



**Case Report**

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# Excellence in Primary Health Care for Children: The case of the North Alentejo Local Health Unit, Dr. José Maria Grande Hospital, Portugal

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## Abstract

**Background:** Take care of children implies an enormous responsibility to families and essentially to health services that have the mission to care, prevent pathological consequences, and protect all childhood community. So the local health units are inescapable for a search for excellence in this type of service.

**Methods:** Were observed, 19712 children, through the *Manchester Screening System (MSS)* and the *Medical Specialties Chart of Jose Maria Grande Hospital*, during the 2019 year, according to the database provided by the hospital, in order to decrease the use of urgency to take care the children and empower the primary health care and, undoubtedly, the quality of service.

**Results:** The medical specialties chart shows that most children were discharged from the hospital, by the screening doctor and not by a specialist doctor. From 19712 children who attended the screening (without specialty) during 2019, only 7800 were observed and were discharged through the specialist doctor; that is only 11912 children had contact with an undifferentiated screening doctor.

**Conclusion:** The medical specialties chart showed that most children were discharged from the hospital by the screening doctor and not by a specialist. We could see that there is no need to resort to emergency services, as the primary care units are able to provide them to children, by not exposing them to unnecessary infections caused by waiting time in the hospital.

**Keywords:** Children; Primary health care; Screening; Specialties; Exposure; Urgency

## Introduction

Preoccupation with the children is a prerogative to parents and health services in all the world and make part of the social cognitive influence on parents' decision making and cognitive empowerment experience of medical staff [1]. Programs about this matter are diverse but with a high coherence level and transversal capacity, namely child abuse risk prevention [2] empowering and transforming health centres in wellness centres [3]. The primary health care is responsible for maternal and child health programs and for chronic disease attendance, based on a health state's prevention and maintenance perspective, representing the first

contact between families, citizens and health services [4]. For that, they build an important service, being strongly advised, its evolution and adaptation, in accordance with the population health characteristics and needs, over time [5]. The health centres have, as general objectives, ensure all population coverage health care in timely access [6] and health care maintenance valuing the relationship patient-doctor [7]. The primary health care is responsible for providing long-term care, with continuity and support at an individual and familiar levels [8] This continuity suggests a longitudinal relationship between patients and those

who take care of them and are responsible about their preventive and coordinative care [9], noteworthy that this continuous and long term relationship, it's fundamental to create trust between health professionals and patients and constitutes one of the great health care services advantages [10]. So, the health systems that ensure a good organization based on primary health care services are recognized for the present more satisfactory results, from citizens, to obtain more equity, health gains, and better health conditions [11].

**Material and Methods**

Several bacteria and fungus can cause nosocomial infections. These can be caused by acquired microorganisms from another person in the hospital (cross-infection) or been caused by the patient's own flora (endogenous infection). Some microorganisms can be acquired through inanimate objects or recently contaminated substances from another human source (environmental infection) [12]. This leads us to ask the following question:

a) There will be a need to expose children to increased risk of infection resorting to hospital emergency, with primary health care covering the entire hospital area.

So, we proceed to observe all universe of children patients that recurred to Jose Maria Grande Hospital emergency services, and there were submitted to *Manchester Screening and Medical Specialties Chart*, during the year of 2019. This clinical record data was obtained by Alert Software System (ASS) used by the hospital urgency services. *The Manchester Screening System* (MSS) was implemented and developed in Manchester Hospital in 1997 [13], and its implementation and dissemination occurred in several countries, predominantly, in Ireland, Portugal, Spain, Italy, Germany, Sweden, Holland, Japan, and the Hong Kong city. Portugal was adopted as national policy, in function in many hospitals since 2000, through Portuguese Triage Group (PTG) [14], with the support by Health Ministry, Physicians Order (PO), and the Nurses Order (NO). The MSS is a five priority categories scale (in Portuguese system six), developed by an emergency specialist multidisciplinary care group which category received a number and a name, and color, and a target time, for initial medical observation:

- a) Emergent, red color, 0 minutes.
- b) Very urgent, orange color, till 10 minutes.
- c) Urgent, yellow color, till 60 minutes.
- d) Little urgent, green color, till 120 minutes.
- e) Not urgent, blue color, till 240 minutes.
- f) Nothing urgent, white color, more than 240 minutes.

This method made the priority screening and identifies severity criteria, in an objective and systematized form that indicates a clinical priority with which the patient should be treated (based on identified problems) and the recommended time target till the beginning of the first clinical observation. It is not a question of establishing diagnoses. The Health Ministry, through 2nd February Dispatch n.º 1057/2015, determined that all health units who haven't implemented the MSS should proceed to its implementation till 31st December 2015. We also used the ALERT software alert to extract the urgency of children's clinical records. This software is used by the Portuguese National Health Service. The children arrived at pediatric urgency and the nurse, based on observation and verbalized complaints, in an objective and systematized form, used the MSS and inputted the color, being the children attended by a nonspecialty physician (screening physician).

**Patients Children**

**Table 1:** Number of submitted children to Manchester screening.

Source: Jose Maria Grande Hospital urgency services clinical records.

Sorting color	0-3	4-9	10-17	Grand total
Red	9	3	1	13
Orange	366	221	255	842
Yellow	2 305	2 065	2 578	6 948
Green	3 924	3 229	4 198	11 351
Blue	49	40	81	170
White	102	105	184	391
Grand total	6 755	5 663	7 297	19 715

**Table 2:** Percentage of submitted children to Manchester screening.

Source: Jose Maria Grande Hospital urgency services clinical records

Specialty	0-3	4-9	10-17	Grand total
General surgery	21	41	72	134
Gynecology / Obstetrics	2	0	21	23
Internal medicine	1	1	4	6
Ophthalmology	6	2	6	14
Orthopedics	8	49	125	182
Pediatrics	215	73	54	342
Psychiatry	0	0	2	2
Screening	3820	3208	4174	11202
n/a	2	0	5	7
Grand total	4075	3374	100,00%	100%

**Table 3:** Number of submitted children to Medical Specialties Chart.

Specialty	0-3	4-9	10-17	Grand total
General surgery	21	41	72	134
Gynecology / Obstetrics	2	0	21	23
Internal medicine	1	1	4	6
Ophthalmology	6	2	6	14
Orthopedics	8	49	125	182
Pediatrics	215	73	54	342
Psychiatry	0	0	2	2
Screening	3820	3208	4174	11202
n/a	2	0	5	7
Grand total	4075	3374	100,00%	100%

Source: Jose Maria Grande Hospital urgency services clinical records.

**Table 4:** Number of submitted children to Medical Specialties Chart (details).

Physician	Sex	Specialty	0-3	4-9	10-17	Grand total
No registered doctor	n/a	n/a	2	0	5	7
1						
	male	Pediatrics	16	7	4	27
2	male	Without speciality	4	3	1	8
3	male	Without speciality	0	1	0	1
4	female	Without speciality	1	0	0	1
5	male	Without speciality	40	24	33	97
6	male	Orthopaedics	1	4	19	24
7	male	Without speciality	20	16	37	73
8	female	General surgery	0	0	1	1
9	female	Without speciality	3	1	5	9
10	female	Without speciality	106	56	66	228
11	female	General surgery	0	2	3	5
12	male	Without speciality	14	14	25	53
13	male	Without speciality	1	0	2	3
14	male	Ophthalmology	1	0	4	5
15	male	Without speciality	26	13	18	57
16	male	Without speciality	96	88	112	296
17	female	Without speciality	0	0	1	1
18	female	General surgery	1	1	8	10
19	female	Without speciality	2	2	5	9
20	female	Without speciality	9	10	18	37
21	male	Without speciality	2	3	20	25
22	male	Internal medicine	0	0	1	1
23	male	General surgery	0	1	1	2
24	male	Orthopaedics	1	9	16	26
25	female	Without speciality	20	20	33	73
26	male	Without speciality	9	18	9	36
27	female	Without speciality	0	1	0	1
28	female	Without speciality	7	4	1	12

29	female	Without speciality	24	12	18	54
30	male	Orthopaedics	0	0	1	1
31	male	Without speciality	33	18	8	59
32	female	General surgery	2	2	2	6
33	female	General surgery	2	2	9	13
34	female	Without speciality	114	132	133	379
35	female	Psychiatry	0	0	2	2
36	male	Without speciality	2	2	5	9
37	male	General surgery	1	1	6	9
38	male	General surgery	0	1	1	2
39	male	Without speciality	0	1	2	3
40	male	Without speciality	36	45	91	172
41	male	Pediatrics	32	9	9	50
42	female	Without speciality	18	10	18	46
43	male	Internal medicine	0	1	0	1
44	female	General surgery	0	0	1	1
45	female	Without speciality	15	13	20	48
46	female	Pediatrics	50	21	15	86
47	male	Without speciality	12	2	6	20
48	female	General surgery	3	3	2	8
49	female	General surgery	1	0	0	1
50	male	Without speciality	14	10	8	32
51	male	Without speciality	2	1	1	4
52	male	Without speciality	11	6	18	35
53	female	Without speciality	66	85	100	251
54	male	Without speciality	0	5	1	6
55	female	Without speciality	3	1	0	4
56	male	General surgery	2	1	3	6
57	female	Without speciality	3	8	8	19
58	male	Internal medicine	1	0	1	2
59	male	Orthopaedics	1	10	17	28
60	male	Orthopaedics	0	4	15	19
61	male	General surgery	0	5	7	12
62	male	Orthopaedics	0	1	2	3
63	male	Without speciality	38	29	63	130
64	female	Gynaecology/ Obstetrics	2	0	0	2
65	female	Without speciality	10	8	9	27
66	female	Without speciality	28	11	8	47
67	male	Without speciality	31	41	70	142
68	male	Without speciality	0	0	1	1
69	female	Pediatrics	7	2	0	9
70	male	Gynaecology/ Obstetrics	0	0	2	2
71	male	Without speciality	816	470	468	1754
72	male	Gynaecology/ Obstetrics	0	0	8	8

73	male	General surgery	0	1	1	2
74	male	Pediatrics	47	13	10	70
75	male	Without specialty	13	2	4	19
76	male	Without specialty	0	2	3	5
77	male	Without specialty	34	31	53	118
78	male	Without specialty	0	0	1	1
79	male	Without specialty	189	250	358	797
80	male	Without specialty	0	1	0	1
81	female	General surgery	0	1	2	3
82	male	Without specialty	133	122	151	406
83	male	Without specialty	20	77	52	99
84	male	Pediatrics	22	6	7	35
85	male	Orthopaedics	0	0	1	1
86	male	Gynaecology/ Obstetrics	0	0	2	2
87	male	Without specialty	10	7	20	37
88	male	Gynaecology/ Obstetrics	0	0	2	2
89	male	General surgery	0	3	4	7
90	male	Without specialty	101	88	115	304
91	male	Orthopaedics	0	6	16	22
92	male	Without specialty	66	63	53	182
93	male	Without specialty	45	34	69	148
94	male	Orthopaedics	1	1	4	6
95	male	Ophthalmology	3	1	2	6
98	male	Internal medicine	0	0	2	2
97	female	Without specialty	160	108	115	383
98	male	Without specialty	33	50	66	149
99	male	Without specialty	5	3	3	11
100	male	Without specialty	16	13	13	42
101	male	Without specialty	73	66	83	222
102	male	Without specialty	36	43	30	109
103	female	Without specialty	0	0	1	1
104	male	Without specialty	0	0	2	2
105	male	Without specialty	69	38	55	162
106	male	General surgery	1	0	0	1
107	male	Without specialty	0	1	3	4
108	male	Orthopaedics	4	8	25	37
109	female	Without specialty	4	2	7	13
110	female	Pediatrics	17	9	5	31
111	female	Orthopaedics	0	3	5	8
112	female	Orthopaedics	0	3	3	6
113	female	Without specialty	7	9	17	33
114	female	Without specialty	10	8	21	39
115	female	Without specialty	3	2	5	10
116	female	Without specialty	0	0	1	1
117	female	Without specialty	114	101	131	346

118	female	Without specialty	5	0	3	8
119	female	General surgery	0	1	0	1
120	female	Gynaecology/ Obstetrics	0	0	1	1
121	male	Ophthalmology	2	1	0	3
122	female	Without specialty	436	311	373	1120
123	male	Without specialty	2	5	3	10
124	male	General surgery	0	1	1	2
125	male	General surgery	0	2	7	9
126	female	General surgery	0	2	0	2
127	male	Without specialty	0	1	1	2
128	male	Without specialty	7	3	9	19
129	male	General surgery	4	4	0	8
130	female	Without specialty	81	65	146	292
131	male	Without specialty	0	0	3	3
132	male	Without specialty	0	0	1	1
133	female	Without specialty	0	0	2	2
134	female	Without specialty	0	0	2	2
135	male	Gynaecology/ Obstetrics	0	0	4	4
136	male	Gynaecology/ Obstetrics	0	0	2	2
137	male	Pediatrics	12	4	1	17
138	male	Without specialty	20	29	19	68
139	male	Without specialty	2	0	0	2
140	male	Without specialty	1	2	1	4
141	male	General surgery	1	3	5	9
142	male	Without specialty	25	43	83	151
143	male	Without specialty	37	45	50	132
144	male	Without specialty	20	17	28	65
145	female	Without specialty	22	26	27	75
146	female	Pediatrics	12	2	3	17
147	female	Without specialty	3	1	3	7
148	female	General surgery	3	4	8	15
149	male	Without specialty	12	10	13	35
150	male	Orthopaedics	0	0	1	1
151	male	Without specialty	354	383	489	1226
152	male	Without specialty	16	12	44	72
Grand total	4075	3374	4463	11912		

**Source:** Jose Maria Grande Hospital urgency services clinical records.

### Discussion

Reporting to data we see the following:

a) The green, white and blue screenings considered a not urgent situation with 120 to 240 minutes and more, if we see the percentual that sits above 59%.

b) The medical specialties chart translated to us that the majority of the patient's children were discharged from the hospital by a screening physician hand, not by a specialist.

c) Reporting to the 19712 screening submitted children during the year of 2019, from these only 7800 were observed

and discharged by a specialist physician, that is only 11912 had contact with a without specialty physician.

d) There's no need to expose children to an unnecessary exposure risk once in the hospital area there are primary health services units that avoid hospital urgency services recurse.

The specialties that observed the children with green, blue, or white colors that went to urgency by indication of a specific physician, are those that they are in the specialty chart where it was verified that 11912 were discharged from the urgency through the screening physician and not through the specialist.

### Conclusion

The Portuguese State, in the last decade, has led a reformat at Health Public Service Level with the objective to bring citizens closer to Health Centres in an attempt to relieve hospitals from the abnormal influx of users, reducing costs, and redirect resources to another more demanding types of health cares that cannot be delegated to Health Centres, in attempt to a health culture promotion proximity and continuity care. So, towards the Portuguese State investment on this health care delivery reformulation, it matters to know if the citizen's behaviours followed the political option trend or, by the contrary, they still choose the hospitals. In this sense, it's important to question us: What Portugal citizens choose with respect to child health care? The studied data reveal the answer to that question, the Portuguese don't see each other in the political reformulation and still continuing to choose the hospital health care. Nevertheless, when they do, they subject the children to virus and bacteria contamination environment, superior to the environment in a health centre, if do not get care from specialist physicians, and if the literature doesn't present any advantage evidence to this type of health answer, a derived question it matters: why the citizens still prefer the hospital health care, instead choose the health care in local health units? What there is in a hospital environment that conditions the citizens choose and what can be done to health policy will be a success in its implementation? If those citizens expectative who appeal to hospital, to access a child health care is pediatric, thus one of the reformative options can be the paediatric physician's mobility through local health units. In the same form, the diagnosis of complementary means access also can condition the citizens to choose and, in this sense, on this type of service inclusion in local health units, can increase the citizen's preference. Another option

as "mentoring" or "telemedicine" could be equated, but this will be an open window for further investigations.

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