage continuum in ER
Lack of triage skills for the triage (lack of recognition / experience) in identifying patient as priority
Language barriers or patients alone, uncooperative or confused
Meds not included, lack of communication b/w nurse and MD re: plan of care
Skilled interviewers (triage R.N.)
Mentorship, team approach, improved RN/MD communication
Algorithm to assist tx of patients that don't speak English
Call pharmacist / doctor for med info
Initiate D/C seamless process at entry by case manager
Clerk Reception
Early ECG, initial enzymes (repeat @ 6hrs) & CXR
Acute ST elevation MI
Acute Non ST elevation MI
Cardiologist / MD not available
A variety of therapies not available e.g. early beta-blocker, thrombolytics, early therapies, angiography
Lack of coordination e.g. check list, pre printed order, for catheter lab or other tests, available staff
Lack of communication –Blood result not timely
Timing of transfer ETA not communicated
Special transfer from community to tertiary centre (new protocols)
Absent transfer protocols / PTAC #
Under resourced -staffing
Part time staff
Lack protocols / orientation
Lack of knowledge & education (infrequent presentations of the symptoms) / inexperience (text book savvy – not experience)
Communication breakdown b/w nurse and clerk
Treatment inconsistencies b/w
Staff mentors available for inexperienced staff / part time staff
Tertiary / teaching hospital provide 6 week training for the community hospital staff / incentives and motivators for training required
Knowledge of symptoms / presentation is made available through yearly in service training & orientation
Regular in service education (cue cards)
Precise guidelines in place for early therapy & regular audit of process
Coordination of tests – 24 hour (high accuracy), prioritizing different tests
Definitive pharmacological therapies provided
Key processes are in place in ER
Communication between ER & ICU / CCU are in place
Coordination of tests etc., is available – 24 hr operation
Protocols & agreements are in place for invasive cardiac centre transfer
New residents or R.N. to require lab training of protocol arrangements
Provide / transfer to other services as needed, CCU home, or referring hospital, tertiary centre
Protocols for transfer available & known
Transferred at and within acceptable standard time frame – transfer protocols
CCU / ICU
Provide definitive therapies & key processes (e.g directly to cath lab)
Provide non- pharmacologic therapies & key process
Provide key diagnostic tests & processes (initiated in ER but occurs in ICU / CCU)
Lack of coordination among team
Lack of protocol arrangements to assess infarct size
Lack of resources e.g. education, drug cost – different place for diagnosis T& intervention therapies
Part time staff-changes – skill level variable
Lack of protocol / process for new medical residents in a teaching hospital
No standing orders for Post MI
In smaller hospitals, unreceptive physicians re training, newer drugs etc & not sharing info with nurses
Provide chest pain unit/rapid triage OR formal structure
Case manager for transition in & out
Early mobilization if uncomplicated / Discharge Planning initiated
Cardiac educator on site / Adequate support for medical staff
Protocols / guidelines development for failed therapy, echocardiograms, d/c stress testing, catheterization, discontinue IV therapy, when to transfer out
Care mapping for CHF, MI & pulmonary edema similar standards as with (similar system wide standards for both community and tertiary centre)
Tertiary centre provide mentorship to unreceptive community hospital Physicians
Physicians need to share information to staff nurses
Initiate discharge process
D/C planning late due to late referral
Not a clear understanding of CCAC
Lack of coordination b/w the hospital & CCAC in home community
Lack of preparation for d/c
Lack of bed availability from referring site
No pharmacist to explain meds
Lack of grand rounds for dieticians, pharmacist,
Provide cultural & linguistically appropriate service for family
Initiate education & follow up re appointments, meds explained by pharmacist
Coordinate transfer
Protocol for who should be seen by social work, physiotherapist, rehabilitation
Line of Internal Interaction
Backroom Activities & Support
Tracking System
Database development
Clinical Pathways
Responsibility for regional integration
Funding Available
Lack of funding to develop protocols
Lack clinical pathway for episodic crisis
No funding for cultural specific service
Sub specialties do not work together
Electronic health record not available
On line teaching tools not available
Fund & develop protocols for the future / standardized patient records
Single intake / triage / ambulatory database
Create common clinical pathway for emergent crisis for preventable errors Educators are knowledgeable re: new procedures, protocols, teaching
Sub specialties are linked & working together
On line – e teaching aids available
Results

Example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Discussion/ Conclusions

- Provides transparent illustration of patient care process
- Unique strength: identify points where operations and delivery of complex systems fail/ succeed
- Provides understanding of gaps in service provisions and potential reasons for poorer outcomes
- Utilize fail points and fail safes as evaluation parameters
- Limitations

Future Directions

- Dissemination events -Share findings with stakeholders, and provincial health organisations
- Examine the differences between benchmark and non-benchmark hospitals included in this study

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