

# ORGANIZATION AND QUALITY OF HEALTH CARE

[Abstract:0153]

## THE IMPLEMENTATION OF POINT-OF-CARE ULTRASOUND CURRICULUM FOR INTERNAL MEDICINE RESIDENTS IN FRANCE? THE FIRST NATIONAL SURVEY

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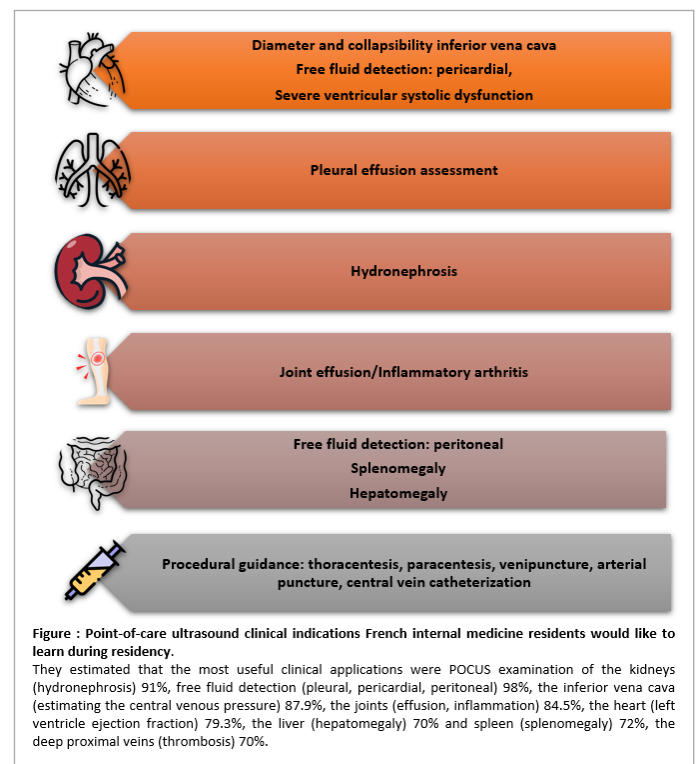
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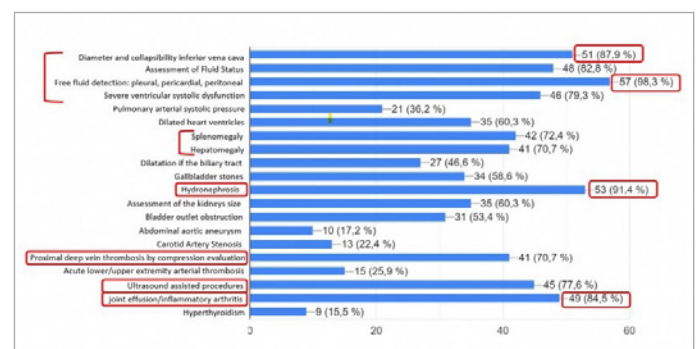
Evidence for point-of-care ultrasound (POCUS) as a performant tool for hospital physicians to guide bedside diagnoses, procedures and therapeutic decisions are multiplying. Despite the increasing use of POCUS in daily clinical practice, no standardized ultrasound training programs exist for internal medicine residents in France. We have undertaken the first national survey to investigate the application of POCUS in daily practice in internal medicine in France and the needs of residents for an ultrasound curriculum. The survey, consisting of 23 questions, web-based, was completed over a period of three months in 2023. Of the 462 invited residents, 63 (13%) completed the survey from 29 different hospitals in France. The majority of responding residents (94%) considered POCUS as an indispensable tool in internal medicine. They estimated that the most useful clinical applications were the diameter/collapsibility of the inferior vena cava, hydronephrosis, severe left ventricle ejection fraction, free fluid detection (pleural, pericardial, peritoneal), hepatosplenomegaly, and effusion, inflammation of the joints. Nevertheless, 94% of the residents reported not having a specific training program in ultrasound. Almost all residents (98%) wish to have a national internal medicine ultrasound curriculum. The main limitations noticed to perform POCUS is the lack of ultrasound equipment in the departments, and the lack of experts for ultrasound bedside teaching. This study highlights the wish to implement a national structured POCUS curriculum for internal medicine residents in France as it already exists in European countries or the USA. The

future French Internal Medicine residents may benefit from this new program.

**Keywords:** internal medicine, point-of-care ultrasound, training, ultrasound, curriculum



**Figure 1.** Point-of-care ultrasound clinical indications French internal medicine residents would like to learn during residency.



[Abstract:0193]

## AN AUDIT OF ELECTIVE GASTROSTOMY INSERTIONS IN PATIENTS WITH MOTOR NEURON DISEASE

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**Background:** Motor neuron diseases (MND) is characterized pathologically, by the death of motor neuron cells. Many patients lose their bulbar function and eventually require nutritional supplementation via gastrostomy. Our hospital's key performance indicator (KPI) target gastrostomy insertions within 4 weeks following identification of indication.

**Aim:** To audit the length of time surrounding the process of admission for elective gastrostomy insertions in patients with MND.

**Methods:** Data regarding admissions of all MND patients was obtained from the hospital electronic system prospectively between years 2022 and 2023. Those admitted electively for gastrostomy workup/insertion were included in this study. Data was input into a Microsoft Excel spreadsheet and analysed using descriptive statistics.

**Results:** Of 64 patients with MND admitted in 2022 and 2023, 50% (n=32) were admitted electively from OPD or home for gastrostomy insertion. The average waiting time (weeks) in 2022 and 2023 was 8.5 and 12.2 respectively ( $p=1.30271E-05$  and  $p=0.03673$ ). The mean length of stay in hospital from date of admission (days) was 10.3 in 2022 and 14.2 in 2023. The average waiting time for gastrostomy insertion in patients that were deemed suitable (once admitted) was 5.9 days in 2022 and 8.9 days in 2023.

**Discussion:** Due to hospital capacity issues, there is a statistically significant delay in our ability to support these MND patients in a timely fashion; notably worse in 2023 compared with 2022. Going forward, a defined pathway should be established, for example; allocating a bed and a slot for gastrostomy insertions in MND patients.

**Keywords:** motor neurone diseases, elective gastrostomy, audit

[Abstract:0194]

## IMPROVING PATIENT FLOW LOGISTIC AND CLINICAL OUTCOMES: THE IMPACT OF AN INTERNISTS-LED MEDICAL ADMISSION UNIT

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**Purpose:** The burden of acute complex patients, increasingly older and poli-pathological, accessing to Emergency Departments (ED) was leading up to prolonged ED boarding, hospital overcrowding and the outlying phenomenon. These issues highlight the need for new adequate patients' management strategies.

The aim of this study is to analyse the effects on patient flow logistic and clinical outcomes of a buffer high-technology and time-limited Medical Admission Unit (MAU) run by internists.

**Methods:** All consecutive patients admitted to MAU from Dec-2017 to Nov-2019 were included in the study. The admissions' number from ED, the overall in-hospital mortality rate in medical department, the total days of hospitalization and the overall outliers bed days were compared to those from the previous two years.

**Findings:** 2162 patients were admitted in MAU, 2085 (95.6%) from ED, 476 (22.0%) were directly discharged, 88 (4.1%) died and 1598 (73.9%) were transferred to other wards, with a median time of stay of 64.5 [0.2-344.2] hours. Comparing the 24 month before, despite the increase in admissions/year from ED in medical department ( $3842 \pm 106$  in Dec2015-Nov2017 vs  $4062 \pm 100$  in Dec2017-Nov2019,  $p < 0.001$ ), the number of the outlier bed days was reduced, especially in surgical department ( $11.46 \pm 6.25\%$  in Dec2015-Nov2017 vs  $6.39 \pm 3.08\%$  in Dec2017-Nov2019,  $p = 0.001$ ), and the mortality in medical area had dropped from  $8.74 \pm 0.37\%$  to  $7.29 \pm 0.57\%$ ,  $p < 0.001$ .

**Conclusions:** Over two years, a patient-centred and problem-oriented approach in a medical admission buffer unit has ensured a constant flow of acute patients, reducing the outlying phenomenon and the in-hospital mortality, with positive effects on clinical risk and quality of care.

**Keywords:** medical admission unit, patient flow logistic, in-hospital mortality

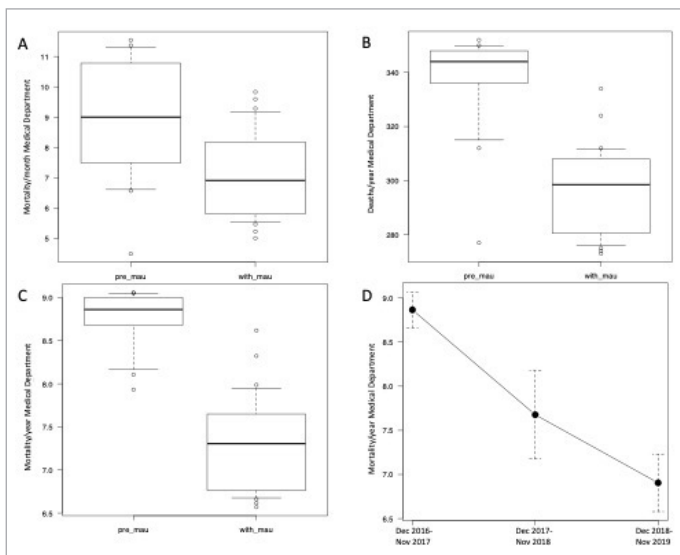


Figure 1. Box and whiskers of mortality/month (A), deaths/year (B) and mortality/year (C) in medical department and plot of means of mortality/year (D) before and after starting MAU activity.

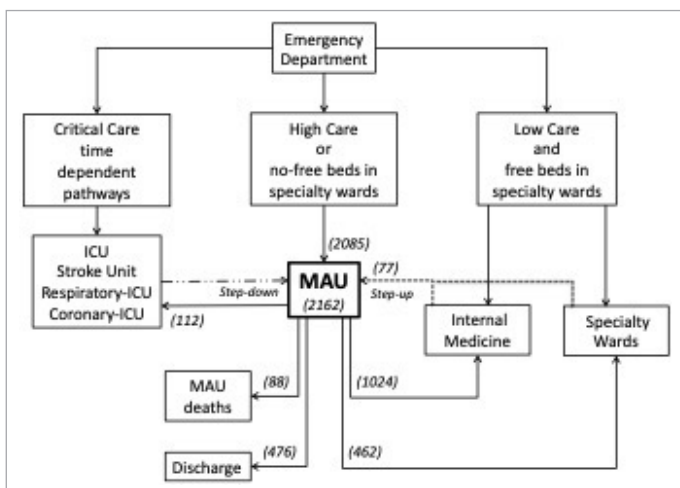


Figure 2. MAU inflow and outflow.

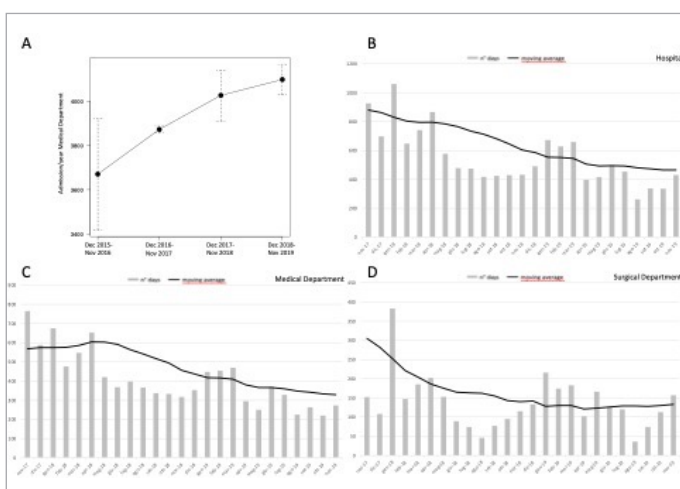


Figure 3. Plot of means throughout four years of admissions from ED in medical department (A). Outlier bed days and moving average/12 months in entire hospital (B), medical (C) and surgical department (D) from starting MAU activity [Dec 2017-Nov 2019].

[Abstract:0393]

## FOSTERING THE INTERSECTION BETWEEN PRIMARY CARE AND HOSPITAL WITH THE INTEGRATED CARE SYSTEM: THE PRIME (PRIMARY CARE-HOSPITAL EMBEDDING) PROJECT

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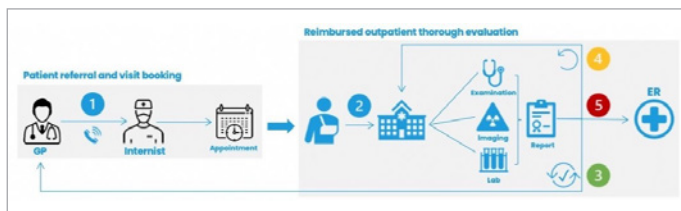
**Introduction:** The integrated care system, proposed by the WHO and the OECD, is seen as a solution to the current inefficiencies in the healthcare system, which is largely hospital-centric and struggles to meet the needs of patients in the face of socio-demographic, economic, and environmental changes. One of its core components is an increased collaboration between primary care and hospital facilities. This work discusses the initial 5-month experience of the integrated care project launched by San Raffaele Scientific Institute (Milan) with the Hospital-Territory Embedding clinic.

**Materials and Methods:** The clinic, managed by internal medicine doctors, provides General Practitioners (GPs) with fast-track access to hospital resources for managing complex patients (Figure 1).

**Results:** In 5 months, the clinic cared for 16 patients, mostly elderly and female, with multiple chronic conditions (Table 1). The main reasons for referral were pneumonia and unexplained fever. The median wait time for a visit was 3 days, and half of the evaluations resulted in a change to the patient's chronic therapy (Table 2). We performed a phone call for follow up after six months to evaluate the appropriateness of our care pathway (Table 3).

**Discussion:** The project has reduced treatment fragmentation, assisted GPs in complex cases, expedited diagnostic-therapeutic processes, and avoided improper use of healthcare resources. The internal medicine specialist, due to his/her multidisciplinary skills and holistic approach, appears to be the most suitable figure to interface between hospital and primary care. To strengthen these conclusions, it will be necessary to increase the number of patients evaluated.

**Keywords:** integrated care, internist, general practitioner, primary care, healthcare crisis



**Figure 1. PRIME Flow-chart.** 1. The GP calls the internists to discuss the case; possibility for evaluation is considered and an appointment is eventually planned. 2. The patient comes at the booked time and with minimal waiting time. He/She is visited and he/she receives the necessary laboratory and radiological evaluations. According to the outcomes of the evaluations: 3. the patient is handed over back to his/her GP or 4. The patient is asked to come again at a follow up visit or sent to the appropriate consultant according to the presentation or 5. the patient is sent to the local ER.

Demography (n=16)			
	count or median	%	IQR
Age	73,5		62-86
Female sex	12	75	
BMI	23,9		20,5-27,1
Obesity	2	14	
Smoking	6	38	
Alcohol	7	44	
Hypertension	11	73	
Diabetes	3	20	
Dyslipidemias	5	36	
COPD	3	20	
CKD	5	33	
CAD	4	27	
Cancer	4	27	
Heart failure	3	20	
≥2 comorbidities	10	63	
≥5 drugs	7	44	

**Table 1. Demographic characteristics of the population included in the study in the first 5 months of activity.**

Visit data (n=16)			
		Count or median	% IQR
Logistics	Time to visit (d)	3	1-6
	Resolved by phone	2	13
	Consultation requested	7	44
Reason	Suspected pneumonia	5	31
	Urinary infection	0	0
	Fever with no potential diagnostic clues	3	19
	COPD exacerbation	1	6
	Heart failure	1	6
	Non traumatic leg pain	0	0
	Hyperglycemia	0	0
	Uncontrolled hypertension	1	6
	Angina	0	0
	Arrhythmia	0	0
	Other	5	31
Outcome	Dismissal	7	44
	Sent to ED	1	6
	Sent to specialist	5	31
	Further Ambulatory visit	3	19
Chronic therapy	No change	8	50
	Current therapy modified	4	25
	New therapy started	3	19
	Both	1	6

**Table 2. Logistic data, reasons for referral, outcomes and therapeutic decisions of the visits performed in the first 5 months of activity.**

6 months Follow-up (n=13)			count	%
	Alive		11	69%
	Need of unexpected new referral to the PRIME clinic		1	6%
	Need of ER evaluation		3	19%
Client Satisfaction Questionnaire 8 (n=10)			mean	min max
			38.7	33 40

**Table 3. Follow up data at 6 months. Client Satisfaction Questionnaire 8 has 8 items with max score of 5: overall max score = 40.**

[Abstract:0435]

## CO-MANAGEMENT HOSPITALIST SERVICES FOR SURGERY: WHERE ARE WE? BETWEEN THE EXPERIENCE AND LITERATURE REVIEW

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**Background:** Increasing of chronic comorbidities have made patients healthcare difficult especially for surgical settings. There are few data of co-management between internists and surgeons in Neuro Surgery (NS) or Emergency Surgery Departments (ESD). We described our experience and revised the literature.

**Methods:** We analysed a series of 524 patients admitted in ESD: during the first 4 months internist assistance has been guaranteed, whereas in following 3 months only surgeons were present. Data about main patients complications, outcome and rate of readmission have been extrapolated. About NS we analysed a series of 229 patients admitted in NS: during the first 2 months only surgeons, whereas in the following 2 months internist assistance has been guaranteed.

**Results:** Our analysis in ESD revealed an increase of main clinical



complication during the period when the internist was not present (OR 2.89, CI 1.68-4.96). The most frequent complications were metabolic disorders and respiratory failure. Mortality and length of hospitalization were similar in two periods, but patients with only surgeon service needed more often transfers to intensive care units (ICU) and had an higher rate of rehospitalization after 30 days (OR 3.00, CI 1.46–6.12)  $p < 0.001$ ). In our experience in NS data about mortality were similar in two periods, with a longer length of stay with the internist but less transfers in ICU ( $p < 0.05$ ).

**Conclusions:** Co-management provides an opportunity to improve care of surgical patients. Few data exist about outcomes compared with traditional medical consultation, especially in NS patients. This model needs to be enhanced for improving results.

**Keywords:** co-management, hospitalist, internist, surgeons

[Abstract:0588]

## CAN WE AVOID HOSPITALISATION OF PATIENTS AT RISK FOR CONTRAST NEPHROTOXICITY? ROLE OF THE HOSPITAL AT HOME PROGRAM

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**Background:** Use of radiocontrast can cause adverse effects such as contrast-induced nephropathy. To avoid this, patients at risk receive an intravenous saline infusion nephroprotection protocol. This used to be performed during a conventional hospital admission. Since December 2022, Hospital at Home (HaH) has become an alternative.

**Outcomes:** Describe the characteristics of patients admitted to HaH for nephroprotection protocol, evaluate its effectiveness in preventing nephrotoxicity and patient safety.

**Methods:** Retrospective study of patients admitted. Baseline characteristics, and patient safety events were analysed. 30-day follow-up was carried out.

**Findings:** Between 20<sup>th</sup> December 2022 and 23<sup>th</sup> November 2023 60 patients were admitted. 75% were men and median age was 76 years. Mean Charlson score was  $9 \pm 3$  SD and Barthel 95.25. 50% were diabetic, 81% had hypertension, 86% were oncologic patients, 31% suffered any kind of immunosuppression and 8% cognitive impairment. Patients came from medical oncology (67%), urology (23%), others (10%).

Prior to admission median creatinine level was  $1.73 \text{ mg/dl} \pm 0.51$  (SD). At least one month after the procedure mean creatinine was  $1.69 \text{ mg/dl} \pm 0.55$  SD ( $p = 0.62$ ). EGFR was  $38.0 \pm 11.6$  SD before and  $38.9 \pm 13.7$  SD after ( $p = 0.48$ ).

Average stay was 2 days. Peripheral venous line was placed in 56 patients, 4 patients had pre-existing central venous access. Only 2 nursing visits were required, no medical visit was required. 60 hospital stays were avoided. No complications occurred. There were no readmissions related.

**Conclusions:** HaH is a alternative to hospitalization for patients requiring nephrotoxicity prophylaxis due to iodinated contrast.

**Keywords:** nephrotoxicity, home, hospitalisation

[Abstract:0626]

## PROGNOSTIC IMPACT OF GEOGRAPHICAL DISPERSION OF PATIENTS WITH RESPECT TO THE RESPONSIBLE PHYSICIAN

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**Purpose:** To assess whether the physical distance between medical doctor and patient admitted to a tertiary hospital internal medicine department affects their prognosis.

**Methods:** This is a retrospective observational study. We compared patients admitted to the same floor as the responsible physician's office versus those who were one or more floors away. The variables studied were analysed with chi-squared test and Fisher's exact test. In addition, logistic regression analysis was performed for the predictive variables age, functional status and distance.

**Findings:** There were 412 admissions (55.1% women) with a mean age of 79.78 years. More visits to the Emergency Department in the first month after hospital discharge were in the one or more floors away group compared than in close by (29.1% vs. 16.6%;  $p = 0.065$ ). Readmission rates, 16.1% of those who were one or more floors away were readmitted in the first month, compared to 12% of those who were nearby, although without statistically significant differences. Heart failure ( $p = 0.032$ ) and acute myocardial infarction ( $p = 0.031$ ) were the parameters most associated with hospital readmission in the first month. Nonetheless, there were 58 deaths, more frequent in the distant group than in the other group (16.1% vs. 8.8%;  $p = 0.036$ ). The patient variables most associated with in-hospital mortality were age and some degree of dependency according to the Barthel scale.

**Conclusions:** Patients admitted to one or more floors away from the responsible physician's office had a worse prognosis in our sample.

**Keywords:** organization, distance, prognosis

	SAME FLOOR	≥ 1 FLOORS AWAY	p value
ADMISSIONS	114 (27.7%)	298 (72.3%)	p < 0.05
GENDER			
Men	51 (44.7%)	123 (41.3%)	p > 0.05
Women	63 (55.3%)	175 (58.7%)	p > 0.05
AGE (mean (SD))	79.62 (14)	79.78 (13.7)	p > 0.05
PROGNOSIS (first month)			
Readmissions	13 (12%)	44 (16.1%)	p > 0.05
Visits to the Emergency Department	19 (16.6%)	87 (29.1%)	p > 0.05
Deaths	10 (8.8%)	48 (16.1%)	p 0.036

Table 1. Patient characteristics of both groups and prognosis.

[Abstract:0628]

## EARLY IN-HOSPITAL PLANNING: A POST-PANDEMIC CONCEPT IN THE DESIGN OF THERAPEUTIC DECISIONS

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**Background/Objective:** Therapeutic planning is particularly important in potentially critical scenarios. Its design requires careful consideration of factors such as patient's age, comorbidities, preferences, and functional status. The well-established concept in this area, limitation of therapeutic effort, has been primarily developed in the ICU, although it's regularly present in Internal Medicine practice. However, planning doesn't always imply the limitation of treatments or procedures. Therefore, we propose a new term: Early In-Hospital Planning (EIP), defined as the compilation of instructions established preferably at the beginning of the admission, to be applied in case of poor outcomes and/or need of guidance to diagnostic or therapeutic decisions. We suggest EIP might have been increased due to the pandemic, by giving the professionals a more prospective view after managing the lack of resources in the most accurate way.

**Methods:** Observational - transversal study analysing Internal Medicine admissions in pre-pandemic period (May 2019) and pandemic period (May 2021) in Hospital de la Merced.

**Findings:** We obtained 328 patients. EIP was registered in 75.9% of the 2019 sample (n 166) and in 89.25% of the 2021 sample (n 216), reporting a statistically significant outcome (p > 0.001). We observed a high incidence of EIP in COVID-19 patients (98.15%). Scales in 2021 were significantly used (95.3%) in comparison to 2019 (2.3%, p<0.001).

**Conclusions:** It seems Internal Medicine doctors have improved their planning skills during hospitalizations due to COVID-19 pandemics, for both COVID-19 affected and non-COVID-19 patients. It also appears to be a more solid, precocious, and methodical practice.

**Keywords:** early in-hospital planning, life-sustaining treatment, limitation of therapeutic effort, internal medicine, pandemics, COVID-19

PIP	AÑO			p*
	2019	2021	TOTAL	
NO	40	23	63	
SI	126	193	319	
TOTAL	166	216	382	<0.001

\*CHI-SQUARED TESTS X2

Figure 1. Statistical significance of EIP in COVID and non-COVID patients.

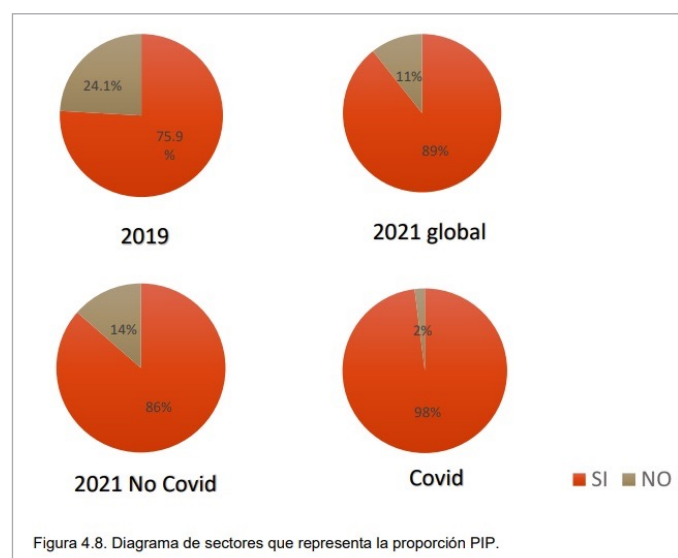


Figure 2. Proportions of EIP (PIP in Spanish) in pre-pandemics and pandemics groups.

[Abstract:0819]

## HOW TO SET UP A SLEEP IMPROVEMENT STUDY IN THE HOSPITAL SETTING: THE WESLEEP STUDY

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**Introduction:** Sleep is disturbed in hospitalized patients. Our aim is to evaluate the effect of a set of non-pharmacological interventions on sleep quality in hospitalized patients.

**Methods:** In this cluster randomized controlled monocenter trial, we randomized six surgical and six medical departments of Amsterdam UMC to either standard care (SC) or WEsleep intervention (WI). Interventions on WI departments include: postponing early morning rounds, addressing sleep during morning ward rounds, educating healthcare professionals and introducing sleep rounds; changing iv fluid bags and distributing earplugs, eye masks, or socks. Implementation methodology:

1. Clinical lessons on the importance of sleep and explanation of interventions
  2. Posters on each department
  3. Implementation of a smart phrase in the EPD to facilitate a discussion on sleep during ward rounds
  4. Identification of 'local champions'
  5. 'Run-in' period
- Important barriers and facilitators noticed during implementation:
- Barriers:
    - o High staff turnover
    - o High work pressure
    - o Difficulty in monitoring behavioural interventions at staff level
    - o Competition with changes on the departments due to the merging of two hospitals
  - Facilitators:
    - o Perceived effectiveness
    - o Local champions
    - o Continuous evaluation of interventions
    - o Interventions on multiple levels

Outcome measures:

Sleep quality measured by the Richards-Campbell sleep questionnaire, sleep quantity measured by the consensus sleep diary, delirium incidence and use of sleep medication.

**Conclusions:** Patients sleep shorter in the hospital, and the WEsleep study aims to assess the effect of a set of interventions on in-hospital sleep. This abstract describes the study's setup and implementation.

**Keywords:** sleep, hospital, quality of care, improvement, implementation

[Abstract:0864]

## INPATIENT OUTCOMES AMONG COVID-19 INFECTED PATIENTS WITH DEMENTIA AND BEHAVIORAL DISTURBANCES WHEN PHYSICAL RESTRAINTS ARE INTRODUCED

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**Background:** Physical restraint use among patients with dementia with behavioural disturbances and hospitalized for COVID-19 has not been studied on a national level in the United States.

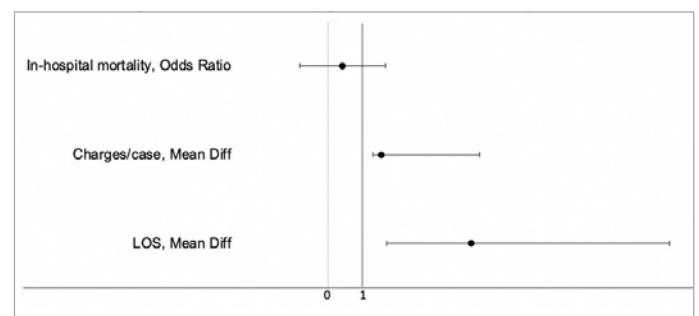
**Methods:** National Inpatient Sample database year 2020 was studied using multivariable regression. We compared physically restrained and unrestrained patients with dementia

and behavioural disturbances who presented with COVID-19. Outcomes were in-hospital mortality, length of stay, and hospital charges.

**Results:** 12,640 patients with dementia and behavioural disturbances were hospitalized with COVID-19 (Table 1). 1,610 (12.7%) were physically restrained, and 11,030 (87.2%) were non-restrained. Physically restrained and non-restrained patients were similar in age (mean age [ $\pm$  standard error]  $80.7 \pm 0.51$  vs.  $80.9 \pm 0.17$ ;  $p=0.75$ ). Physically restrained patients were more often male (53.7% vs 47.6%;  $p < 0.01$ ) and had similar mean comorbidity scores (Elixhauser score means [ $\pm$  standard error]  $4.2 \pm 0.10$  vs.  $4.3 \pm 0.04$ ;  $p=0.28$ ). Physically restrained and non-restrained patients had similar odds of in-hospital mortality (adjusted Odds Ratio=1.0;  $p=0.95$ ). Physically restrained patients had longer hospital stays (adjusted Mean Difference  $aMD=3.4$  days;  $p < 0.01$ ) and higher hospital charges ( $aMD = \$12,653$ ;  $p=0.02$ ) than non-restrained patients (Table 2).

**Conclusions:** Physically restrained patients with dementia and behavioural disturbances hospitalized with COVID-19 in the first year of the pandemic utilized greater hospital resources than non-restrained patients. Hospital-wide efforts need to be implemented to reduce restraint use and hospital length of stay.

**Keywords:** COVID-19, physical restraints, dementia



**Figure 1. Results.**

Scatter plot showing mean differences and odd ratios for in-hospital outcomes. Comparison of restrained versus non-restrained patients with dementia and behavioral disturbances hospitalized for COVID-19 (April 2020 to December 2020).

Table 1. Patient and hospital characteristics: Physically restrained and non-restrained patients with dementia and behavioral disturbances hospitalized for COVID-19				
	Restrained Patients	Non-restrained Patients	p-value*	
Total, n (%)	1,610 (12.7)	11,030 (87.2)		
Age in years, mean ± SE	80.7 ± 0.51	80.9 ± 0.17	0.75	
Male, n (%)	865 (53.7)	5,260 (47.6)	0.04	
Race, n (%)**				
White	1,109 (68.9)	7,894 (71.5)		
Black	252 (15.7)	1,436 (13.0)		
Hispanic	170 (10.5)	1,054 (9.5)		
Asian/Pacific Islander	37 (2.2)	253 (2.3)		
Elixhauser comorbidity score, mean ± SE	4.2 ± 0.10	4.3 ± 0.04	0.28	
Median income (USD), n (%)			0.75	
\$1-\$38,999	428 (26.5)	3,002 (27.2)		
\$39,000-\$47,999	392 (24.3)	2,866 (25.9)		
\$48,000-\$62,999	361 (22.4)	2,542 (23.0)		
\$63,000 or more	428 (26.5)	2,618 (23.7)		
Hospital Bed size, n (%)			<0.01	
Small	285 (17.7)	2,900 (26.2)		
Medium	525 (32.6)	3,245 (29.4)		
Large	800 (49.6)	4,885 (44.2)		
Hospital Region, n (%)			0.81	
Northeast	360 (22.3)	2,420 (21.9)		
Midwest	345 (21.4)	2,535 (22.9)		
South	595 (36.9)	4,190 (37.9)		
West	310 (19.2)	1,885 (17.0)		
Teaching status of hospital, n (%)			0.80	
Non-teaching	356 (22.1)	2,367 (21.4)		
Teaching	1,253 (77.8)	8,662 (78.5)		

\*Analyses used Adjusted Wald tests for categorical and continuous variables.  
\*\*Remaining race categories not shown due to low sample size.

Table 1. Characteristics of study population.

Table 2. Mean differences and odds ratios for in-hospital outcomes: Comparison of restrained versus non-restrained patients with dementia and behavioral disturbances hospitalized for COVID-19 (April 2020 – December 2020)								
Outcomes	Restrained patients N=1,610	Non-restrained patients N=11,030	Univariable Mean Difference	(95% CI)	P-value	Multivariable Mean Difference	(95% CI)	P-value
Mean length of stay, days	13.0	9.5	3.4	(2.0-4.8)	<0.01	3.4	(2.0-4.7)	<0.01
Mean charge per case, US dollars	84,167	67,783	16,384	(5,831-26,937)	<0.01	12,653	(1,944-23,362)	0.02
			Univariable Odds Ratio			Multivariable Odds Ratio		
In-hospital mortality, n (%)	315 (19.5)	1,921 (17.4)	1.1	(0.8-1.5)	0.34	1.0	(1.00-1.03)	0.95

\*Variables adjusted for confounders in multi-variable analysis include age, gender, race, median household income, and comorbidities measured using the Elixhauser comorbidity index), hospital bed size, teaching status, and region.

Table 2. Mean differences and odd ratios for in-hospital outcomes. Comparison of restrained versus non-restrained patients with dementia and behavioural disturbances hospitalized for COVID-19 (April 2020 to December 2020).

[Abstract:0931]

ONE SIZE DOES NOT FIT ALL

Josiana Duarte<sup>1</sup>, Leonor Gama<sup>1</sup>, Ana Silva<sup>1</sup>, Saúl Mendes<sup>2</sup>, José Brasil<sup>2</sup>, Miguel Soares<sup>2</sup>, Susana Pereira<sup>2</sup>, Luís Matos<sup>2</sup>, Filipa Letras<sup>3</sup>, Henrique Rita<sup>1</sup>, Adelaide Belo<sup>1</sup>

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Integrated care is a worldwide trend in health care reforms and new organizational arrangements focusing on more coordinated and integrated forms of care provision. We increasingly realize is real importance in detriment of the fragmented response. We present the case of an 83-year-old patient with multimorbidity who in the first 3 months of 2023 had 7 emergency episodes, underwent 7 chest and 2 abdominal X-rays, 7 blood counts and 7 biochemical tests, medicated with 11 pills. The case management nurse asked for support from the home hospitalization team for the management of this complex

chronic patient. We started this journey with a patient and family who was completely unaccountable for her illness, always anxious to a calmer patient and family, who learned to better manage her diet, for whom we taught how to make a weekly medication box. For one week the patient control her blood pressure profile thanks to the simple fact that we realized that despite denying the consumption of salt in all consultations, she ate her entire diet with bouillon cubes. Daily teachings were also carried out and we went from fasting blood glucose levels of 300 mg/dl to 90-110 mg/dl. There was also coordination with primary health care at discharge. Home Hospitalization Units respond to the complex health needs of populations, humanizing care, increasing the well-being of patients and their families, while also aiming to continue the reform that has been witnessed in the National Health Service, converging towards an integrated and sustainable care plan.

**Keywords:** integrated care, coordinated care, multimorbidity, case management, sustainable care plan

[Abstract:1012]

ANAMNESIS MADE DIAGNOSIS, THE COMPLIANCE TO ANTICOAGULATION THERAPY

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D. A. was admitted to department of internal medicine because of respiratory failure and severe hypokalaemia (1.9 mg/dl) with cardiac rhythm abnormalities which arose after immunotherapy practiced for lung adenocarcinoma. On echocardiographic evaluation done in the emergency department, no abnormalities were evident. On admission to the ward, the patient was confused, needing ventilatory support and with severe generalized oedema. The emogasanalisis showed significant metabolic and respiratory alkalosis and confirmed hypokalaemia. Despite potassium administration, pH abnormalities, mental confusion and persistent drowsiness were observed. To support respiratory mechanics, a thoracentesis was performed without a significant improvement of the breathless. To further investigate the breathlessness causes it was decided to do a chest CT scan which did not describe significant abnormalities and a new echocardiogram which showed a malfunction of the mitralic mechanical valve's disks due to the presence of a blood clot probably made after a suboptimal anticoagulation therapy during the previous hospitalization (anamnesis data). In consideration of inoperability of the patient due to the multiple comorbidity and taking into account the high risk of haemorrhagic complications following any thrombolytic treatment (concomitant thrombocytopenia), it was adopted a conservative approach using enoxaparin and then warfarin (INR target 3.5 to 4). After starting



anticoagulation therapy, it was observed a marked improvement of the congestion and of the state of consciousness.

Once the diagnostic-therapeutic procedure was completed, the patient was discharged in fair clinical condition, with a full recovery of consciousness (GCS 15/15), being able to resume chemotherapy (temporarily suspended due to worsening clinical condition).

**Keywords:** warfarin, mechanic valve, hypokalaemia

[Abstract:1112]

## INTERNAL MEDICINE DEPARTMENT HOSPITALIZATION-RELATED WORKLOAD, OVER A 10-YEAR PERIOD

Georgios Xynos, Eleni Athanasoula, Stavroula Asimakopoulou, Spyridon Kazanas, Aikaterini Kamiliou, Aggelos Koulouris, Areti Perissi, Maria Saridaki, Michael Samarkos

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**Background and Aims:** Aging population and increasing multi-morbidity are expected to place an increasing burden on health systems and especially on Internal Medicine Departments. The aim of the present study is to explore the workload trend in an Internal Medicine Department.

**Methods:** Laikon Hospital is a Tertiary Care General Hospital with 550 beds. The 1<sup>st</sup> Department of Internal Medicine receives unselected admissions from the Emergency Department as well as from specialty clinics (Oncology, Haematology, Infectious Diseases, Hepatology, Endocrinology).

We have extracted anonymous data from the HIS for all patients admitted to one of the Internal Medicine Department from January 1<sup>st</sup>, 2013, to December 31<sup>st</sup>, 2022. We have excluded patients discharged on the same day.

**Results:** During the study period there were 19846 hospitalizations of 14710 unique patients. Median age was 70.0 years (IQR 25 years) with an increasing trend (Kendall's Tau  $r = -0.018$ ,  $p < 0.001$ ). 31.8% of patients overall, had a neoplasm as discharge diagnosis (ICD10 C00-D48). LOS decreased significantly from 9.2 to 7.6 days (Kendall's Tau  $r = -0.054$ ,  $p < 0.001$ ). Cumulative annual patient-days were fluctuating, with an abrupt increase during 2021 and 2022 (Graph).

**Conclusions:** Although the LOS is decreasing over the last 10 years, the annual patient-days increased the last two years. Whether this is a post-pandemic effect, or an actual trend remains to be seen.

**Keywords:** length of stay, hospitalization, benchmarking, tertiary healthcare

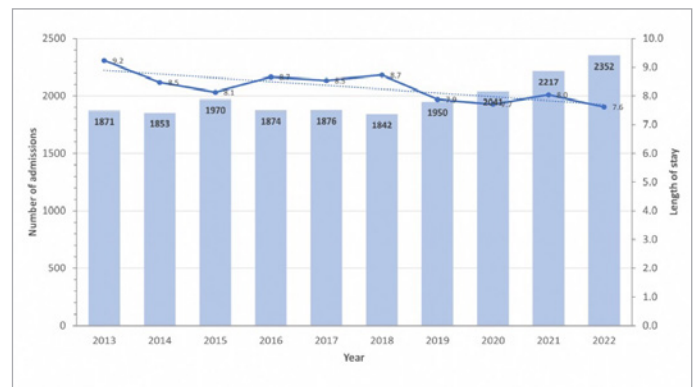


Figure 1. Length of stay and annual number of admissions.

[Abstract:1383]

## GENERAL MEDICINE ACUTE STREAMING TEAM (GMAST): A NEW MODEL OF CARE IN 2023 AT A QUATERNARY HOSPITAL IN MELBOURNE

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**Summary:** Alfred Health is a major health service in Melbourne with one quaternary (The Alfred), 1 community and 1 aged care hospital. General Medicine manages complex patients with 22% of health service admissions. Early identification and transfer of patients to the appropriate care site is required for optimal resource allocation and organisational performance.

**Aim:** To study the efficacy and safety of a new service delivery model providing early assessment for patients presenting to The Alfred.

**Methods:** The General Medicine Acute Streaming Team (GMAST) comprises internal medicine physicians and trainees providing 24-hour rapid assessment of Emergency Department referrals. GMAST aims to determine the appropriate care site, including need for admission or community care through our outreach services. Data collection included activity, patient disposition and safety, assessed by need for transfer back to a higher level of care.

**Results:** During June/July 2023, there were 883 GMAST referrals (14.7/24 hrs) with 329 (37%) not requiring admission to The Alfred. Of the latter, 159 patients (18%) were transferred to our alternate hospitals for ongoing care, 82 patients (9%) were discharged back home (including with hospital supports) and the remaining 88 patients (10%) had their care taken over by an alternate specialty team. The results were sustained in October 2023 (see graph). Safety analysis did not find an increase in transfers back. Average time taken for a disposition plan was 65 minutes.

**Conclusions:** Successful implementation of a new model of care in a quaternary metropolitan Melbourne hospital incorporating early disposition planning and site-specific admission.

**Keywords:** general medicine, admission, disposition

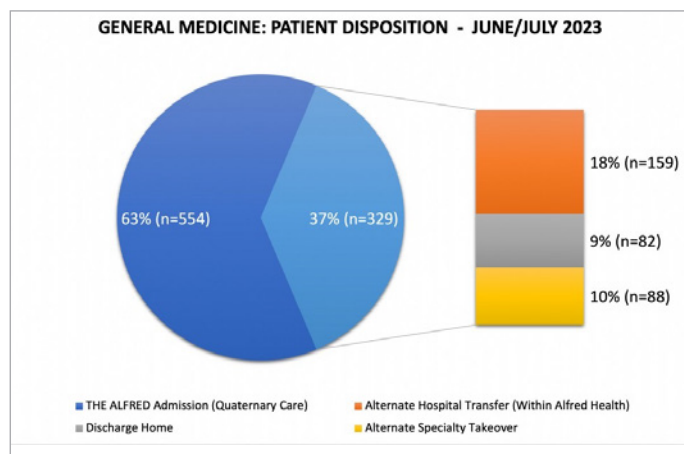


Figure 1. Disposition for all General Medicine referrals from the Emergency Department seen by the General Medicine Acute Streaming Team (GMAST) in June / July 2023 at The Alfred Hospital.

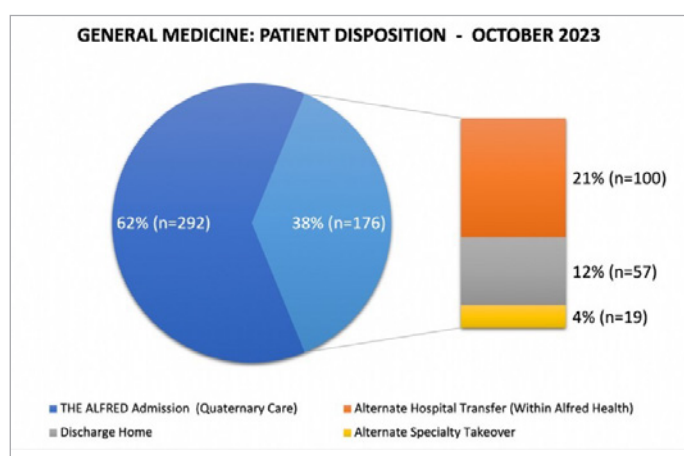


Figure 2. Disposition for all General Medicine referrals from the Emergency Department seen by the General Medicine Acute Streaming Team (GMAST) in October 2023 at The Alfred Hospital.

Alfred Health Outreach Services Utilised by GMAST to Facilitate Early Discharge from the Emergency Department	
Service Name	Description
Hospital in The Home (HITH)	Acute home-based health care providing a range of medical treatments.
Mobile Assessment and Treatment Service (MATS)	Mobile medical and nursing service aimed at providing hospital-type treatment to older people in the community.
Hospital Admission Risk Program (HARP)	Provision of multidisciplinary services, care coordination and case management to patients with complex needs.
Better at Home (BAH)	Geriatrician led home-based multidisciplinary care and rehabilitation program delivered at home.
Outpatient Clinics	Early General Medicine clinic follow up of patients not requiring an acute hospital admission.

Table 1. Alfred Health Outreach Services Utilised by General Medicine Acute Streaming Team (GMAST) to Facilitate Early Discharge from the Emergency Department.

[Abstract:1513]

## ASSESSMENT OF THE SOCIAL SITUATION IN PATIENTS RE-ENTERING AN INTERNAL MEDICINE SERVICE

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**Purpose:** The objective of our study is to assess whether an adequate social situation determines a lower readmission rate in patients on the internal medicine ward. We also want to assess whether patients from nursing homes are readmitted more than those who live at home.

**Methods:** Real life study. We select patients admitted to our internal medicine service on an undetermined day. We considered total number of admissions, number of patients readmitted, origin prior to hospitalization (family home vs nursing home), Gijón index at admission.

**Findings:** On the cut-off day there were a total of 71 patients admitted to the internal medicine service of our hospital. Of these, 41 came from their home and 30 from a nursing home. 27 of these patients (38% of total admissions) were readmitted patients. Of them, 13 lived in a family home and 14 in a nursing home). Upon admission we found that, of the total of 71 patients, 69 had a Gijón scale score of less than 7, which means good social situation. Only one had an intermediate social situation and another had serious social deterioration.

**Conclusions:** 1. The socio-family situation of the patients in the sample was good.

2. We did not find differences in the social situation of readmitted patients.

3. Unexpectedly we did not find differences in the origin of the nursing home or family home in re-admitted patients.

4. An extension of the study is necessary in order to reach conclusions that enable decision-making.

**Keywords:** social situation, Gijón scale, readmission

[Abstract:1518]

## ASSESSMENT OF RE-ENTRY IN PATIENTS IN AN INTERNAL MEDICINE SERVICE OF A SECOND LEVEL HOSPITAL

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**Purpose:** To describe the patients who are readmitted to an internal medicine service and to assess whether it is possible to determine conditions that can be avoided to reduce the readmission rate.

**Methods:** Real life study. We select patients admitted to our internal medicine service on an undetermined day. We consider the total number of admissions, the number of patients who had an early readmissions (in less than 30 days). We determine if the cause of readmission is the same or different. Of the total number of patients who were readmitted, we assessed whether they were followed up in the outpatient clinic or by their family doctor.

**Findings:** On the cut-off day there were a total of 71 patients admitted to the internal medicine service of our hospital. Of them, 19 (26.8% of the total of admission) did so in the last 30 days. According to the cause of readmission, the majority of patients had the same cause (13 in early admission). Regarding follow-up, only 10 of the 19 patients were scheduled for outpatient review after the first admission, which represents only 29% of the total.

**Conclusions:** 1. We found a high rate of early readmission patients. 2. The cause of readmission was mostly the same as that which conditioned the initial admission. 4. The follow-up rate in outpatient clinics was low, 30% of the total. 5. An extension of the study is necessary in order to reach conclusions that enable decision-making.

**Keywords:** readmission, follow up, early

[Abstract:1933]

## TOUCH ME IF YOU CAN: THE IMPACT OF CONTACT ISOLATION STATUS ON HOSPITAL LENGTH OF STAY AND MORTALITY. PRELIMINARY DATA FROM A MULTICENTER STUDY IN LOMBARDY

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**Background:** The diffusion of multi-drug resistant pathogens has demanded interventions to reduce healthcare-associated infections, including contact isolation (CI). Evidence has shown CI may reduce the time spent with patients by healthcare personnel, increasing hospital length of stay (LOS).

**Methods:** We retrospectively analysed data from a prospective multicentre study conducted on patients in 15 Internal Medicine wards in Italy. Charlson Comorbidity Index (CCI), clinical instability (NEWS score), care dependency scale (mICD), social frailty, isolation status, LOS were described. Our primary endpoint was to evaluate a possible independent association between CI and hospital LOS. The possible association between CI and in-hospital

mortality was analysed as the secondary endpoint. Univariate and multivariate logistic regression model were performed.

**Results:** Among the 2294 patients enrolled, 227 (10%) were in CI and 29 of them died. Isolated patients showed higher mICD ( $p < 0.001$ ) and social frailty ( $p < 0.001$ ). Median hospital LOS and in-hospital mortality were significantly higher in CI patients (respectively: 24 vs 15 days,  $p < 0.001$  and 12.8% vs 8.8%,  $p = 0.046$ ). CCI, mICD, social frailty, isolation status were associated with hospital LOS at univariate and multivariate analysis. Their association with in-hospital mortality is seen only at univariate analysis.

**Conclusions:** CI seems independently associated with hospital LOS. Whether the shorter contact of healthcare personnel with isolated patients might contribute to this result can't be inferred from our data. Lack of association between CI and in-hospital mortality seems to conflict with the expected increased risk of adverse events. However, this could be due to low mortality rate in this cohort.

**Keywords:** contact isolation, healthcare management, quality of care

	Total (2294)	No isolation (2067)	Isolation (227)	p-value
Age, median (IQR)	79 (69-85)	79 (69-85)	77 (68-85)	0,234
Sex, male (%)	1237 (54)	1108 (54)	129 (57)	0,355
BMI, median (IQR)	24 (21-27)	24 (21-27)	24 (21-27)	0,722
Charlson Index, median (IQR)	6 (4-8)	6 (4-8)	6 (5-8)	0,028
NEWS score, median (IQR)	2 (0-3)	2 (0-3)	2 (0-4)	0,281
mICD score, median (IQR)	16 (10-21)	16 (10-20)	19 (15-24)	<0,001
Social frailty				<0,001
1, n (%)	745 (32)	713 (35)	32 (14)	
2, n (%)	932 (41)	815 (39)	117 (52)	
3, n (%)	499 (22)	432 (21)	67 (29)	
4, n (%)	118 (5)	107 (5)	11 (5)	
Hospital LOS, median (IQR)	16 (10-25)	15 (10-24)	24 (14-36)	<0,001
Extension of hospital stay for a non-medical reason, n (%)	497 (21,7)	419 (20,3)	78 (34,4)	<0,001
Mortality, n (%)	210 (9,2)	181 (8,8)	29 (12,8)	0,046

Table 1. Population characteristics.

	Univariate analysis		Multivariate analysis	
	OR (IC95%)	p-value	OR (IC95%)	p-value
mICD*				0,001
8-14	reference		reference	
15-23	2,09 (1,75-2,51)	<0,001	1,50 (1,21-1,86)	<0,001
24-32	2,25 (1,73-2,91)	<0,001	1,34 (0,99-1,81)	0,054
Social frailty				<0,001
2	1,87 (1,55-2,28)	<0,001	1,42 (1,13-1,80)	0,003
3	2,97 (2,35-3,76)	<0,001	2,21 (1,68-2,90)	<0,001
4	5,16 (3,35-7,96)	<0,001	4,10 (2,60-6,46)	<0,001
Isolation	2,22 (1,70-2,96)	<0,001	1,91 (1,42-2,56)	<0,001

Table 2. Multivariate logistic regression for hospital LOS.

	Univariate analysis		Multivariate analysis	
	OR (IC95%)	p-value	OR (IC95%)	p-value
Age				0,088
<75 years	reference		reference	
75-85 years	2,60 (1,79-3,78)	<0,001	1,59 (1,04-2,45)	0,034
>85 years	2,93 (1,97-4,36)	<0,001	1,55 (0,98-2,46)	0,062
Charlson > 5	3,27 (2,11-5,05)	<0,001	1,94 (1,18-3,19)	0,010
NEWS				<0,001
0-4	reference		reference	
5-6	3,21 (2,16-4,77)	<0,001	2,17 (1,42-3,32)	<0,001
≥7	12,91 (8,79-18,96)	<0,001	6,19 (4,00-9,57)	<0,001
mICD				<0,001
8-14	reference		reference	
15-23	3,93 (2,52-6,12)	<0,001	2,43 (1,46-4,05)	<0,001
24-32	14,64 (9,23-23,21)	<0,001	4,85 (2,74-8,57)	<0,001
Social frailty				<0,001
2	3,56 (2,21-5,73)	<0,001	1,25 (0,72-2,19)	0,430
3	4,84 (2,94-7,96)	<0,001	1,34 (0,74-2,50)	0,332
4	12,76 (7,11-22,89)	<0,001	3,60 (1,80-7,23)	<0,001
Isolation	1,53 (1,00-2,32)	0,048	1,07 (0,66-1,72)	0,787

Table 3. Multivariate logistic regression for mortality.

[Abstract:1984]

## PATIENTS DIAGNOSED WITH INTRA-ABDOMINAL, ANORECTAL, AND PROSTATIC ABSCESES ADMITTED TO A HOME HOSPITALIZATION UNIT DURING THE YEAR 2022

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**Objectives:** To describe the characteristics of all patients diagnosed with intra-abdominal, anorectal, and prostatic abscesses treated by the Home Hospitalization Unit (HHU) during the year 2022.

**Materials and Methods:** A retrospective descriptive study was conducted on all patients treated by the HHU with a primary diagnosis of intra-abdominal, anorectal and prostatic abscesses. Variables included gender, age, location, microbiological isolation, service of origin and hospital stay.

**Results:** Twelve patients were included, 9 males (75%) and 3 females (25%), with a mean age of 78 years.

At the time of transfer to the HHU the average length of hospital stay was 12.9 days. Six patients (50%) originated from the Digestive Service, followed by General Surgery (3 patients, 25%), Internal Medicine (2 patients, 16.7%), and Infectious Diseases (1 patient, 8.3%). Regarding locations, we recorded 6 cases of sub/hepatic abscesses (50%), 3 perianal (25%), 2 abdominal (16.7%), and 1 prostatic (8.3%). *Escherichia coli* was the most frequently isolated microorganism, present in 33% of liver abscesses, 66% of perianal abscesses, and in the only recorded case of prostatic abscess. In 5 cases (41.7%), no isolation was obtained, while in 2 cases (16.7%), two or more microorganisms were isolated.

**Conclusions:** Intra-abdominal, anorectal, and prostatic abscesses, especially those not drained or with unsatisfactory drainage,



require prolonged antimicrobial treatment.

Home hospitalization is a safe and effective alternative that improves the patient's quality of life, avoids complications associated with prolonged hospitalization, and provides close clinical follow up.

**Keywords:** abscesses, intra-abdominal abscesses, anorectal abscesses, prostatic abscesses, home hospitalization unit

[Abstract:1992]

## PATIENT SAFETY INCIDENTS NOTIFICATION IN INTERNAL MEDICINE: INSIGHTS FROM A SECOND-LEVEL HOSPITAL IN 2023

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Our research comprises a retrospective observational study that focuses on the analysis of patient safety notifications registered by our department in a regional reporting system, available for both professionals and the general public. It encompasses the period from January to November 2023.

During this period, 33 incidents were documented, all reported by healthcare professionals. Of these, 46% resulted in harm, followed by just risks (27%), incidents without harm (18%), and near-incidents (9%). Among patient-impacting incidents (46%), the degree of harm varied, with mild effects in 5 patients, moderate in 8, and severe in 2. Notably, the majority of incidents were associated with the healthcare process (11), followed by the administrative process (6), patient transfer (4), and infections related to care (2). Significantly, 67% of patient-impacting incidents were communicated to patients or families, and most of them were recorded by resident doctors, followed by consultants and nurses.

Contributing factors were investigated, revealing prominent issues related to training or lack of supervision (9.5%), non-adherence to protocols (8.8%), organizational culture (8.1%), and patient complexity (7.5%). Concerning incident management, 58% were resolved without improvement actions, 27% were addressed with improvements, and 15% are under study. Half of the incidents prompted improvement proposals, focusing on the care process, medication, patient transport or transfers, and falls. These findings underscore the need for implementing incident reporting programs, with an emphasis on dissemination among patients, family members, and professionals. The goal is not solely documentation and analysis but also the proposal and implementation of improvement actions.

**Keywords:** patient safety incidents, notification, improvement action

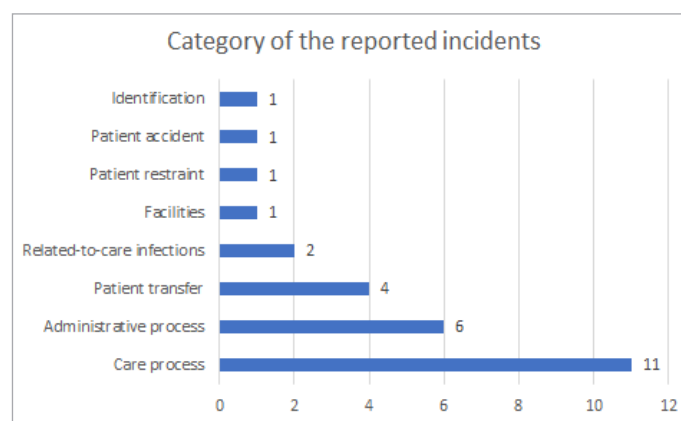


Figure 1. Category of the reported incidents.

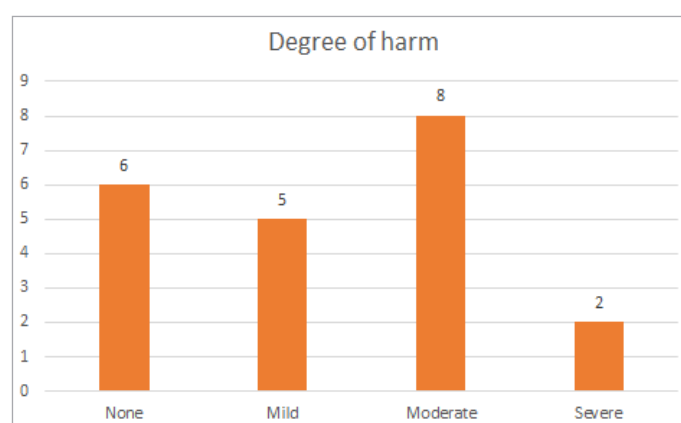


Figure 2. Degree of harm among patient-impacting incidents.

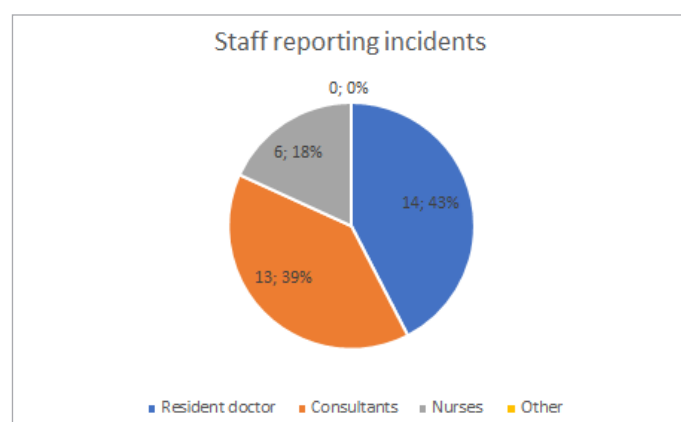


Figure 3. Hospital staff who have reported the incidents.

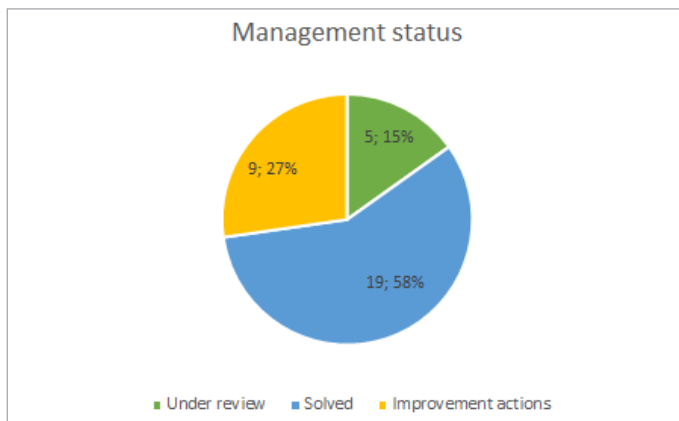


Figure 4. Management status of the recorded incidents.

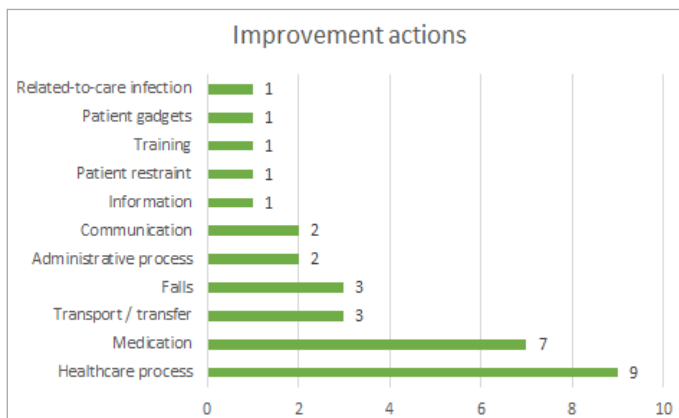


Figure 5. Prompted improvement actions.

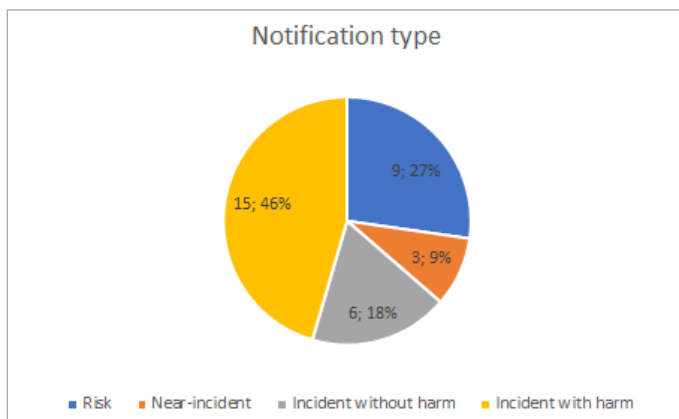


Figure 6. Type of notified incident.

[Abstract:2055]

## EARLY READMISSIONS TO THE INTERNAL MEDICINE UNIT

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**Goals:** Early readmission is defined as that which occurs in the first 30 days after the previous admission. Our objective is to describe the characteristics of patients who are readmitted early to the

Internal Medicine ward of our hospital during the year 2022.

**Materials and Methods:** Descriptive and retrospective study. The medical records of patients who were early readmitted to our unit were reviewed from January 1 to December 31, 2022. The demographic characteristics and comorbidities of the patients were recorded.

**Results:** Of the 1,774 discharges in 2022, 170 patients are included, of which 43.5% are men. They have an average age of  $80.84 \pm 10.43$  years. 61.7% of patients had at least moderate dependence (Barthel). 51 patients (30%) were institutionalized in nursing homes and 46.5% of the patients had some degree of dementia. 23.5% of the patients had dysphagia, of which 60% of them used thickeners at home. 92.9% of patients were polymedicated, 22.4% of patients were colonized by multiresistant germs and 24.1% of patients had pressure ulcers. 43 patients died (25.3%).

**Conclusions:** In our centre there were 170 patients who were readmitted early. These patients were of advanced middle age and 61% of them had at least moderate dependence. Almost half of them had some degree of dementia and almost 100% were polymedicated.

**Keywords:** early readmissions, patients, internal medicine unit

[Abstract:2072]

## USE OF PROTON PUMP INHIBITORS IN INTERNAL MEDICINE INPATIENT - AN EMERGING PROBLEM?

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**Introduction:** Proton-pump inhibitors (PPIs) are commonly used among medical inpatients. Despite treatment recommendations, several studies have shown that PPIs are often excessively and inappropriately used in the inpatient setting. Its use as prophylaxis is controversial and entails costs and iatrogenesis that are not negligible.

**Objective:** To analyse the indication for the use of PPIs in hospitalized patients - prophylactic use based on the application of the Herzig score and therapeutic use based on formal indications.

**Materials and Methods:** Study carried out between October 2022 and March 2023 with consultation of 30 random files per month, with analysis of the prescription on the first day of hospitalization and on the date of discharge.

**Results:** 180 patients with equal gender distribution and a median age of 81 years were included. PPIs were prescribed with prophylactic intent in 82.2% and with therapeutic intent in 17.7%. Of the patients with prophylactic PPIs, 60.5% have no indication for their use according to the score. At the time of discharge, 74 patients were treated with PPIs, 18% of whom had no formal indication for their use.

**Conclusions:** PPIs have generally been considered safe, however,

they are associated with more serious adverse effects, such as increased risk of *Clostridium difficile* infections, community-acquired and hospital-acquired pneumonia, and osteoporotic fracture. Also highlight the risks of PPI therapy, which include drug interactions and drug-nutrient interactions, which can lead to vitamin deficiencies. Its prescription for the hospitalization of non-critical patients lacks well-established indications that the internist must be aware of.

**Keywords:** *emerging problem, proton pump inhibitor, hospitalized patients*

[Abstract:2115]

## NEW APPROACHES TO ADDRESSING THE ISSUE OF MEDICAL DIAGNOSIS QUALITY

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The issue of the quality of medical care remains relevant. Despite research conducted to reveal causes of medical errors and proposed methods to reduce them, past decades did not yield substantial results. Medical errors are commonly classified into diagnostic and treatment ones.

This paper focuses on problems of quality of medical diagnosis. Our research has revealed a fundamental problem in methodology of diagnosis-making. Current method of establishing nosological form of a disease relies primarily on presented symptoms and data of additional investigations, which allows a clinician to identify apparent formal aspects of a disease. However, to determine any object unambiguously, a unity of its form and content is crucial. In this sense, disease is no exception. To overcome this problem, it is necessary, first and foremost, to strictly define concept of disease. Authors define disease as a set of processes that disrupt the normal functioning of the body as a result of disturbing or damaging factors, internal or external, provided that level of the body's adaptive capabilities and reactions aimed at restoring equilibrium are exhausted.

Content of a disease consists of specific changes occurred not characteristic of a healthy, normally functioning organism. Another aspect of disease is its form. Form of the disease manifests through processes that collectively constitute it.

Based on the approaches outlined above, to eliminate fundamental cause of diagnostic errors, it's necessary to revise the methodology of medical diagnosis. This includes distinguishing between symptoms and investigation data that reflect content of disease and those that reflect its form.

**Keywords:** *diagnosis, diagnostics, medical record*

[Abstract:2713]

## DESIGN AND IMPLEMENTATION OF AN ANTIBIOTIC STEWARDSHIP PROGRAM AND SHARED CARED ASSISTANCE IN A RURAL HOSPITAL IN CAMEROON

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<sup>2</sup> Center Catholic Notre Dame De La Santé, Dschang, Cameroon

The Notre Dame de la Santé Hospital is located in Dschang (100,000 inhabitants), Cameroon. Dschang, has a strong presence of traditional medicine, leading to delayed medical contact. This delay is also influenced by Cameroon's healthcare model; both public and private involve patient payment. Additionally, the country faces a severe deficit of specialists due to challenges in obtaining training within the country. Between March and May 2023, two internists decided to undertake a stay in Dschang. In collaboration with local doctors, deficits in trauma surgical care were identified, and protocols focusing on antibiotic stewardship were implemented.

Microbiological samples from the previous year (294 in total, 156 from Orthopaedics) were reviewed, and issues addressed: Patients identification problems were identified (23% of previous forms) and the system for requesting microbiological samples was modified. 43% of the samples were *Staphylococcus aureus*, with 35% being MRSA, 30% MSSA, and 30% unidentifiable. A proposal was made to change the measurement of isolates using cefoxitin disks. Out of 66 Gram-negative bacilli, 35 (53%) had some type of resistance that couldn't be correctly identified with the methods used. It was again proposed to add cefoxitin to better distinguish phenotypes. A cost-analysis was conducted considering scenarios for gram-negative microorganisms, resulting in cost savings ranging from 15.3% to 42% per patient. Furthermore, a study of multidrug resistance was carried out to identify outbreaks, and isolation protocols were modified. Lastly, training sessions were conducted, surgical prophylaxis and empirical treatment protocols were created, and a group was formed to continue remote consultation.

**Keywords:** *antibiotic stewardship, shared cared assistance, healthcare in low-resource countries, cooperative medicine*

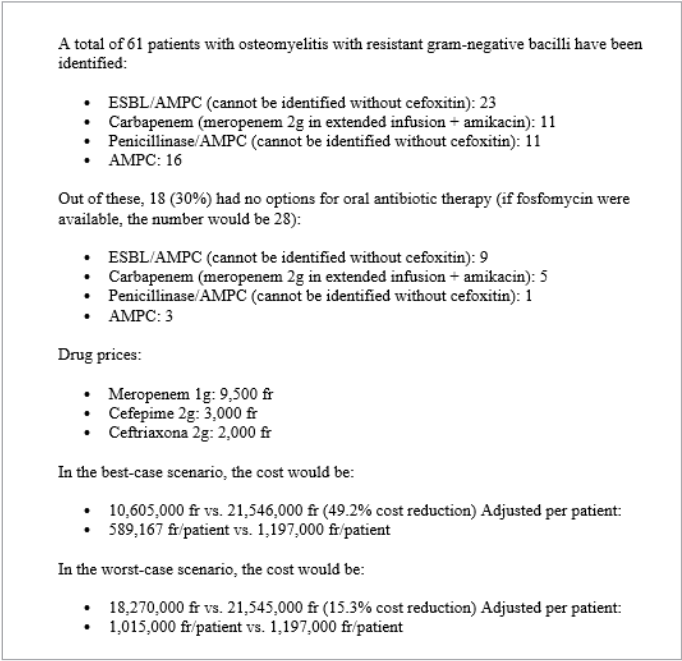


Figure 1. Economic cost-analysis.

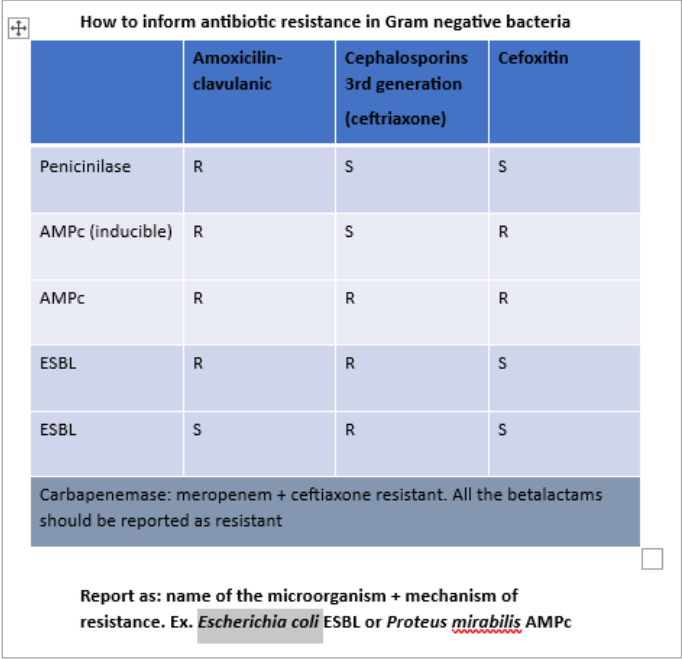


Figure 2. Gram negative report form.

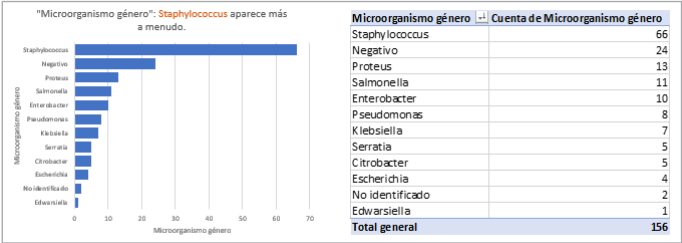


Figure 3. Microorganism in Orthopedic samples.

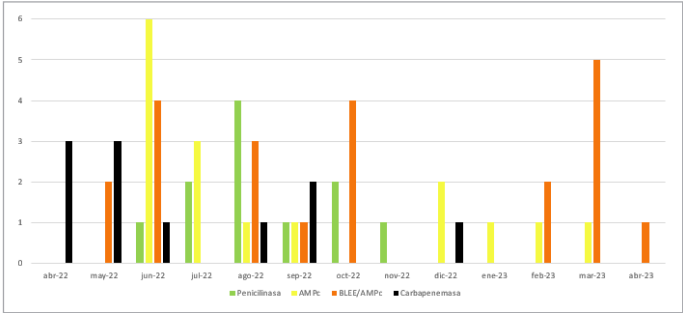


Figure 4. Resistance outbreaks.

[Abstract:2744]  
**CELEBRATING JOY IN INTERNAL MEDICINE- TEAM 22 SLCIM**  
Ganaka Senaratne, Dilusha Lamabadusuriya, Roshan Liyanage, Priyamali Jayasekera, Other <sup>36</sup> Council Members  
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Team 22 the council of the Sri Lanka College of Internal Medicine in 2022 launched several projects to enhance the landscape of Internal Medicine in Sri Lanka. The theme of the year was ‘Enhancing Clinical Excellence, Capacity Building and Humane Care’ Several CME activities were conducted targeting different categories of the medical community to inspire interest in internal medicine. These included, learning from legends, peer learning forum, SLCIM mentor group, senior registrar forum, medical emergency training session, island wide NCD workshops, SLCIM Future for medical students, regional meetings and SIMCON 22; annual academic session. SLCIM PASSTEST book series was published and considered an epitome of teamwork as the contributors were internists working all over Sri Lanka. We created a workplace culture of research and skill building through Point of Care Sonography workshops, awarding of research grants and SLCIM Research Guide. Members were empowered to incorporate humane care concepts into clinical practice by the expert committee on humane care. Impact of health care delivery by economic hardships in 2022 were countered by “SLCIM Lifeline” which attracted millions worth of medical equipment and consumables as donations. Members wellbeing was considered as a high priority. “SLCIM Bliss” arranged a series of events on varied topics such the arts, photography and psychological wellbeing. Through our work with compassion and care for each other we created a learned, dedicated, content and inspired membership which was the key to achieve a significant impact in the field of Internal Medicine in Sri Lanka.

**Keywords:** Sri Lanka College of Internal Medicine



[Abstract:2752]  
**THE “CRUCIAL” ROLE OF THE INTERNIST  
IN THE CLINICAL MANAGEMENT OF  
INFECTIONS CAUSED BY MULTI-RESISTANT  
GERMS: A CASE REPORT**

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**Premises:** M 75 years old enters the emergency room due to drowsiness.

**Medical history:** Alzheimer’s dementia with severe behavioural disorders (therapy: donepezil, quetiapine, valproic acid and addition of clotiapine a few days before, with progressive sedation). In consideration of the investigations carried out (Table 1), antipsychotics were suspended, cefotaxime was started empirically for suspected urinary infection.

**Description:** In Internal Medicine: objective examination (Table 2), continuation of the diagnostic process (Table 3). Pyretic patient: upgrade to piperacillin/tazobactam, negative urine culture, blood cultures. 5<sup>th</sup> day: fever, negative urine culture, new blood cultures, increasing inflammation, upgrade to linezolid and meropenem, positive rectal swab: NMD, KPC. Initial blood cultures positive: multidrug-resistant *Acinetobacter baumannii*, linezolid-susceptible *Staphylococcus epidermidis*; second: *Staphylococcus haemolyticus* linezolid sensitive; continues linezolid, replaces meropenem with ceftazidime/avibactam.

17<sup>th</sup> day: fever, new blood cultures, replaced linezolid with vancomycin, ceftazidime/avibactam with colistin/fosfomycin; caspofungin empirically: onset of acute renal failure, worsening thrombocytopenia. Positive blood cultures: vancomycin sensitive *Staphylococcus haemolyticus*, *Candida parapsilosis* from midline (removed) and peripheral. Echocardiogram: no endocarditis. Discontinued fosfomycin/colistin, continued vancomycin according to glomerular filtrate for 10 days from the first negative blood culture and caspofungin for 14 days from the last positive blood culture with clinical-laboratory improvement, negative blood cultures.

**Conclusions:** Infections with multi-resistant germs in fragile patients are on a worrying increase. A multidisciplinary management of antimicrobial therapy, with the internist as the central figure, following Antimicrobial Stewardship is essential to achieve optimal clinical results, reduce toxicity, healthcare costs, length of hospital stay and limit the selection of resistant strains.

**Keywords:** infection, multi-resistant germs, antibiotic therapy

Table 1 - Emergency room investigations	
Assessment	Report
CT scan of the brain	Negative for recent ischemic or hemorrhagic lesions, with a picture of severe cortical atrophy and chronic ischemic cerebral vasculopathy
Chest x-ray	Negative for parenchymal thickening but with widespread thickening of the bronchovascular texture of a possible chronic bronchitic nature
Antigenic TNF for Sars Cov 2 research	Negative
Neurological Counseling	Soporific state of suspected iatrogenic origin, discontinuation of antipsychotic therapy and diagnostic investigation (electroencephalogram, echocardiogram, echocolor Doppler ultrasound of the supra-aortic trunks, brain MRI, lipid balance, glycated hemoglobin, homocysteinemia, folate, vitamin B12, thyroid hormones) is recommended
Blood chemistry tests, including ammonia	No significant changes except for mild renal impairment, mild neutrophilic leukocytosis, and mild increases in C-reactive protein and procalcitonin
Electrocardiogram	Sinus rhythm, non-specific changes in ventricular repolarization

Table 1. Emergency room investigations.

Table 2 - Physical examination at entry into the Internal Medicine department	
General Physical Examination	Expired general condition, pyretic patient
Thoracic physical examination	Symmetrical hemithorax, bilaterally hypoexpandable, diffusely reduced MV in the absence of added pathological noises
Cardiological physical examination	Rhythmic cardiac activity, non-edema, peripheral pulses present, normo-isosphygmia
Abdominal physical examination	Abdomen flat, mobile, treatable, no grimacing of pain on superficial and deep palpation on all quadrants, peristalsis present, TEC as normal, Blumberg negative
Neurological physical examination	Soporific, reactive to energetic verbal stimulus, tending to mutaritate, uncooperative. Fine upper limb tremors, hypertonicity in the 4 limbs, preserved motility, Babinsky in bilateral flexion, evokable ROT

Table 2. Physical examination at admission into Internal Medicine Department.

Table 3 - Examinations at the entrance to the Internal Medicine department	
Assessment	Report
Blood chemistry tests	Normal except Hgb 12.0 g/dL, PROCALCITONIN 0.24 ng/ml, ATRIAL Natriuretic Pro-Factor 531 pg/ml, C-REACTIVE PROTEIN 148.58 mg/L, POTASSIUM Serum 3.3 mEq/L, Albumin 2.28 g/dL, HOMOCYSTEINE 19.95 µmol/L, FOLIC ACID < 2.2 ng/ml
Blood gas analysis	Mild Hypoxemic Respiratory Alkalosis à Oxygen therapy is started with nasal cannulas 2 LPM with blood gas monitoring
Chest x-ray control	Overlapping with the previous one
Electroencephalogram	Major Global Slowdown of Cerebral Electrogenesis
Doppler ultrasound of supra-aortic trunks	Within the limits of the age norm
Transthoracic echocardiogram	Within the limits of the age norm
Brain MRI	Supratentorial overdistention of the supratentorial ventricular system with clustered appearance of the gyri at the vertex and widening of the Sylvian fissure, finds suspicions of normotensive hydrocephalus
Neurosurgical Consultation	It does not indicate surgical manoeuvres but only follow-up
Neurological Counseling	Recommends therapy with folin, levodopa/carbidopa and resumption of quetiapine at low doses in case of recurrence of behavioural disorders
Speech therapy evaluation swallowing	Not recommend oral nutrition
Nutritional counseling	Enteral nutrition after nasogastric tube placement, which however is poorly tolerated by the patient despite various remodulations (repeated episodes of vomiting, diarrhea, rales) à nutritional re-evaluation indicates total parenteral nutrition (NPT) for which it is necessary to place a midline

Table 3. Exams at admission into Internal Medicine Department.

[Abstract:2803]

## PATIENT-CENTRED ANALYSIS OF THE CARE PATHWAY UNTIL DIAGNOSIS, COMPARING FIBROMYALGIA AND INFLAMMATORY RHEUMATISM USING QUANTITATIVE AND QUALITATIVE ANALYSIS

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**Purpose:** Many doctors have a complicated relationship with patients with fibromyalgia (FM), whereas they feel more comfortable with patients with well-defined clinico-biological illnesses. The aim of the study was to compare the care pathways as experienced by patients with FM participants or those facing well-defined rheumatic diseases.

**Methods:** Consecutive participants diagnosed with FM, spondylarthritis (SpA), or rheumatoid arthritis (RA) were prospectively recruited from a tertiary outpatient centre. Utilizing a semi-structured guide, participants were interviewed. A quantitative analysis compared medical pathway characteristics and a qualitative analysis explored their experiences using Interpretative Phenomenological Analysis (IPA).

**Findings:** Nineteen participants with FM and 18 controls were included. Patients with FM exhibited increased consumption of medical care, a stronger impact on their daily lives, and a significantly prolonged diagnostic delay, with a median [IQR] time to diagnosis of 10.7 years [2.5 – 19.0], versus 1.4 years [0.3 – 3.8],  $p = 0.0017$ . All participants reported an overwhelming experience of pain and a perceived lack of credibility regarding this pain. An altered doctor-patient relationship was more prevalent among participants with FM, who expressed a pessimism, feelings of rejection, and an increased need for attentive listening.

**Conclusions:** Compared to usual rheumatic diseases, fibromyalgia is distinguished by a prolonged diagnostic latency and faces a lack of acknowledgment, leading to a distortion in the doctor-patient relationship and potentially jeopardizing the prospects of patient recovery. It is crucial for healthcare professionals to recognize the challenges associated with managing fibromyalgia, including the need for extended consultations.

**Keywords:** fibromyalgia, somatic symptom disorder, chronic pain, rheumatoid diseases

[Abstract:2829]

## STATE OF KNOWLEDGE OF TUNISIAN INTERNISTS IN THE FIELD OF MEDICAL ETHICS

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**Introduction:** Internal medicine gathers different spectrums of diseases with ethical requirements that the internist must know.

The aim of our study was to evaluate Tunisian internists knowledge in medical ethics (ME).

**Methods:** A cross-sectional study carried out between October and December 2022, based on an online questionnaire distributed to junior and senior internists. The questionnaire has 3 parts: medical confidentiality, THE medical certificate, and the code of ME. Participation was voluntary and anonymous.

**Results:** 76 participants answered. The mean age was 34.5 years [26-61]. The mean length of experience in the specialty was 8 years [1-36]. 38 participants received a training related to ME: courses at the faculty (n=25), workshop during a conference (n=15), during a rotation (n=5), paid training (n=3), master's degree (n=2), during a rotation abroad (n=1). The mean score for the "medical confidentiality" section was 21.75/30 [16-26]. The questions that had the lowest score was: The declaration of cases of drug addiction (n=44) and the identification of infections requiring confinement (n=35). For the "medical certificate" section, the mean score was 7.125/10 [2-10] and 2 residents did not obtain the average. As for the "Code of ME" part, the mean score was 6.18/7 [3-7]. No statistically significant link was found between the results and the age of the participants or the professional rank or the previous training in ME.

**Conclusions:** The least satisfying results were for the "medical certificate" section. More targeted training in the field of ME could improve the gaps, both in universities and during rotations.

**Keywords:** ethics, internal medicine, medical training

[Abstract:2831]  
**INTRA- AND EXTRA-HOSPITALIZATION MONITORING OF VITAL SIGNS—TWO SIDES OF THE SAME COIN: PERSPECTIVES FROM LIMS AND GREENLINE H-T STUDY OPERATORS**  
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**Background:** In recent years, due to the epidemiological transition, burden of very complex patients in hospital wards has increased. Telemedicine usage appears to be a potential high impact factor in helping with patient management, allowing hospital personnel to assess conditions in out-of-hospital scenarios.

**Methods:** To investigate chronic patients management during hospitalization for disease and discharge, randomized studies (LIMS and Greenline-HT) are ongoing in the Internal Medicine Unit at Castelli Hospital Rome. The study endpoints are clinical outcomes (from a patient’s perspective). In this perspective paper, main findings of these studies, from the operators’ point of view, are reported. Operator opinions were collected from structured and unstructured surveys conducted among the staff involved, in a narrative manner.

**Results:** Telemonitoring appears to be linked to a reduction in side-events and side-effects, which represent some of most commons risk factors for re-hospitalization and for delayed discharge during hospitalization. Main perceived advantages are increased patient safety and the quick response in case of emergency. Main disadvantages are related to low patient compliance and an infrastructural lack of optimization.

**Conclusions:** The evidence of wireless monitoring studies, combined with the analysis of activity data, suggests the need for a model of patient management that envisages an increase in the territory of structures capable of offering patients subacute care (the possibility of antibiotic treatments, blood transfusions, infusion support, and pain therapy) for the timely management of chronic patients in the terminal phase, for which treatment in acute wards must be guaranteed only for a limited time.

**Keywords:** telemedicine, healthcare management, staff satisfaction, quality in healthcare, doctor–patient relationship, future vision

Strengths	Weaknesses
Easy-to-use tools for patients and operators. Small, non invasive, and safe tools.	Absence of a secure and widespread internet network in every part of the national territory. Few devices in hospitals, both public and private, and in low-intensity care settings for elderly, frail patients and/or patients with numerous comorbidities. Absence of national standard for all devices and platform.
Opportunities	Threats
Ability to easily diagnose adverse events of therapies or subclinical disease states. Reduction in emergency room visits and hospitalizations. Reduction in hospitalization costs. Increased adherence to therapy, and involvement in the care process for patients and caregivers.	Patients and data privacy can be subject to privacy violation/abusive data access. Absence of a secure and widespread internet network in every part of the national territory can generate inequality of care.

*Table 1. SWOT analysis of main advantages and disadvantages of the wireless monitoring system experienced by the healthcare personnel. The main advantages and disadvantages perceived in the implementation of wireless monitoring devices are summarized via a SWOT matrix in Table Increased effectiveness and improved patient safety were the two positive effects that were most frequently reported among the interviewees. The main advantages were represented by the increased safety for the patient and by the quick response in case of emergency. The major disadvantages, on the other hand, pertained to the risks involved when patients are not compliant.*

[Abstract:2974]  
**MAIN COMPLAINTS AND ADMISSIONS TO THE WARDS FROM ACUTE MEDICAL ASSESSMENT UNIT (AMAU) IN AN ACUTE (MODEL-3) HOSPITAL IN IRELAND**  
*Eduardo Carvajal, Sona Ray, Neelam Raza, Kanwal Khan, Hira Naeem*  
General Internal Medicine Department, Mayo University Hospital, Mayo, Ireland

AMAU is a pivotal department dedicated to promptly addressing acute medical concerns without the need for intensive care or specialized surgical interventions. Associated to Emergency Department (ED), it handles urgent cases requiring immediate attention, but not admission to specialised units, working as a one-day-stay ward. Our aim was to quantify and stratify the different causes of hospitalisation from this unit.

**Methods:** We gathered medical records of hospitalisations from AMAU into the wards of our Acute Hospital from July to 2022 to January 2023, obtaining the main complaint and the main diagnosis at the moment of admission.

**Results:** From 1190 assessments in AMAU, there were 97 admissions to the wards (8.15%), 42 (43.29%) of them were female and 55 male (56.70%) being the mean age 70,40 years. The main complaint of the patients hospitalised was shortness of breath (18 cases), followed by chest pain (10 cases) and jaundice (8 cases). There were 7 cases of cough and the same number of patients with dizziness.

The main diagnosis of admission was: appearance of malignancies (brain, breast, lung, GI, liver) in 12 patients, heart failure decompensation in 10 patients, pneumonia in 7 patients, pulmonary embolism in 4 patients, COPD exacerbation 3 patients, subdural haematoma, unstable angina and decompensated liver cirrhosis in 2 patients.

**Conclusions:** AMAU system works efficiently in the hospital environment avoiding unnecessary admissions. Among the

hospitalised patients, the number of new diagnosis of malignancies is overwhelming, which must encourage the development of screening strategies by primary teams in ambulatory services.

**Keywords:** AMAU, complaints, diagnosis, hospitalisation, malignancies, emergency department

Main Complaint	Number of Patients
Shortness of breath	18
Chest pain	10
Jaundice	8
Caught	7
Dizziness	7

Table 1. Main Complaint to the patients admitted from AMAU to the wards.

Main Diagnosis	Number Of Patients
New Malignancies	12
Heart Failure Decompensation	10
Pneumonia	7
Pulmonary Embolism	4
Copd Exacerbation	3
Subdural Haematoma	2
Unstable Angina	2

Table 2. Main diagnosis in patients admitted from AMAU to the wards.