LENGTH OF STAY REPORTING IN FORENSIC SECURE CARE CAN BE AUGMENTED BY AN OVERARCHING FRAMEWORK TO MAP PATIENT JOURNEY IN MENTALLY DISORDERED OFFENDER PATHWAY FOR OPTIMAL RESULTS

Surya Prasad N[1] & Sarangapani Nivarthi[2]

[1]Research Scholar, CCT Forensic Psychiatry, PG Dip Health Management, United Kingdom

[2]Assistant Professor, CMS Business School, Jain University, Bengaluru, India

ABSTRACT

Single episode admissions in Forensic Psychiatric care have enquired into 'Length of Stay' in Hospitals, with reporting variations. Transitions between Community and Hospital settings and Continuity of Care have been identified as bottle necks in secure care provision. Effectiveness of interventions, providing containment and a safe therapeutic environment, and its impact on reducing risk and recidivism has been the goals of secure services delivery.

We propose that Criminal Justice system, Community Offender Monitoring, Mental Health Services, Forensic Secure Care, and Combined Primary Care, Social Work &Public Health have an interdependent interaction for optimising care delivery, reducing costs, improving outcomes and improve Mentally Disordered Offender engagement & compliance.

Our literature review identified themes for Length of Stay per episode of admission to Secure Forensic Psychiatry services, themes for Continuity of Care, and we propose frameworks and solutions for optimisation; this may act as pointers for service modelling and further rigorous analysis. We describe these findings in Part I and Part II papers.

KEYWORDS: *Forensic, Length of Stay, LoS, Patient Journey, Mental Illness, Continuity of Care, Improving Outcomes, Reducing Cost, Primary Care, Prevention, Public Health, Social Work, Data Portals, Offender, Service Model, Framework, Transitions, Continuity of Care*

INTRODUCTION

Forensic Psychiatry Secure care is a specialised service delivery model aiming to provide containment within a safe therapeutic environment, deliver effective treatment interventions to treat mental illness, support the Judicial process, manage and reduce risks, and reduce criminal recidivism on discharge from hospital.

Multiple agencies such as Public Health, Social Welfare Services, Health Services, Mental Health Services, Specialist Secure Services, Police, Judicial Services, Probation Services and Prisons are variously modelled in different countries to provide secure care services.

Multiple professional disciplines ranging from various support workers (Judicial, Social, Housing, Healthcare etc), Nurses, Physicians in primary care, secondary & tertiary care, Psychologists, Occupational therapists, Social Workers, Pharmacologists, Speech & Language therapists, Dieticians, Spiritual workers, etc. are part of the secure care service

delivery. Similarly, several personnel from various agencies identified above would have some input along the course of secure care delivery.

This title is written in 2 parts as we examine 'Patient Journey' in Forensic Secure Care, various interventions that are input in the process & their value contribution to defined goals, identify duplicity and suggest options, recognise resources that can be freed for alternate use, delineate missed opportunities and share knowledge gaps known in this area(Howner et al., 2018). In Part I of the paper, we derive 7 themes on Length of Stay (LoS) per admission episode to Forensic Secure Hospital. In Part II of the paper, we will highlight 8 themes on Continuity of Care. In both parts, we endeavour to synthesise a framework that may work as pointers for adoption in different settings, enable comparative reporting, and analysis of data for further research.

BACKGROUND

We recognise that seminal work has been completed on LoS in Forensic Secure Care in the last 5 years and its implications on policy and practise, especially in the EU zone. In our 2-part review; we attempt to simplify findings, extend its scope to Continuity of Care and consider the output from this integration. Studies have so far used 'Length of Stay' in Secure Care hospitals as a proxy for reporting various outcomes of secure care delivery (clinical, recidivism and financial). We have described these findings in 7 categorical themes from our review in Part I of the paper.

Our literature review suggested that there is a growing examination of multiple other potential evaluation frameworks which describe 'Continuity of Care'. We identified 8 categorical themes in this area. We describe this in further detail in Part II of the paper

- Effectiveness of interventions by professional disciplines (Bellamy et al., 2006) (Newman et al., 2020) (Zauszniewski, et al., 2012

- Evaluation of therapeutic relationship and therapeutic environments (Mason, 2002) (Chester et al., 2017) (Morgan et al., 2013)

- Collaborative outcomes achieved by coworking of agencies (O'Hagan & Elliot, 2018)

- Challenges to smooth transitions of care upward/downward or across the services or by Age and Gender

- Continuity of care requirements such as 1^0, 2^0, 3^0 care settings and Public Health, Primary care, Housing and Social Work interfaces(A joint thematic review by HM Inspectorate of Prisons, HM Inspectorate of Probation and Ofsted Resettlement provision for adult offenders: Accommodation and education, training and employment, 2014)

- Challenges to evaluation of Evidence Based Medicine and Practise, more so with heterogeneous reporting based on available systems and service delivery models (Schneider, 2009) (Völlm et al., 2018)

- Intrinsic difficulties in managing long term care (clinical and safety) as in Chronic Disease Conditions, where Recovery model is defined disparately (from wellness – absence of disease – palliative care focused on Quality of Life) (Clarke et al., 2015)

- Empowering Patient and Carer through autonomy and self-efficacy in managing their conditions and risks to the public (Gatherer et al. 2020) (Independent Forensic Mental Health Review: interim report - gov.scot, 2020)

METHODS

This Literature Review has attempted to gather a representative broad view of developments in Mental Illness, Recovery, Risk Reduction, LoS and Recidivism (prioritised references have often included comparative reporting from developed world countries where specialised services for Forensic Psychiatry and continuity of care exists) in order to find significant links across Services and Disciplines, and prioritised evidence in the below order (Figure 1) and categories (Figure 2)
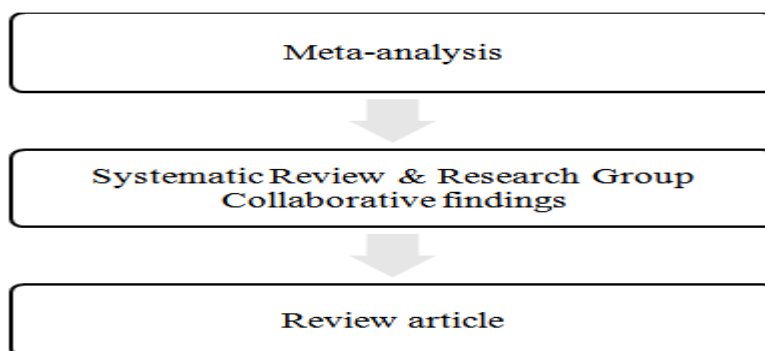

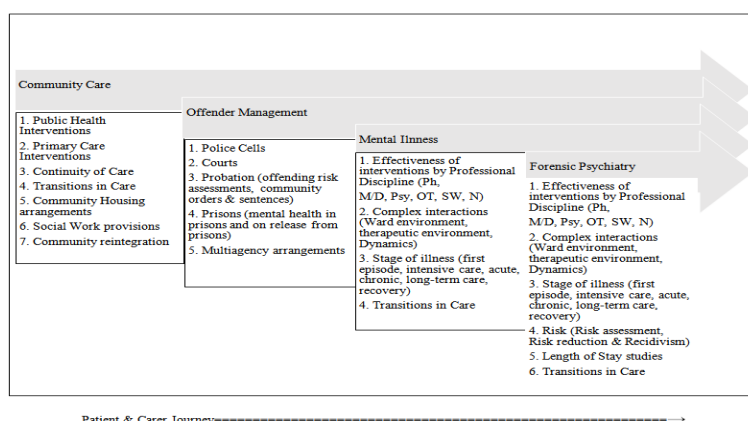**Figure 1: Order of Priority Used in Literature Review.**

Figure 2: Categories of Search Areas Used in Literature Review.
Ph – Pharmacology, M / D – Medical / Diagnostic, Psy – Psychology,
OT – Occupational Therapy, SW – Social Work, N – Nursing.

LITERATURE REVIEW

Length of Stay (LoS per Episode of Admission to Forensic Psychiatric Hospital)

Forensic secure care models vary across countries (Ex: USA – Prison health care, UK – Community Forensic, Low/Medium/High, Netherlands – TBS system with emphasis on therapeutic communities etc). Multiple reviews of security have often indicated that patients could be managed at lower levels of security (Ex: Tilt Review, Reed Review - UK).

LoS is differently calculated by admission, discharge or census sampling. Most studies don't include consecutive transfers between levels of security and revolving door admissions between generic psychiatry services and secure hospitals in calculating LoS. Most offenders either have a psychiatric history before start of criminal history or develop mental illness in the course of offender management across various community and prison settings. They receive various offender management and psychiatric interventions in this life-time journey that is usually collated retrospectively on admission to a psychiatric rehabilitation ward or secure care hospital (see Figure 3).

Kirchebner et al., 2020have provided a review of findings from other studies examining LoS and observed that different legal requirements affect LoS differently and so does transfers across levels of security. There are also significant structural and geographic variations affecting LoS. They used a Machine Learning model as most studies examining LoS had significant confounders and this method had the advantage of analysing non-linear variables as the study on LoS by Vollm et al., 2017 had revealed. They observed in the retrospective registry study of a Swiss Forensic sample that seriousness of the Index offence and extent of victim injuries consistently affected LoS findings. Huband et al., 2018 highlight in their rapid review that up to 90 factors could potentially impact LoS findings. They used a weighted scoring method to narrow the field and concurred with Kirchebner et al., 2020, in addition to finding that offences that were sexually motivated had longer LoS. Some studies have separated patient characteristics of Long-Stay from predictors of Long-Stay. Further detailed analysis in the EU is given by Vollm et al., 2017 and factors uncovered in several studies are outlined in Table 1.

Table 1 shows A Trans-European survey of field experts suggested that most felt the need for long-stay care for a fraction of secure care population [estimated between 2.6 % – 66 % of forensic care patients (Huband et al., 2018)] and emphasised improving QoL and promoting wellbeing as important aspects of this service. This was from the political necessity of containing dangerous MDO's (Sampson et al., 2016). However, there is no global consensus on the duration of what constitutes Long-term or Long-stay care [ranges from > 2 years to rest of the patient's life (Huband et al., 2018)].

Methods described to reduce LoS in secure care hospitals compiled from Huband et al., 2018, Nagtegaal et al., 2011, Glorney et al., 2010, and our working experience includes

- Strategically planned and sequenced care from admission to discharge [although this was suggested by Glower et al., 2011 for High Secure hospitals, we believe that this can be achieved in all levels of security and coordinated across levels of security and further into the community based on Continuity of Care and LoS factors summarised in this paper. Further discussion on this aspect in Paper II on the topic] (see Figure 4).

- Willingness to grant conditional discharge

- Extend the maximum duration legally allowed for conditional discharge

- Improve supervision & aftercare programmes on leaving secure hospital settings

- Empower & support general psychiatric services to receive ex-forensic patients earlier in care

- Design, staffing provision and activities for longer stay patients have a significant impact on social environment reducing adverse behaviours and thus facilitating discharge

- Review provisions for various types of community accommodation depending on health, mental health, functioning ability, risk management and support or nursing needs which would lead to successful conditional discharge arrangements.
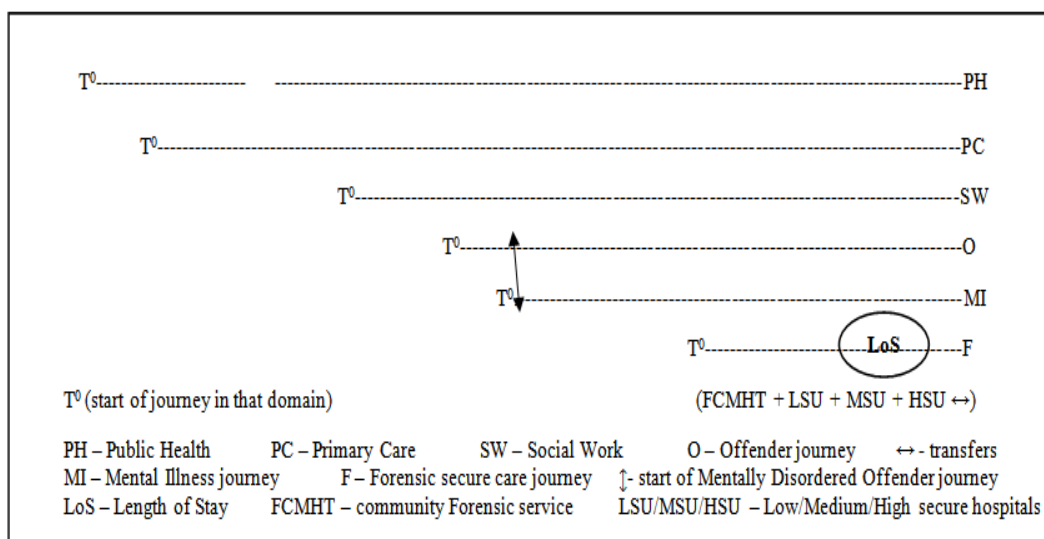
Figure 3: Patient Journey in Multiple Pathways and Relative Duration of LoS.

Table 1: Factors Prolonging, Reducing or Having Ambivalent Reporting Outcomes on LoS [Compiled from Kirchebner et al., 2020, Huband et al., 2018, Eckert et al., 2017, Vollm et al., 2017, Sedgwick et al., 2016, Andreasson et al., 2014]

Theme Number	Factors	Prolongs LoS	Reduces LoS	Ambivalent Findings
1	Socio-demographic	Male, white, higher age at admission, unmarried, low socio-economic status, low educational status, low IQ, unemployment before admission, living with parents before admission, emotional neglect during childhood, issues related to adjustment/socialisation/partnership	Having children, family or social links, having a close relationship	Religious & ethnic minorities & immigrants
2	Criminal history	Yes Younger age at first offence	No Older	
3	Psychiatric history	Younger first psychiatric contact Longer psychiatric history	Older Shorter	Prior forensic hospital admission
4	Index offence	Serious offence Younger age at index offence Offended multiple victims Victim known to patient	Less serious Older Single victim Victim is a stranger	
5	Clinical variables	Lower Global Assessment of Functioning Lower PANSS Lacking insight Severity of illness Comorbidity - LD, substance abuse, medical illness, cognitive or organic deficit, personality disorder, anxiety disorder Treatment resistant psychosis Poor cognitive control & social cognition	Higher GAF Higher PANSS Having insight Affective symptoms	Psychotic symptoms

Table 1: Contd.,

|				
6	Treatment variables	Adverse behaviours Aggression Seclusion Absconding Non-compliance Conditional release failure Assistance with self-care and living environment	Good compliance Good engagement Good therapeutic progress Work in hospital Reside in open wards More ground leaves Community involvement Education/vocation activities Express remorse Positive references	
7	Risk variables	Higher HCR-20 risk item score Higher security needs score		
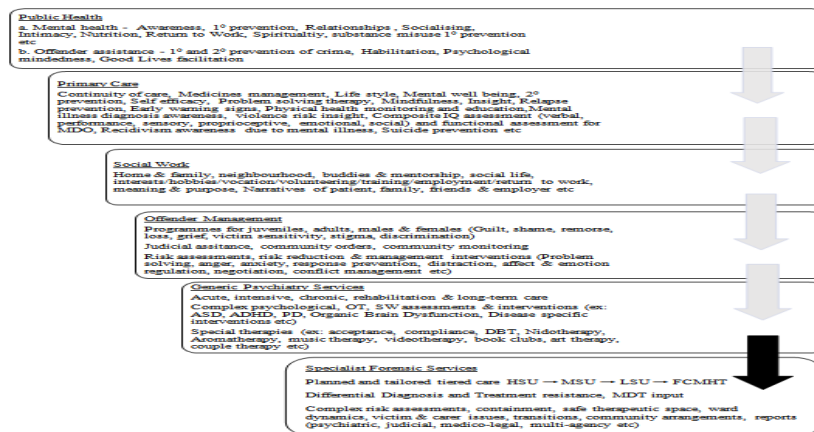
Figure 4: An Example Differentiation of Interventions by Providers to Reduce Duplicity, Improve Access to Care, Establish Professional Boundaries and Generate Basic Data Sets That Can Communicate Across Services and Providers: Ultimately Improving All Outcomes of Throughput.

RESULTS

In our Part I review, studies point to variations in analysis and reporting, different systems of forensic care across the world (hence making standardised comparisons statistically not significant); however, thematic observations can be Made, the most important factors impacting Length of Stay are related to the Index Offence - seriousness of the Index Offence (homicide, multiple victims, and severe injuries to the victim) and sexual nature of the offence. We have however reviewed various studies and on enlisting their findings, we note that they could be viewed in 7 main themes – 1. Sociodemographic, 2. Criminal History, 3. Psychiatric History, 4. Index Offence details, 5. Clinical, 6. Treatment, and 7. Risk variables. We suggest that enumerating the first 4 factors on initial assessment (as they are historic information) and supplementing it with further factors in the course of admission (the next 3), will give a beginning and a later summative indication of the potential for extended Length of Stay in an episode of admission to Secure Care Hospital. This will allow planning in bed management and develop alternate options for the potential Long-Stay patient.

We have also provided a thematic appreciation of Paper II in Background section of this paper: there are 8 emerging themes for 'Continuity of Care' from recent studies. We have recognised the interdependence of services for throughput in secure care delivery (see Figure 4). This would imply that effective interventions (in Paper II), carefully graded, planned, tiered (1^0, 2^0, 3^0), logged on data portals that would summarise interventions in the pathway, allow this information to be exchanged between providers (with Confidentiality considerations), would improve throughput or provide realistic indications of what effective interventions can be delivered with known research and service models. We have attempted to show schematically what the interaction in such a case would be - Figure 5.

Figure 5 shows An UK initiative of Integrated Offender Management (IOM) was piloted in Nottinghamshire in 2009 and preliminary findings suggests co-locating all services, and using an established selection and de-selection process, as key to extracting best results from the model. However, re-offending rates during and after the programme are reported as unsatisfactory (O'Hagan & Elliot, 2018). We will hence evaluate emerging evidence in our Part II paper on 'Continuity of Care' themes that will further inform advances in throughput of Forensic Secure Care Services.
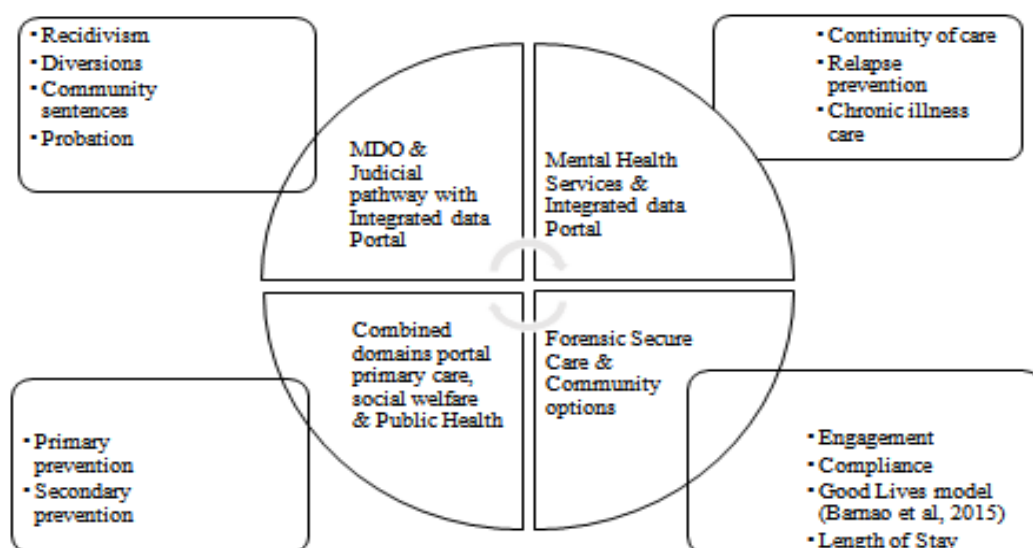

Figure 5. Interactive Domains Portal for exchange of Basic Data.
MDO – Mentally Disordered Offender

CONCLUSIONS

Forensic Psychiatry has various systems globally. Length of Stay is a small window in the Secure Care Hospital transition and is diversely reported by admission, discharge or census data and is often for an episode of admission to a specific level of security (where levels of security exist). Repeat admissions and transfers across levels of security or Generic psychiatry step down care in hospital is not accounted. However, this is a benchmark for international comparisons currently for reporting various outcomes.

Our review has generated 7 themes predicting 'Length of Stay' which can inform care planning prospectively. We have endeavoured to show that throughput is affected across providers in an interdependent manner (slack at one point can lead to congestion at another), and hence advocate for an evidence-based provision of tiered service across providers. We recognise limitations to Evidence based practise and the value of holistic and patient centred care for 'Continuity of Care' in our Part II paper.

ACKNOWLEDGEMENTS

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