Nursing Roles and Interagency Communication Demonstrating Requirements for Future Models of Care

It's at the edges that interesting things happen – Iain Banks

Dr. Pamela Hussey

School of Nursing and Human Sciences, DCU

Daragh Rodger

Advanced Nurse Practitioner, Care of Older Person Community, St Mary's Hospital

Prepared for ONMSD HSE

June 2014

ISBN 978-1-873769-26-3

Other contributors

- Deirdre Carroll, Community Interventions Team Nurse HSE
- Kathryn Carroll, Partnership Nurse HSE
- Mary Roach, Community Liaison Nurse MMUH
- Tracy Keating, Community Liaison Nurse MMUH
- Ciara Dowling, Clinical Nurse Manager 3 MMUH
- Elaine Dunne, Clinical Case Manager HSE
- Suzanne Brown, Assistant Nurse Coordinator Computer Services MMUH
- Dr Damon Berry, Health Informatics Dublin Institute of Technology
- Ms Gaye Stephens, Health Informatics TCD
- Mr Peter Connolly, HSE
- Ms Anne Spencer PETAL

Use Case 1 Nursing Interagency Communication Demonstrating Requirements for Subject Area Models

1 Introduction

Patient outcomes including patient mortality are increasingly linked in the evidence base to nursing interventions particularly in the acute care sector [1, 2, 3]. Theories supporting nursing interventions as a critical resource in maintaining optimum health outcomes in the community are also prevalent in the evidence base [4, 5]. Examples include Symptom Management and Medication Management both of which have been strongly linked to individuals maintaining independence [6].

To date, nursing as the largest professional group within healthcare is recognised as a critical resource in maintaining population health at an optimum [7]. As society embarks on making scheduled eHealth models of care a reality, it is time for nursing in Ireland to reflect upon best approaches which deliver tactical outputs. From an informatics perspective the profession of nursing engages in a dual role, caring for individuals both as independent practitioners as well as actively engaging as a member of the co-ordinated multi-disciplinary team [8]. This would suggest that both the aforementioned nursing roles (as opposed to solely the later) require careful consideration. Emerging eHealth models often promoted as promising citizens core benefits include personal independence , consumer choice, and citizen empowerment are now scheduled for implementation in Irish policy and strategic plans [9,10] , however recent deployments in other countries have proved challenging [11].

Healthcare in Ireland has recently been described as entering into the largest transition programme since the founding of the Irish state [12]. Departing from the existing traditional models of care , the concept of health and healthcare in Irish society will transition from one where citizens are viewed as passive recipients of care, to one which actively empowers individuals to contribute to decisions made in partnership with health care providers. Individualised health care planning and maintenance will be firmly under the control of the citizen who will have access to (and potentially contribute to) the individual health record electronically.

This poses a number of questions for nursing leaders in Ireland. How will nursing in Ireland contribute to the deployment of the emerging eHealth models of care in society? How will nursing protect what is already in existence, what is known to work well and what practices need careful revision? What will happen if nursing practitioners fail to recognise their unique and critically important position in the scheduled transformation programme? Such questions are now under careful consideration with nurse leaders not only in Ireland but also globally, particularly in the informatics community [13, 14, 15].

Systematic reviews on uptake and use of Electronic Health Records in the United States also report diverse opinions from clinicians which have led to incentivising one example being the notion of meaningful use [16].

As a profession nursing considers electronic health records as both a barrier and facilitator. Key issues reported include increased time interacting with eHealth systems which decreases their job performance particularly in regard to patient contact time . Nurses do however indicate that electronic health records can and do improve workplace productivity [17]. Consistently what is reported within the evidence base is that careful attention to initial design briefs and technical issues are important. [18, 19]. Healthcare professionals in a recent review which included nurses reporting on factors relating to uptake and use of eHealth records suggest that 1) design or technical issues 2) perceived usefulness by individual users and 3) the adopted managerial approaches are significant factors worthy of focused reflection. The paper also contends that "top down" managerial approaches need to be mediated in tandem with "bottom up" approaches to foster enthusiasm dedication and commitment for successful implementation processes to occur [18 p.6].

In Ireland (and from a HISINM perspective) nursing would argue that the dual role that the profession provides is often under recognised [20]. Making visible this dual role particularly in regard to nurse to nurse communication across and between services will be challenging particularly in the early stages of design and analysis. The timing for design and analysis of care practices is imminent particularly before deployment of phase one of Electronic Health Record enters procurement stage. Thus ensuring that the often poorly noticed and unique contribution which the nursing profession provides that we know has a direct bearing on patient outcome can achieve optimal recognition and promotion.

Whilst the international nursing community contemplates if and how advocacy and compassion can be articulated in computing terms (Logical or Boolean) this short report offers a small and simple case example for further discussion with relevant stakeholders.

2. Case Study PARTNERS COP 2

This use case is presented as a summary paper for discussion with key stakeholders in Health Services Executive in Ireland. It provides evidence of the specific uniqueness that nursing provides in one area in Dublin North and demonstrates how the profession manages nurse to nurse and nurse to MDT inter agency communication to support front line care to older persons. This use case could have been articulated from a number of perspectives however this group have chosen to consider the journey from the perspective of an older persons discharge from acute services and the subsequent issues that arose which are for the main part managed by nurses to avoid hospital readmission. The choice of older person services and readmission is deliberate and specific as this particular group are listed in HSE service plan as Key Performance Indicators for national Clinical Programmes in Specialist Geriatric Services Model of Care. [21]. This use case forms part of a phased approach to articulating the nursing contribution to eHealth Ireland. It presents material for potential use as part of a Subject Area Model for nursing and midwifery practice. Currently Subject Area Models are in development within the HSE as part of the Integrated Services Framework agenda. The core objective of the Integrated Services Framework is to develop a national standards based framework which will ensure that key systems and components can share information (data)

in a timely and organised fashion. Briefly, a Subject Area Model is an abstract representation of a topic (in this particular case nursing practice) developed in partnership with practitioners who have a clear understanding of the domain. The Subject Area Model can be used to express information requirements (data sets) to multiple stakeholders for clinical collaboration. This subject area model is used in tandem with a computer software construct entitled a Reference Model collectively the Subject Area Model and Reference Model provide the core platform which allows computers to transfer information across and between services and display the information appropriately to clinicians. The platform defined within the Integrated Services Framework is demonstrated in Appendix 1.

Seven nurses engaged within the team over a two month period and met twice. Five of the nursing roles are articulated in the scenario as there was overlap with some of the roles depicted. It is worthwhile noting that the nursing participants crossed a number of services and were not clustered as employed in one single service. We therefore would like to thank the respective management for their co-operation in this particular initiative, and acknowledge the proactive approach adopted to provide the information to complete this process which was carried out independently from any funding agency.

The aim of this use case is to:

- Demonstrate the unique contribution that nursing services make in inter agency communication in Ireland in regard to nurse to nurse and nurse to MDT Role.
- Explore the need to engage with the development of a Subject Area Model for Nursing and Midwifery services within the HSE Integrated Services Framework Programme from a national perspective.
- Identify within HSE ICT a nursing and midwifery profile for future procurement recognising the dual role that contemporary nursing and midwifery provides in accordance with recently published DoH eHealth and HSE ICT Strategy (EU and WHO Nursing Division).

The objectives of this use case are to:

a) Provide subject material to justify resource use on a dedicated Subject Area Model for nursing and midwifery in Ireland.
b) Improve the impact and cost effectiveness of eHealth Strategy with a validated Subject Area Model which relates to nursing care and older person services.
c) Inform and adopt the uptake of profiles for eHealth standards development in Ireland in accordance with the HSE ICT Strategy and EU CEN TC 215 Working Group 1.

The paper is presented as follows:

- Brief Introductory Section on Nursing Roles and scope of this document
- Use Case Scenario and Figures 1-5 demonstrating care workflow

Nursing Roles

In this Use Case a specific area of nursing care and communication is focused on. The emphasis is on nursing services which cross the acute and primary care domains. It is therefore important to note that this scenario deals solely with one core dimension of practice offering a view of interagency communication between the nurses identified in older persons services. It is also based on one region in HSE Dublin North. As a Use Case it does not detail the many additional roles carried out in the acute and primary care services such as Clinical Nurse Specialist, Registered Acute and Community Nurses and Public Health Nurses or indeed the expanding role of the practice nurses in private practice. The recent digiPHIT project has developed a strong business case for future module deployment for Public Health Nursing and it is envisaged that any future subject area model will be linked with this resource.

Five distinct nursing roles are identified in this Use Case Scenario in Dublin North. They include the following;

- Community Interventions Team Nurse
- Partnership Nurse
- Community Liaison Nurse/Clinical Case Manager
- Clinical Nurse Manager 3
- Advanced Nurse Practitioner Role

The scenario described in section three identifies the role of the Community Liaison Nurse (Day 24). On review of the interventions completed in this role, it is recognised that there is some overlap with the role of the Clinical Case Manager however the Clinical Case Manager Role is distinguished from the Community Liaison Nurse in that it offers a consult service which includes liaison with mangers of older persons for community services. The Clinical Case Manager role crosses traditional service boundaries working with community services on sourcing solutions on complicated cases. Whilst this distinction exists in practice, for the purpose of the collectively defined use case scenario a decision was made not to duplicate this role in this report.

1. Advantages of Inter agency communication across and between agencies in Use Case are considered as follows.

a) Early detection of health issues that require nursing interventions or referral to MDT e.g. Blood pressure monitoring (Partnership Nurse)

b) Early detection of social issues that may impede maintenance or enhanced patient outcomes (Community Interventions Team).
c) Reduce length of stay in acute service (Community Liaison Nurse)
d) Reduce readmission by early detection of health and social care issues (Advanced Nurse Practitioner)
e) Effective Medication Prescribing /Adjustment management (R.N.P)
f) Effective Symptom Management (All practitioners)
g) Effective Patient education (All practitioners)
h) Effective Patient advocacy (All practitioners)
i) Enhances Inter agency communication ,continuity of care across and between services (All practitioners)

2. PARTNERS Use Case

Introduction

Discharge and discharge follow up of elderly patients requires focused interagency communication. Typically this inter agency communication is both formal and informal and involves engagement across and with different service providers including different consultant specialists, general practitioners, hospitals, pharmacists families and carers.

Different information is required at different times in order to manage the individual case for example booking appointments and offering a summary view of the scheduled itinerary process. In this Use Case scenario nursing management of the interagency care process is provided illustrating timely access to information for key stakeholders involved in the health care process of discharge and discharge follow up.

Purpose and Scope

- Referral in to review and complete assessment
- Referral out to link to relevant health care professional for follow up
- Review and repeat assessment
- Tracking of relevant events as scheduled on itinerary e.g each subtask in the workflow schedule
- Medication management – Prescription create , Prescription review of existing prescription for poly pharmacy interaction
- Linking created documents to relevant stakeholders in context

In this use case the workflow (Figures 4.3 to 4.7) demonstrates the cross enterprise setting in which the nursing roles 1-5 practice interventions in Dublin North.

Storyboard

Joe Brown is a 78 year old single man who lives alone. He is not known to Public Health Nurse and is not in receipt of any community supports. He has a medical history of chronic obstructive pulmonary disease (COPD).

Day 1: Joe Brown presents to Accident and Emergency Department (A&E) with a history of being unwell x 5 days with deteriorating condition

Known COPD diagnosed with chest infection and required IV antibiotics initiated in A&E. referred to Out Patient Anti-biotic Team (OPAT), CIT Nurse Initial Review Antibiotic 1st dose is initiated by A&E Dr, prescription given to the nurse and Joe is transferred home

Information Flow – Discharge Pathway Documented Plan, Prescription management, Referral Documentation, Next of Kin Contact with Appointment Schedule Date and to co-ordinate travel arrangements to home environment, CIT Assessment Initiated

Day 3: OPAT Refers Joe to CIT (1) for IV antibiotic home therapy

IV antibiotics administered over 5 days at home by CIT service. Follow up in outpatients by hospital team arranged with OPAT team.

Education and advice given by CIT nurse to Joe on the management and correct use of his inhalers. Joe discharged from CIT service and report sent to General Practitioner , Referring OPAT team and Public Health Nurse to alert of recent episode.

Information Flow – First Assessment Completed, Care Plan – Key areas included education of medical devices, symptom management fatigue breathlessness, Summary Reports 1..*

Day 21: Joe visits his GP – history of dizziness. GP refers Joe Brown to Partnership Nurse (PN) (2) for Blood Pressure monitor to out rule postural hypotension and for home assessment prior to Geriatrician outpatient appointment

Dizziness on three separate occasions reported and one incident in which Joe nearly fell. Partnership Nurse contacted Joe and home visit arranged.

Information Flow – GP Assessment Referral to Partnership Nurse

Day 24 Partnership Nurse visits Joe at home

On arrival at the home Joe was found to be unwell, shortness of breath and wheezy, known COPD, inhalers ineffective and offered little or no relief to symptoms. Joe quite distressed and following assessment was referred to A&E by Partnership Nurse.

Information Flow – Partnership Nurse 1st Assessment Referral to A&E

Day 24: Patient Joe Brown presents to A&E

Impression – exacerbation of COPD and is admitted to a ward.

Information Flow – Acute Service EMR: ADT System AE System Order Communications Clinical Documentation

Day 24: Referred to Community Liaison Nurse (3) to notify of admission

During course of admission identified need for increased care supports at home. To ensure safe discharge recommended transfer to transitional care once medically stable. Referrals sent to social worker re Home Care Package and Public Health Nurse regarding transfer to transitional care.

Information Flow – Review of existing documentation in EMR in acute trust, Referral to Medical Social Worker, PHN and Discharge Plan for Transitional Care Unit

NB this role is also reflected as Clinical Case Manager in Connolly Hospital

Day 35: Referral sent to Synge unit CNM III (4)

Assessed on admission to unit and care needs identified care plan commenced. Length of expected stay is 14 days. Prior to discharge liaison with PHN re admission, HCP and nebuliser and need for ongoing support from community services. On discharge home appointment given for follow up in Medicine for the Elderly services in St Mary's. Ongoing communication by phone with Joe to ensure discharge plan is working.

Information Flow – Clinical Documentation Assessment 1..* Referral Documentation to MDT and PHN Discharge Plan includes Appointment to Geriatric Services Mobile Communication by Phone

Assessment and reassessment and daily reviews of progress while inpatient end of care episode discharged from Synge service Day 50.

Day 58 CNMIII (4) Contact Joe by mobile phone re appointment in Day Hospital.

Day 60: Appointment in Day Hospital in St Mary's

To be seen by Geriatrician for follow up post recent admission to hospital. Joe did not attend appointment. He was contacted by nurse in Day Hospital and stated he was unable to travel. Concerns raised in regard to his progress since discharge from hospital ***Referral to ANP to carry out home assessment.***

Information Flow – Mobile Communication by Phone Email

Day 61: Advanced Nurse Practitioner Older Persons (5)

Contacted Joe and arranged home visit for next day.

Information Flow – Mobile Communication by Phone

Day 62: **Home assessment carried out**.

Revealed recent fall sustained by Joe query cause of incident. Joe is a poor historian fall incident requires further investigation and to rule out blackout, mobility reduced no apparent injury. Plan to refer to St Mary's falls clinic for geriatrician – further investigation of fall rule out syncope postural hypotension – tilt table and finometry, for physiotherapy assessment - gait assessment & enrol community falls physiotherapy class . Liaise with PHN to inform of recent fall, liaise with carers to monitor falls risk. Liaise with transport to collect and bring to appointment in St Mary's

Information Flow – First assessment - referral to falls clinic - Geriatrician & Physiotherapy, Liaise communication with Public Health Nurse and Carers Book Transport for service review

Day 75: **Transport arranged to collect Joe and bring him to falls clinic in St Mary's.**

Nursing assessment by Day Hospital nurse, medical assessment by Geriatrician, mobility assessment by physiotherapy, referral sent for DXA scan for bone health assessment

Information Flow – Second assessment with referral to fall clinic. Order Communications DXA Clinical Notes 1...* in Day Hospital 10 weeks

Journey of care continues for Joe. He will continue to live at home with ongoing assessments, interventions, support and education from the community nursing team.

Journey includes the following services on this use case scenario

A&E - **CIT** - GP - **PN** – A&E – **CLN – CNMIII** – DH – **ANP** – DH

Figure 4.1 offers a summary diagram of the Nursing Actors engaged in the management of Joe Browns Use Case of care provision.

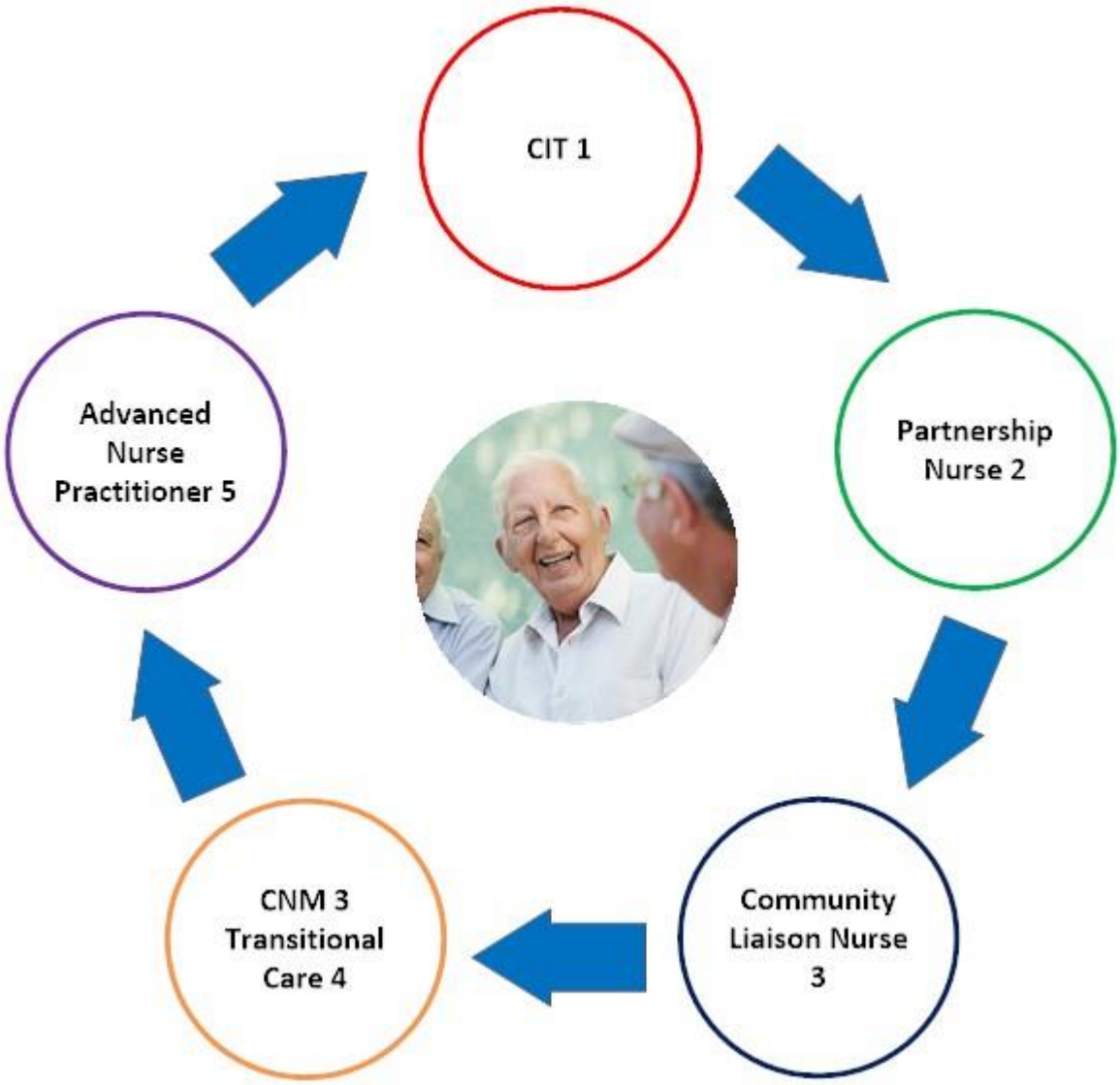


Figure 4.1 Continuity of Care Subject Joe Brown

In Figure 4.2 a list of transactions across and between the acute and primary care services are included to request service access input view and edit the summary records of the use case with the relevant hardware resources . It is anticipated that a patient access portal will also be available as per eHealth strategy (2013)

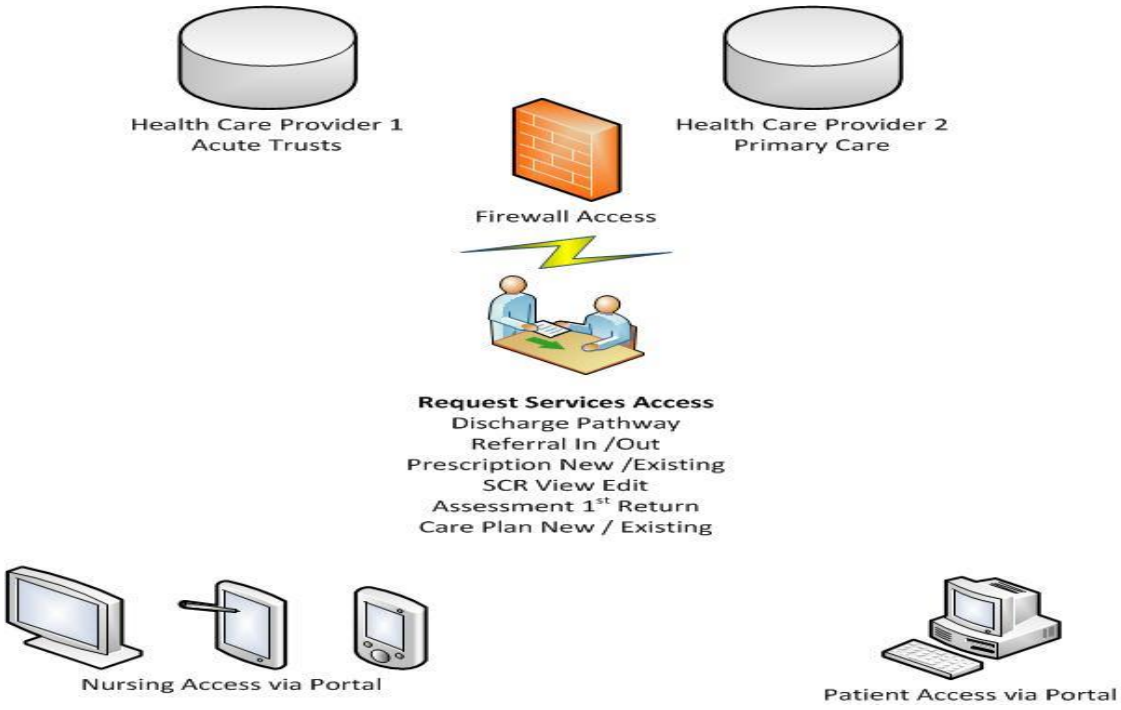


Figure 4.2 Process Flow

The five nurses' key inputs processes and outputs are summarised in the following data flow charts.

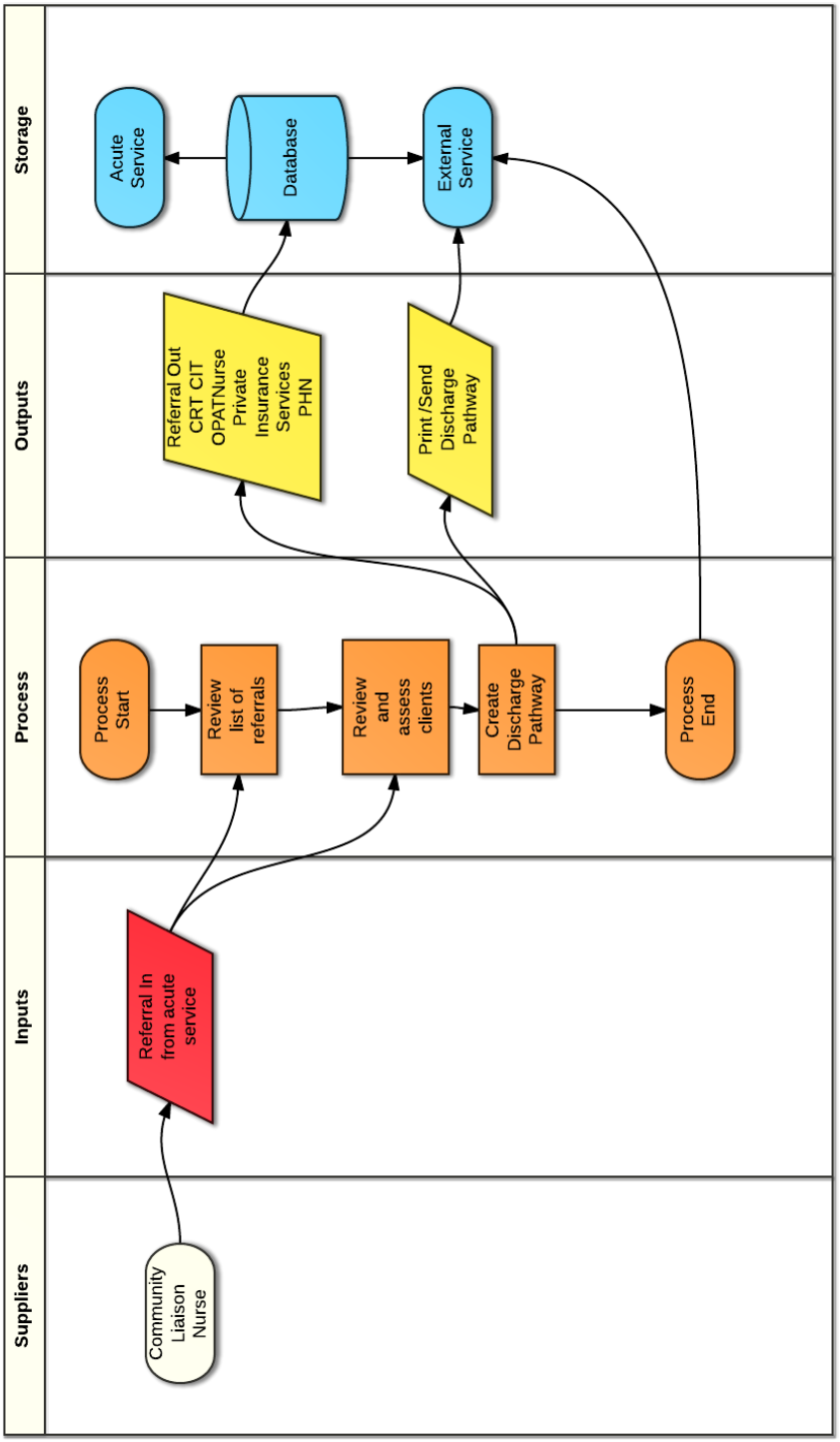


Figure 4.3 Community Liaison Nurse 1

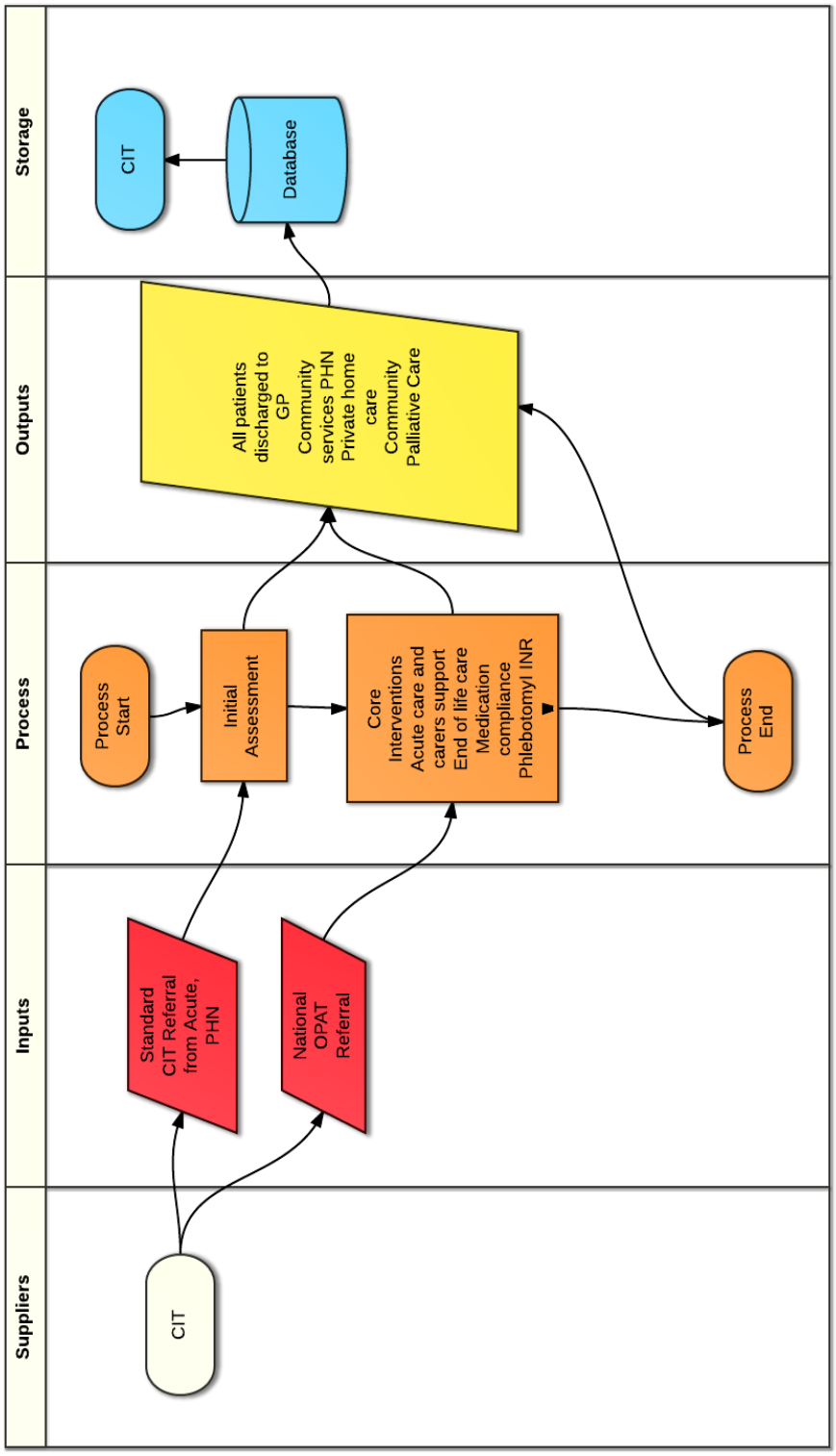


Figure 4.4. Community Interventions Team

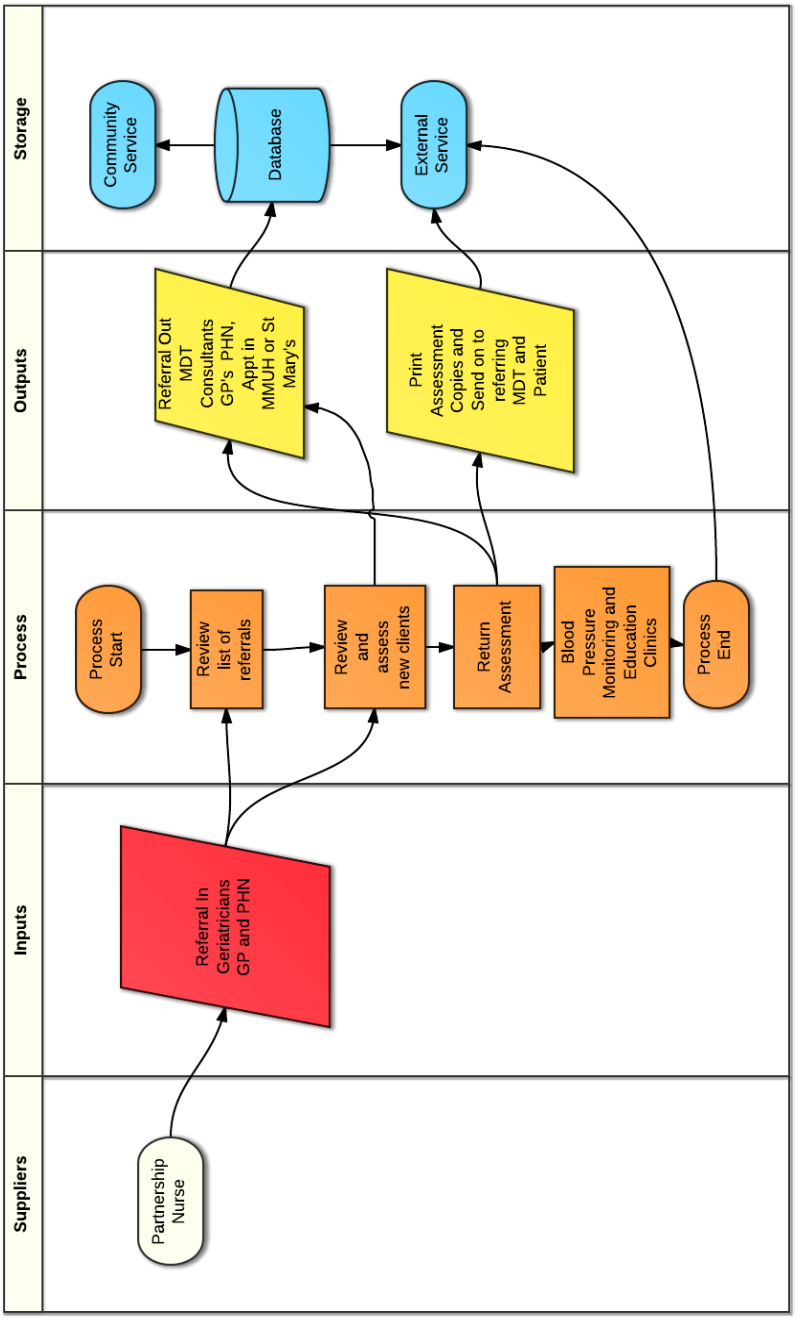


Figure 4.5 Partnership Nurse

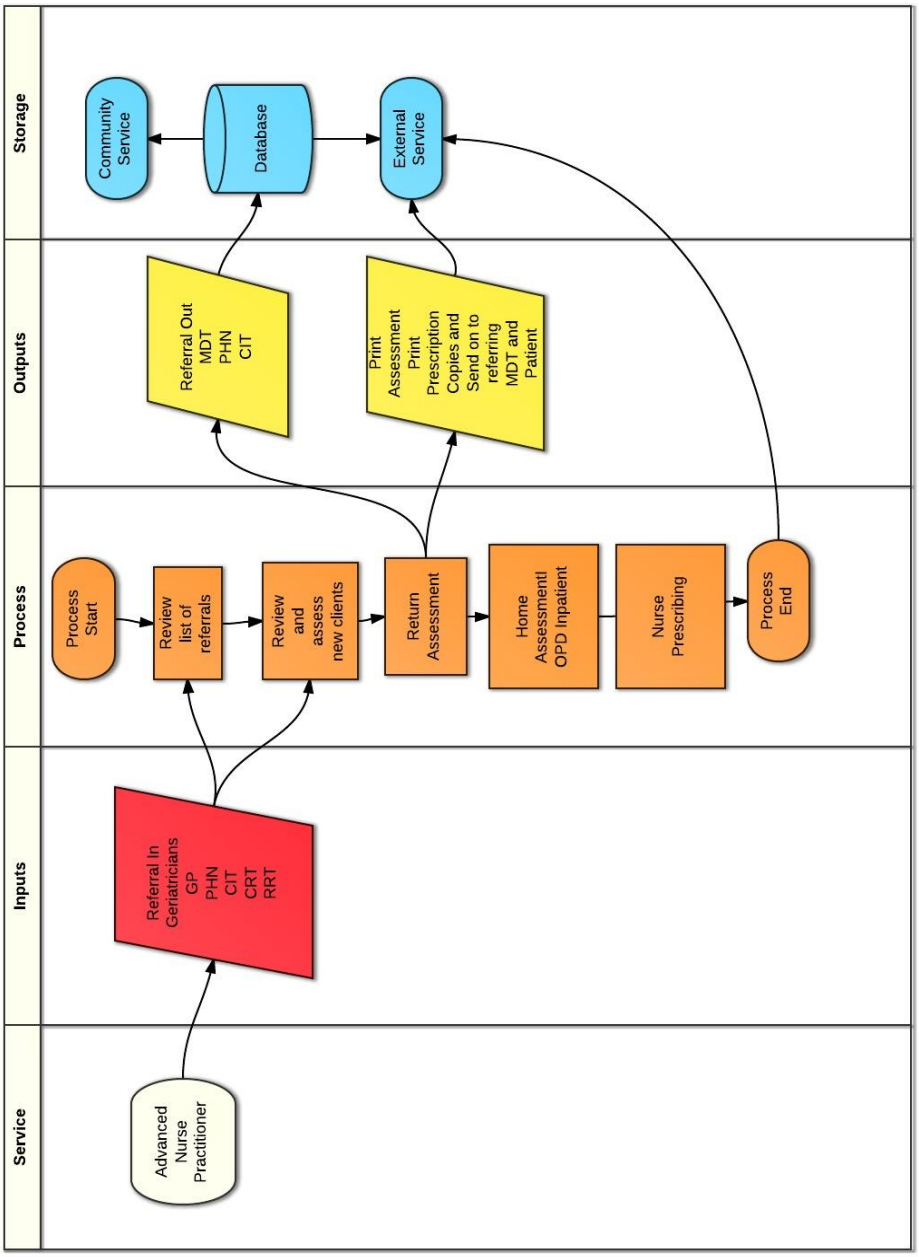


Figure 4.6 Advanced Nurse Practitioner

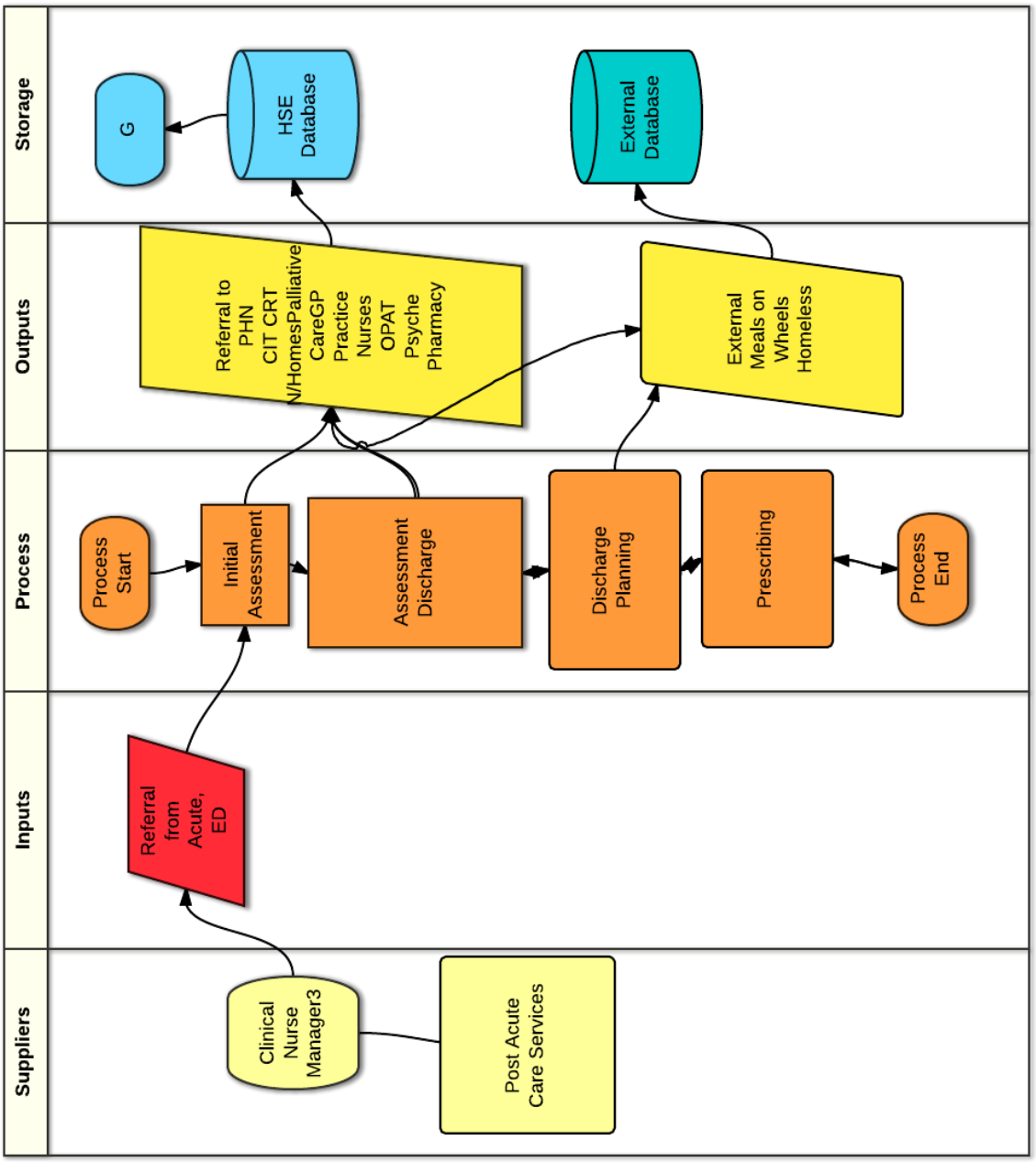


Figure 4.7 Clinical Nurse Manager III

Conclusion

This short Use Case Report describes the complexity of inter-agency communication that nurses engage with in addressing health and social care issues of older adults in one particular region of Dublin North. It highlights the dual role that nursing engages with both independently and as part of a co-ordinated multi-disciplinary team. Future design and technology requirement specifications will be required to be cognisant of the dual role that nursing plays in health service provision. Determining what is core and what is unique from the wide range of services and experiences that nursing provides is critical for successful procurement and deployment of eHealth systems. Failing to engage on the design brief for future Electronic Health Records may result in poorly designed software which fails to deliver not only appropriate evidence on critical health issues , wellness and individual health and social care , but also to safeguard the often subtle but critical role that nursing provides in Ireland. It is at the edges (of health care provision) that interesting things happen.

References

1. Aiken L, Scott PA Nurse Staffing and Education and Hospital Mortality in 9 European Countries. A Retrospective Observational Study. EU Programme RN4Cast *The Lancet* 2014

2. McGillis Hall L, Wodchis WP , Ma X, Johnson S Changes in patient health outcomes from admission to discharge in acute care *Journal of Nursing Care Quality* 2012, 28(1):8-16

3. Woodchis WP , Ma ,X, Simeonvov, D, Stamplecoski, M. White P , Purdy,I , Jeffs, L, Iron K, De Nobrrega, P. McGillis Hall , L Health Outcomes for Better Information and Care (HOBIC) : Actue Care in Ontario 2012 ICES Report Online Resource Available from www.ices.on.ca/Publications/Atlases-and-Reports/2013/HOBIC-2012 Accessed 1st February 2014

4. McDonald A , Population Health Information Tool HSE Report Online Resource Available from http://www.lenus.ie/hse/handle/10147/213010 Accessed 12th April 2014

5. Population Health Interest Group: McDonald A. Duignan C. Healy M.Irving A. Martiensson P. Molloy B. McNicholas E. Frazer K. Public Health Nursing in Ireland: demonstrating interventions from practice-validating public health nursing actions using the American Intervention Wheel Online Resource Available from http://www.lenus.ie/hse/handle/10147/315652 Accessed April 17th 2014

6. Almost J, Doran D, McGillis Hall L, 2003. *Nursing Sensitive Outcomes State of the Science.* Toronto Canada: Jones and Barlett.

7. McDonald A Institute of Community Health Nursing DigiPHIT Report Online Resource Available from http://www.ichn.ie/ichn-resources Accessed April 17th 2014

8. Hovenga E J S, Kidd M, Garde S (2nd Ed) 2010 *Health Informatics: An overview* IOS Press Amsterdam

9. Department of Health and Children eHealth Strategy for Ireland Online Resource Available from www.dohc.ie/publications/eHealth_Strategy_2013.html Accessed 2nd April 2014

10. HSE ICT Strategic Development Group HSE ICT Strategy 2014 (Draft Copy Review)

11. Greenhalgh T, Russell, J. Ashcroft RE, Parsons W Why National eHealth Programs Need Dead Philosophers: Wittgensteinian Reflections on Policymakers' Reluctance to Learn *The Millbank Quarterly* Vol 89 No 4 2011 pp 533-563

12. McLoughlin A, Role of Technology in the Reform of Health Services Back to the Future Nursing and Midwifery Board of Ireland National Conference 15th October 2013 Dublin Online Resource Available from http://www.nursingboard.ie/en/news_conferences.aspx Accessed 14th April 2014

13. Foster , J. Nursing Informatics and eHealth in Australia *In An Introdution to Nursing Informatics* 4th Edition 2014 Springer

14. Proctor, P Nursing Education In *An Introduction to Nursing Informatics* 4th Edtion 2014 Springer

15. Hussey P and Kennedy M eHealth a Global Priority In *An Introduction to* Nursing Informatics 4th Edition 2014 Springer

16. Blumenthal D , Tavenner M The "Meaningful Use" Regulation for Electronic Health Records *New England Journal of Medicine* 363,6,501-4 2010

17. Kossman, SP 2006 Perceptions of Impact of Electronic Health Records on Nurses Work *Stud Health Technology Information* 2006 122:337-341

18. McGinn C.A, Grenier,S. Duplantie, J, Shaw, N, Sicotte, C, Mathieu, L, Leduce, Y, Legare, F. Gagnon MP Comparison of User Groups' Perspectives of Barriers and Facilitators to Implementing Electronic Health Records : A Systematic Review *BMC Medicine* 2011, 9-46 Online Resource Available from http://www.biomedcentral.com/1741-7015/9/46 Accessed 2nd April 2014

19. Greenhalgh,T , Potts, HWW, Wong,G. Bark, P. Swingglehurst, D Tensions and Paradoxes in Electronic Patient Record Research : A Systematic Literature Review Using the Meta – narrative method *Millbank Quarterly* 2009, 87(4): 729-788

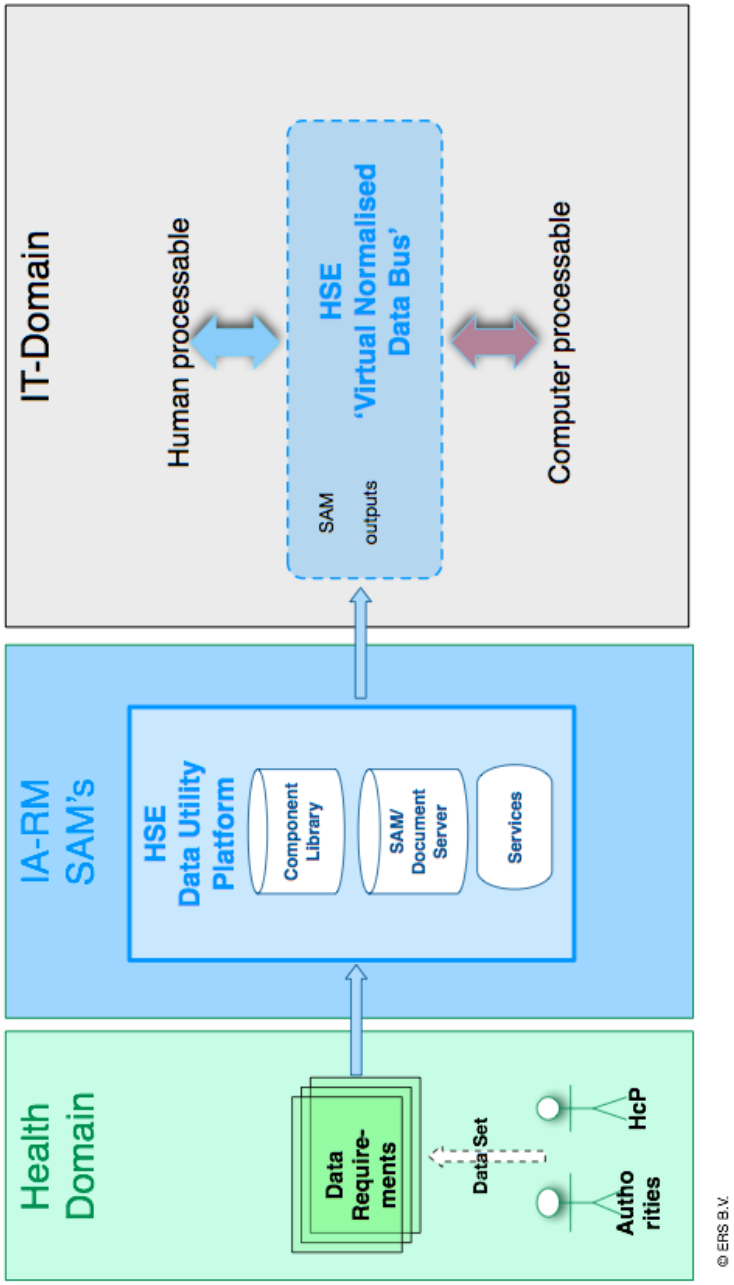
20. Health Informatics Society of Ireland Nursing and Midwifery Group Online Resource Available from http://www.hisinm.ie Accessed 8th April 2014

21. Specialist Geriatric Services Model of Care Part 1Acute Service Provision Version 1.0 HSE, RCPI, 2012 National Clinical Programme for Older People (NCPOP

22. Doran D , Haynes B.R, Estabrooks C.A, Kushniruk A ,Dubrowski A, Bajnok I, Hall L MG, Mingyang L, Carryer J, Jedras D, Bai YQC The Role of organisational context and individual characteristics in explaining variation in use of information technologies in evidence based practice Implementation Science 2012 :7

23. Harris Bradshaw and Koch The prescription for misunderstanding; opportunities for misinterpretation along the information flow from physician to patient *Journal of Education and Practice* 2014

Appendix 1 Subject Area Models and Integrated Services Framework



Source Mr Peter Connolly Integrated Services Framework Project Manager HSE