

## **Reasons for cancellation of elective surgery in Ilorin**

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### **ABSTRACT**

**Background:** The rising cost of health care and dwindling economic resources necessitate the need to encourage cost-effectiveness in patient care. Cancellation of cases on the scheduled day of surgery leads to inefficient utilization of theatre space, waste of valuable manpower and scarce resources for patients and hospital. Avoidance of unnecessary cancellations of cases may therefore be an important way of ensuring efficient utilization of resources.

**Methods:** This is a prospective study. Record was taken of all patients whose names appeared on the routine elective surgical operation lists. The names of all those who could not have their surgery done were compiled. The age, sex, diagnosis, specialty of surgery, proposed surgery and reasons for cancellation were collated and analysed.

**Results:** Out of the 1,175 patients scheduled for surgery during the study period, 272(23.15%) were cancelled for various reasons. The highest incidence of cancellation 130(11.06%) was recorded in orthopaedic specialty, even though it ranked second to General Surgery in the total number of cases booked. Cardiothoracic unit recorded the lowest incidence of cancellations (1.84%), but it also had the lowest number of cases scheduled for surgery. The commonest cause of cancellations was time constraints (22.59%). Patients absconded from surgery for personal reasons not communicated to the Surgeons in 13.60% of cases, while unanticipated logistic problems accounted for another 9.93%. Other causes of cancellations included industrial action embarked upon by members of the hospital community staff auditing exercise, uncontrolled medical illness and unresolved laboratory abnormalities.

**Conclusion:** The incidence of cancellation of cases on the scheduled day of surgery is still high in our hospital. Most of the causes of the cancellations are preventable. In order to enhance cost-effectiveness, efforts should be made to prevent unnecessary cancellations through careful planning and closer interactions between surgeons and patients, and amongst members of the surgical team.

*Keywords: Elective surgery, Cancellation, Causes, Cost-effectiveness.*

## Introduction

The cost of health care delivery in Nigeria is increasing every day.<sup>1</sup> Unfortunately, the financial resources of our patients have continued to dwindle due to the current downturn in the economy. It has been said that the Physician who refuses to examine the economic consequences of his/her medical practice does not protect the welfare of his/her patients<sup>2</sup>. Hence there is need for the health care teams to encourage cost-effectiveness in every aspect of patient care. Cancellation of cases on the scheduled day of surgery leads to inefficient utilization of manpower and resources.<sup>3</sup> It also leads to prolonged hospital stay, and in many cases, repetition of the various aspects of preoperative preparation and management. All of these increase patients' treatment expenses. Avoidance of unnecessary cancellation of elective surgery, therefore, should lead to a reduction in the overall cost of treatment.

The purpose of this study was to assess the incidence, causes and pattern of cancellation of elective surgery in our hospital. This we hope will assist us in making appropriate recommendations to enhance efficiency and minimize wastage of already limited resources and manpower.

## Materials and Methods

Over a 16-month period (August 1998-November 1999) record was taken of all patients whose names appeared on the routine elective surgical operation lists,

but who could not have their surgery done as scheduled for some reason. The age, sex, diagnosis, specialty of surgery, proposed surgery and reasons for cancellation were documented for analysis.

## Results

A total of 1,175 patients, (716 males and 459 females), were booked for elective surgery during the study period. Out of this number, 272(23.15%) patients had their surgery cancelled for various reasons.

Table 1 shows the specialty distribution of the cases. General surgery had the highest number of patients scheduled for operation, 402(34.21%), followed by orthopaedic surgery, 370(31.49%), and ophthalmology, 152(12.94%). Cardio-thoracic surgery had the least number with 19(16.62%) of patients scheduled for operation.

Of the total number of patients whose operations were cancelled, orthopaedic surgery had the highest number of 130(11.06%), followed by General Surgery with 40(3.40%) patients (Table 1). Expectedly, Cardio-thoracic surgery had the least contribution to the total cancellations with 5(0.43%) patients. When the number of cases cancelled in each specialty is compared with the number of cases booked in the specialty (Table 2), orthopaedic specialty still has the highest cancellation rate of 35.14%. General Surgery, which had the highest number of cases, booked, had the least percentage cancellation of its scheduled operations 13.1%. The cancellation rate

for cardiothoracic surgery was also observed to be high. Though, only 19 cases were scheduled for surgery, about one-quarter of these cases were cancelled.

*Table 1: Specialty distribution of cases (booked & cancelled)*

Specialty	No. of cases booked (%)	No. of cases cancelled (%)
General Surgery	402 (34.2)	53 (4.5)
Orthopaedics	370 (31.5)	130 (11.1)
Ophthalmology	152 (12.9)	25 (2.1)
Paediatric Surgery	121 (10.3)	40 (3.4)
Urology	63 (5.4)	9 (0.8)
Otorhinolaryngology	48 (4.1)	10 (0.9)
Cardiothoracic	19 (1.6)	5 (0.4)
Total	1,175 (100)	272 (23.2)

*Table 2: Cases cancelled as a percentage of booked cases*

Specialty	No. booked	No. cancelled	%
Orthopaedics	370	130	35.14
Paediatric Surgery	121	40	33.06
Cardiothoracic	19	5	26.32
Otorhinolaryngology	48	10	20.83
Ophthalmology	152	25	16.45
Urology	63	9	14.21
General Surgery	402	53	13.18

*Table 3: Age distribution of cases*

Age (Years)	Booked (%)	Cancelled (%)
0 – 9	207 (17.62)	70 (5.96)
10 – 19	110 (9.36)	28 (2.38)
20 – 29	196 (16.68)	40 (3.40)
30 – 39	188 (16.00)	43 (3.66)
40 – 49	138 (11.74)	29 (2.47)
50 – 59	122 (10.38)	26 (2.21)
60+	214 (18.21)	36 (3.06)
Total	1175 (100)	272 (23.16)

Table 4: Causes of cancellation

(a) Causes attributable to Patients	No.	%
Financial Constraints	56	20.59
Self Cancellation not communicated to surgeons	37	13.60
Uncontrolled Medical illness e.g. Diabetes mellitus, Hypertension, Upper respiratory tract infections, etc	37	13.60
Unresolved laboratory abnormalities	5	1.84
Patients Menstruating	3	1.10
Others	4	1.47
<i>Total</i>	<i>142</i>	<i>52.21%</i>
(b) Causes attributable to hospital		
Time Constraints	62	22.79
Failure of theatre facilities/logistic problems	27	9.93
Staff auditing/Screening exercise	13	4.78
Cancellations by Surgeons	12	4.41
Resident Doctors' industrial action	11	4.04
Unavailability of key member of the surgical team	5	1.84
<i>Total</i>	<i>130</i>	<i>47.79%</i>

The age distribution of cases revealed that the 0-9-year age group had the largest number of patients whose surgery was cancelled (Table 3). Of the 207 patients booked for surgery in this age group, 70 representing 5.96% of cancelled cases were in this group. Although patients over 60 years of age constituted the largest group of scheduled cases (18.21%), only 3.06% of the cancelled cases were in this group.

There were two broad causes of cancellation of cases: (a) those attributable to patients, 142(52.21%), and (b) those attributable to the hospital, 130 (47.79%) patients (Table 4). Time constraint was the major cause of cancellation of cases involving 62(22.79%) patients, followed by

financial constraints, 56(20.59%). Self-cancellation and uncontrolled medical diseases accounted for 37(13.60%) cases each. Resident doctors' industrial action and unavailability of key members of the surgical team also accounted for cancellation in 11(4.04%) and 5(1.84%) patients respectively. The least cause of cancellation of scheduled surgery in this study was menstruation, 3 cases (1.10%).

## Discussion

Cost containment through effective and efficient utilization of resources has become a necessary part of healthcare delivery worldwide.<sup>1,4,5</sup> This is due to the rising cost of healthcare and increa-

sing financial pressure on the healthcare system. Efficient utilization of operating theatre space and time is one area, which has been shown to assist in cost containment.<sup>5</sup> The 23.15% cancellation rate recorded in this study is similar to what was reported for day surgery cancellation (19.3%) by Bode et al.<sup>6</sup> In conformity with the findings of previous studies,<sup>6,7</sup> most of the causes of cancellation recorded are not only preventable, but are causes peculiar to the third-world countries.

Although no attempt was made to assess the operating room turnover time in this study, it was observed that this time interval varies and is capable of being influenced by several factors. For instance, our normal elective theatre-working season starts at 8.00a.m and ends at 4.00.p.m. However, operations rarely started at 8.00 am due to logistic reasons, and theatre sessions usually extended well beyond 4.00p.m; in an attempt to finish the day's lists. There is also a dearth of theatre personnels – anaesthetists, theatre nurses and porters. As a result, it is not unusual in our hospital, for an operating room to remain unused for an upward of 30-40 minutes during an elective list session. This often occurs either due to delay in bringing the next patient from the ward, or the need to allow some time for re-sterilization of the only available set of instruments when two successive major procedures have to share the same operation set. Furthermore, emergency cases may disrupt an elective list due to inadequate theatre space and staff. In the face of these crippling factors, surgeons too are under pressure to draw-up long lists. All these may account for time constraints being the most dominant cause of cancellation of elective surgery.

Canceling cases because of scheduled events like resident doctors' industrial action and staff auditing exercise ought not to happen. Adequate foreknowledge about these events should have informed the surgeons not to prepare operation list, in order to save the patients from unnecessary expenses for preoperative preparation and bed fees.

More than half of the cancellations (52.21%) were for reasons attributable to patients. The commonest of them, is financial constraints. This problem may remain with us until the Nigeria economy improves and the people become better financially empowered or when the National health insurance scheme becomes fully operational. When self-cancellations by patients are not communicated to the surgical team early enough the theatre time and space already allotted to the patients concerned become wasted. A self-cancellation rate of 13.60% recorded in this study is rather high. A similar problem in the developed world, often referred to as failure to turn up for surgery, has been found to be a significant problem for major surgical units<sup>8</sup>. It denies other patients on the long waiting list the opportunity to get their surgeries done. Effort should be made to minimize it by ensuring that only patients who are confirmed to be ready by the time the operation lists are being prepared are included in the list. Suffice it to say that the self-cancellation may not be unconnected with inability to raise fund for surgery. At times patients are scheduled for surgery on the promise that appropriate payments would be effected on the night before or on the morning of surgery. If for any reason this fails, some patients would just abscond from hospital or simply stay away from theatre.

At times, cancellation of surgery

may become inevitable as it often occur in our environment due to unavoidable technical or social reasons. Such reasons observed in this study include failure of theatre facilities, logistic problems, unresolved laboratory abnormalities discovered on the morning of surgery and uncontrolled medical illnesses. Normal menstrual flow should no longer be a reason to exclude a patient from surgical operation.

### Conclusion

The goal of every healthcare team in the new millennium should be to minimize cost of treatment by encouraging cost effectiveness in every aspect of patient care. Efforts should be made to prevent cancellation of elective surgery by careful planning, bearing in mind the local constraints in human and material resources. There is no point in preparing an operation list, which the available manpower and logistics cannot accomplish. Operation lists should be efficiently loaded to avoid under or over-utilization of theatre facilities.

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### References

1. Okorosobo T. Healthcare financing in Nigeria. *Nigerian Journal of Health Planning and Management* 1998; 3: 1-10.
2. Sperry RJ. Principles of economic analysis. *Anesthesiology* 1997; 86: 1197– 1025.
3. Conway JB, Goldbery JR and Chung F: Preadmission Consultation clinic. *Can J Anaesth* 1992; 39: 1051 – 1057.
4. Rowe WL. Economics and anaesthesia. *Anaesthesia* 1998; 53: 782 – 788.
5. Watch MF, While PF. Economics of anaesthetic practice. *Anesthesiology* 1997; 86: 1170 – 1196.
6. Bode CO, Adeyemi SD. Reason for day surgery cancellation in paediatric surgical practice at the Lagos University Teaching Hospital. *Nigerian Journal of Surgery* 1996; 3: 41 – 44.
7. Macarthur AJ, Macarthur C and Bevan JC: Determinants of paediatric day surgery Cancellation. *J Clin Epidemiol* 1995; 48:485–489.
8. Solly J. Tackling does not attend (DNA) rates in day Surgery. *Journal of One-Day surgery* 1994; 4:28 – 29.