PROCESS ANALYSIS OF BILLING OPERATIONS USING SEQUENCE ANALYSIS IN OUT-PATIENT DEPARTMENT

Internship Training
at
Medanta-The Medicity, New Delhi

By
Vrinda Sharma

Under the guidance of
Dr. Goutam Sadhu

MBA Hospital & Health Management
2013–15

Institute of Health Management Research
Jaipur
2015

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INSTITUTE OF HEALTH MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr. Vrinda Sharma** student of MBA Hospital and Health Management from IIHMR University, Jaipur has undergone internship training at **Medanta – the Medicity** from 2nd Feb 2015 to 31st March 2015.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

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Global Health
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Date 04.05.15

INTERNSHIP COMPLETION LETTER

This is to certify that Dr. Vrinda Sharma, student of MBA (Major in Hospital & Healthcare Management), Batch 2013 -15 Indian Institute of Health Management Research, Jaipur has successfully completed her internship with us.

- Project Title - Process Analysis of Billing Operations in OPD
- Project Duration - 02nd Feb 2015 to 31st March 2015

During the period of her internship programme with us she was found to be punctual, hardworking and inquisitive.

For **GLOBAL HEALTH PVT LTD**

Monica

MONICA MUDGAL
SENIOR VICE PRESIDENT & HEAD - HUMAN RESOURCES

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Process Analysis of Billing Operations using Sequence Analysis in Out-Patient Department** submitted by **Dr. Vrinda Sharma**, Enrollment No. IIHMR-U/01 /2013-15/0119 under the supervision of **Dr. Goutam Sadhu** for award of MBA Hospital and Health Management of the university carried out during the period from 2nd Feb 2015 to 31st March 2015 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Vrinda Sharma

Signature

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Executive Summary

Process Analysis of Billing Operations using Sequence analysis in
Out-patient Department at Medanta – the Medicity

Guide : Dr. Goutam Sadhu

Key Words: Billing process flow, Sequence Analysis,

Background

Hospital billing process is very vital for the hospital as well as the patient. It is an amalgamation of numerous sub-processes like registration, cancellation, refunds, discounts, etc. intermingling with departments like Out-patient department, In-patient department, Emergency and Day care services with different protocols for different payer groups like cash, credit, insurance or Third Party Agent (TPAs). Thus it is imperative to simplify the process for both the staff as well as patient for a better understanding of the same.

This project gives an insight into the billing processes for an OPD through Systems Approach and stresses on making a system process dependent, rather than person dependent. The study entails a Descriptive cross-sectional study type with data collection by direct observation of operations and unstructured interviews. It analyses the process by Sequence/Flow Analysis. The existing process was first understood, documented and then analysed. Thus, it revealed two views of the Billing process – one from Operations perspective and the other from IT perspective. Both the process flows were mapped, thereby identifying the ideal scenario, gaps, exceptions, suggestions and recommendations. The data collected was mainly qualitative in nature. However, to validate the concern area of a sub-department, data was collected over a period of 2 months and analysed. Subsequently, a set of suggestions and recommendations were given to make the process more user friendly and effective in terms of reduction of manual work and promotion of automating the process as much as possible

Aim: To undertake Sequence Analysis of Billing operations in the Out-Patient Department at Medanta-the Medicity

Objectives

1. To evaluate the existing process flow of Billing activity in Out-patient department
2. To identify the areas of concern
3. To collect, collate, organize and carry out Sequence analysis of the process
4. To recommend user-friendly IT and Operational solutions in Billing process

Research Methodology

- Type of study - Descriptive cross-sectional
- Study population - All patients getting OPD billing done, Billing executives, floor managers of OPD at Medanta, Gurgaon
- 100 patients over a period of 1 month
- Study area- Medanta – the Medicity, Gurgaon
- Duration of Study – 2 months
- Type of Data - Qualitative
- Technique – Direct Observation of Operations & Unstructured Interviews
- Tool- Written Descriptions
- Operational Definition:
    - Operational Process Flow – Billing process pertaining to real time activity on floors by Billing executives
    - IT Process Flow – Billing process carried out using the system and software like HIS and SAP
- Inclusion criteria –
    - Number of patients getting billing done at OPD
    - Patients getting billed for Diagnostic services
- Exclusion criteria – Patients getting admitted in IPD or Emergency and Day care
- Data collection - Primary and Quantitative (4 weeks)
- Data entry - Manually
- Data Analysis – Microsoft Excel
- Sequence Analysis (also known as Flow Analysis)
    - Some of the easiest problems to miss in a process involve the sequence or flow of information. To discover these opportunities it may require the input from someone who is not part of the process on a daily basis, perhaps even someone who is new to the organization and doesn't already understand "how things are done." A process flow model is extremely helpful in these situations.

Result

- The Problem Areas identified after analysis of the Billing process flow gives the following areas of concern along with the recommendations apart from the ones mentioned along with the process flow are as follows:-

S. No.	Gap Areas	Recommendations
1	Training schedule for the following Users (Operational & IT) not defined ▪ Billing Executives using IT software ▪ Floor Managers	Training Schedule and Manual for Users should be defined (Sample Manual attached in Appendix)
2	Manual prescriptions lead to errors	Electronic prescriptions to be encouraged
3	Lengthy process in the system	Alternate process flows to be tested
4	Cancellation and Refunds ▪ Protocol not defined ▪ Manual processing followed	Authorization of Cancellation and Refunds to be given to the Floor Managers through the system to reduce and discontinue manual processes eventually

Contents

Acknowledgement

A Dissertation project is a golden opportunity for learning and self development. I consider myself very lucky and honoured to have so many wonderful people lead me through in completion of this project. I consider myself fortunate for having been provided an opportunity to undergo summer training at Medanta – the Medicity, Gurgaon and wish to express my indebted gratitude to:

- Mr. Pankaj Sahani, Chief Operating Officer, Medanta the Medicity, for granting me the opportunity for training.
- Mrs. Monica Mudgal, Senior Vice President & Head - HR, Medanta the Medicity, for granting me the opportunity and assigning me my projects.
- Dr. Awadhesh Kumar Dubey, Medical Superintendent, Medanta the Medicity, for granting me the opportunity for training.
- I take this opportunity to express my profound gratitude and deep regards to my Mentor, Mr. Rajiv Sikka, Chief Information Officer & Associate Vice President who in spite of being extraordinarily busy with his duties, took time out to hear, guide and keep me on the correct path throughout the course of this project. A special thanks to the IT team for the constant support during the course of my project.
- I also wish to extend a special thanks to the Operations Control Team, especially to Mr. Vishal Rao, Assistant Manager, and all the Billing Executives and Floor Managers of OPD for their inputs and valuable suggestions.
- Dr. Goutam Sadhu, my mentor at IIHMR Jaipur, for his support and guidance, without which this training would not have been possible.
- Dr. Ashok Kaushik, Dean, Academic and Student Affairs, for his invaluable inputs and guidance for my projects, as they helped me to develop a line of thought for how to shape my project.
- Mr. Dalbir Singh, Placement Officer, IIHMR Jaipur, for facilitating my training at Medanta the Medicity.

Lastly, I thank almighty, my family and friends for their constant encouragement without which this assignment would not be possible.

List of Symbols and Abbreviations

1	**Accounts receivable (A/R) aging report** A report outlining categories of claims based on the age of the account.
2	**Admission** The act of being received into a place or a patient accepted for inpatient services in a hospital.
3	**Admission Evaluation Protocols (AEP)** Outlines appropriate conditions for a hospital admission based on standards referred to as the IS/SI criteria. IS refers to the intensity of service criteria. SI refers to the severity of illness criteria.
4	**Admission summary** A summary of information about the patient's admission, such as the patient's name and address, insurance company name, reason(s) for admission, attending physician's name, and referring physician's name. The admission summary is also known as a face sheet.
5	**Advanced Beneficiary Notice (ABN)** A notice informing the patient that there is reason to believe the admission will not be covered by Medicare. The patient's signature is required on this form to acknowledge that he or she will be financially responsible if Medicare does not cover the service.
6	**Advanced directives** Provide instructions regarding measures that should or should not be taken in the event medical treatment is required to prolong life.
7	**Ambulatory payment classification (APC)** A Prospective Payment System (PPS) implemented to provide reimbursement for hospital outpatient services. Under APC, the facility is paid a fixed fee based on the resources utilized to provide the service or procedure.
8	**Assignment of benefits** Instructs the insurance company or government plan to forward benefits (payments for services) to the hospital.
9	**Charge capture** The process of gathering charge information and recording it on the patient's account.
10	**Charge Description Master (CDM**) A computerized system used by the hospital to inventory and record services and items provided by the hospital. CDM is commonly referred to as the chargemaster.
11	**CMS-1450 (UB-92)** Universally accepted claim form used to submit facility charges for hospital inpatient and outpatient services.
12	**CMS-1500** Universally accepted claim form for submission of physician and outpatient services and Durable Medical Equipment (DME).
13	**Co-insurance** An amount the patient is responsible to pay that is calculated based on a percentage of approved charges.
14	**Co-payment** A set amount that is paid by the patient for specific services. Co-payment is commonly referred to as a copay.

16	**Deductible** An annual set amount determined by each payer that the patient must pay before the plan pays benefits for services.
17	**Diagnosis Related Groups (DRG)** A Prospective Payment System (PPS) implemented to provide reimbursement for hospital inpatient services. Under DRG, the facility is paid a fixed fee based on the patient's condition and relative treatments.
18	**Encounter form** A charge tracking document utilized to record services, procedures, and items provided during the visit and the medical reason for the services provided.
19	**Explanation of Benefits (EOB)** Another term used for remittance advice.
20	**Explanation of Medicare Benefits (EOMB)** Another term used for remittance advice.
21	**Facility charges** Charges that represent the cost and overhead for the technical component of patient care services, which include space, equipment, supplies, drugs and biologicals, and technical staff.
22	**Financial class** A classification of patient accounts and information such as charges, payments, and outstanding balances, grouped according to payer types.
23	**Guarantor** The individual who is responsible to pay for services provided.
24	**Informed Consent for Treatment** A form utilized by the hospital to obtain the patient's authorization for treatment. The form must be signed by the patient before treatment can be provided.
25	**Insurance verification** The process of contacting the patient's insurance plan to determine various aspects of coverage such as whether the patient's coverage is active, what services are covered, authorization requirements, and patient responsibility.
26	**Medical necessity** Services or procedures that are reasonable and medically necessary in response to the patient's symptoms according to accepted standards of medical practice.
27	**Medical record** A chart or folder where patient's information is stored, including demographic, insurance, financial, and medical information.
28	**Medical record number (MRN)** A unique identification number assigned by the hospital to each patient's medical record. The MRN remains the patient's medical record number indefinitely.
29	**Patient registration form** A form utilized by the hospital to obtain patient information including demographic, insurance, and financial information.
30	**Professional charges** Charges that represent physician and other non-physician clinical services, the professional component of patient care services.
31	**Prospective review** A review performed prior to the patient admission to determine appropriateness of the admission and length of stay.
32	**Remittance advice (RA)** A document prepared by payers to communicate payment determination to hospitals and patients. The RA includes detailed information about the charges submitted and an explanation of how the claim was processed.

33	**Retrospective review** A review conducted after the patient is discharged to determine appropriateness of admission and care provided.
34	**Written Authorization for Release of Information** Provides authorization for the hospital to release personal health information when required for treatment and to obtain payment for services.
35	**HIS** Hospital Information System
36	**SAP** Systems, Applications and Product in Data Processing
37	**IT** Information Technology
38	**OPD** Out-patient Department

List of Figures

Introduction

The flow of information is a critical factor in providing efficient patient care and billing for services rendered during the patient visit. The process of admitting, treating, discharging, and billing patient care services requires various departments to perform specific functions simultaneously. One function is to document all information regarding patient care services including the patient's condition, disease, injury, illness, or other reason for treatment. Designated personnel within each department are responsible for documenting patient care services in the patient's medical record. Patient care services are coded and charges are entered by specified personnel in various clinical departments and by the Billing executives. Patient charges are submitted to patients and third-party payers after the patient is discharged.

The hospital billing process begins when a patient arrives at the hospital for diagnosis and treatment of an injury, illness, disease, or condition. The patient's demographic and insurance information is obtained and registered in the hospital's information system. Physician's orders or a requisition outlines the patient care services required. Patient care services and items provided during the patient's stay are recorded on the patient's account. Charges are posted to the patient's account by various departments. When the patient leaves the hospital, all information and charges are prepared for billing. The billing process involves all the functions required to prepare charges for submission to patients and third-party payers in order for the hospital to obtain reimbursement. It includes patient registration, posting charges to the patient's account, chart review and coding, preparing claim forms and patient invoices or statements for charge submission, and monitoring and follow-up of outstanding accounts. The term claims process refers to the portion of billing that involves preparing claims for submission to payers. An extension of the billing process is collections, which involves monitoring accounts that are outstanding and pursuing collection of those balances from patients and third-party payers.

The complexity of the hospital billing process is a result of the health care industry's evolution. The history of hospitals explains how medicine changed over the years and how hospitals evolved as a result of that change. It also shows the relationship among advances in medicine, hospital evolution, and rising health care costs. Health insurance and government-funded health was enhanced. Contracts between providers and payers were initiated. The process of submitting charges became more involved than providing services and collecting a fee from the patient. It now involves authorizations and certifications, medical record documentation, coding, participating provider agreements, various payer guide-lines, and different reimbursement systems. Because of the complexity of this system, hospital billing and coding professionals are required to have knowledge of all these elements to ensure that appropriate reimbursement is obtained and is in compliance with payer guidelines.

A survey conducted by HIT Consultant proved that Patients Who Encounter Problems with Their Physician's Billing Office Are Less Likely To Recommend That Physician/Clinician to Others. The following images summarize the results of the survey.

Fig. 1

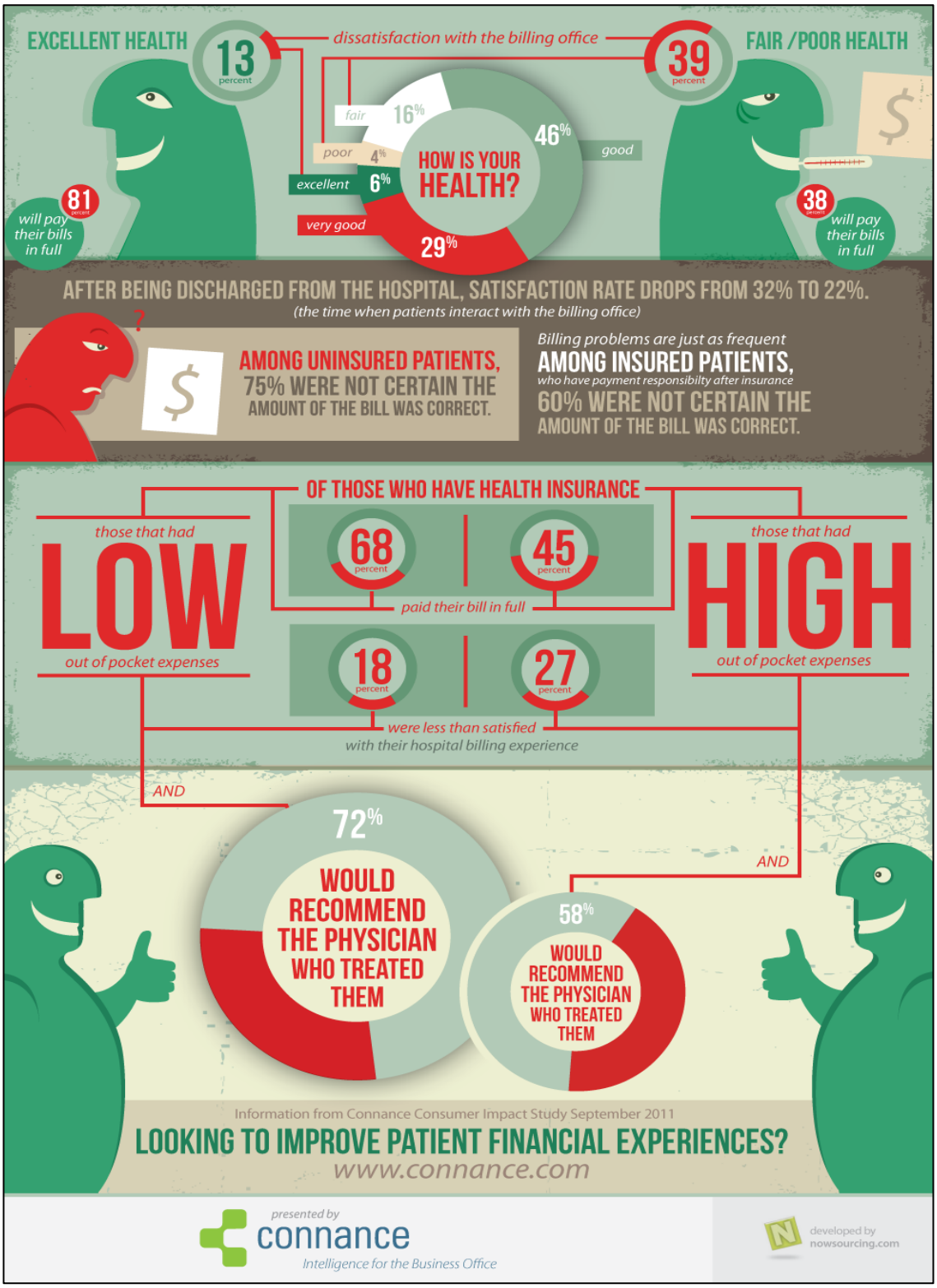

EXCELLENT HEALTH
13 percent
dissatisfaction with the billing office
39 percent
FAIR /POOR HEALTH
HOW IS YOUR HEALTH?
fair 16%
poor 4%
excellent 6%
very good 29%
46% good
81 percent will pay their bills in full
38 percent will pay their bills in full
AFTER BEING DISCHARGED FROM THE HOSPITAL, SATISFACTION RATE DROPS FROM 32% TO 22%.
(the time when patients interact with the billing office)
AMONG UNINSURED PATIENTS, 75% WERE NOT CERTAIN THE AMOUNT OF THE BILL WAS CORRECT.
Billing problems are just as frequent
AMONG INSURED PATIENTS,
who have payment responsibilty after insurance
60% WERE NOT CERTAIN THE AMOUNT OF THE BILL WAS CORRECT.
OF THOSE WHO HAVE HEALTH INSURANCE
those that had
LOW
out of pocket expenses
68 percent
45 percent
paid their bill in full
18 percent
27 percent
were less than satisfied
with their hospital billing experience
those that had
HIGH
out of pocket expenses
AND
72%
WOULD RECOMMEND THE PHYSICIAN WHO TREATED THEM
AND
58%
WOULD RECOMMEND THE PHYSICIAN WHO TREATED THEM
Information from Connance Consumer Impact Study September 2011
LOOKING TO IMPROVE PATIENT FINANCIAL EXPERIENCES?
www.connance.com
presented by
connance
Intelligence for the Business Office
developed by
nowsourcing.com

Fig. 2

Aim

To undertake Sequence Analysis of Billing operations in the Out-Patient Department at Medanta-the Medicity

Objectives

5. To evaluate the existing process flow of Billing activity in Out-patient department
6. To identify the areas of concern
7. To collect, collate, organise and carry out Sequence analysis of the process
8. To recommend user-friendly IT and Operational solutions in Billing process

Outline of Research Approach

A descriptive cross-sectional study was carried out over a period of 2 months to assess the existing billing process and to carry out gap analysis of the same for the OPD at Medanta. The data was collected through direct observation of operations and unstructured interviews. The collected data was mainly qualitative in nature.

Literature Review

Patient accounts and data flow

The flow of information in the hospital includes the patient's demographic, insurance, and medical information. The flow of data begins when the patient reports to the hospital for patient care services. The type of data and flow vary based on the type of service the patient requires. As discussed in the previous chapter, various administrative, financial, operational, and clinical departments perform functions required to provide efficient patient care and submit charges to patients and third-party payers for services rendered. Clinical departments provide patient care services. Various administrative and operational departments perform other critical functions such as human resource management, compliance, health information management, and utilization management. Financial departments are responsible for preparing charges for submission and accounts receivable management. The data flow in a hospital is de-signed to ensure that required data are accessible for personnel to perform various functions. Automation of the patient's accounts, order entry, charge capture, billing, and accounts receivable allow greater access to patient information by various individuals within the hospital. The hospital's health information system allows the recording, storage, processing, and access of data by various departments simultaneously. Departments that perform specific functions may use data entered by another department. This level of automation enhances the flow and use of information throughout the hospital. The flow of information begins when the patient is received during the admission process. Variations in the flow of information occur based on whether the patient presents for outpatient services, ambulatory surgery, or inpatient services.

Outpatient

Outpatient services are those that are provided on the same day that the patient is released. The patient is received in various outpatient areas such as the Emergency Department, laboratory, radiology, clinic, or primary care office. Admission tasks required to receive the patient are performed. Patient care services are rendered.

Pharmaceuticals and other items such as supplies and equipment may be required. All patient care services are recorded in the medical record. Charges for outpatient services are entered through the **Charge Description Master** (CDM), commonly referred to as the chargemaster, which is a computerized system used by the hospital to inventory and record services and items provided by the hospital. Charges for services provided in a clinic or primary care office are posted to the patient account. The patient is released and the billing process begins. Accounts are monitored for follow-up to ensure that payment is collected in a timely manner. The flow of data for outpatient services is illustrated in Figure 4-2, *A*.

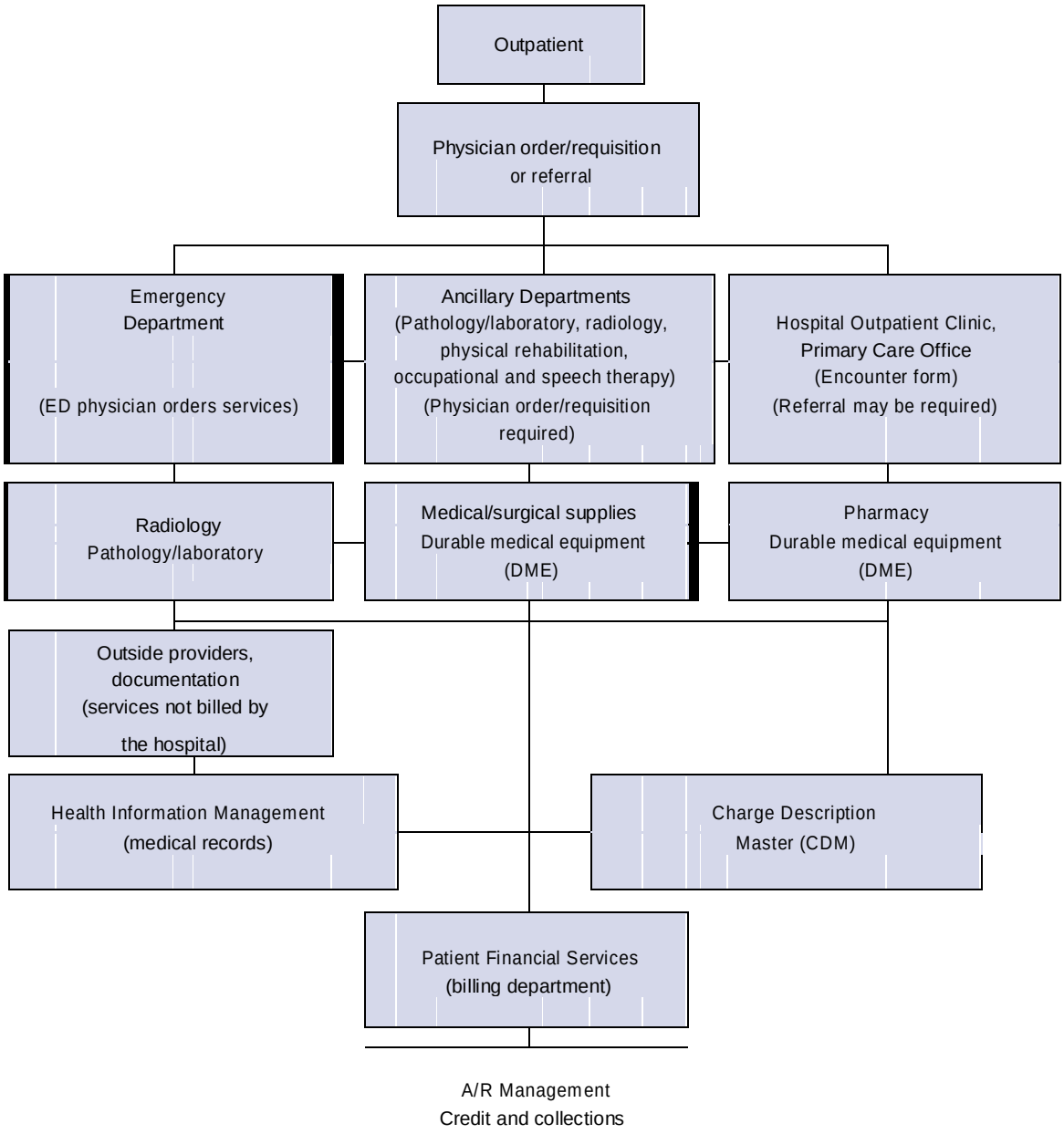


Figure 4-2 A, Patient accounts data flow for outpatient services
(B and C Modified from Abdelhak M, Grostick S, Hanken MA, Jacobs E (editors): Health information: management of a strategic resource, ed 2, St Louis, 2001, Saunders.)

Patient Care Process

The patient care process is complex, as it involves many departments simultaneously performing various tasks reimbursement in a timely manner. To achieve high standards of patient care and maintain financial stability, the hospital must have an efficient flow of information through the patient care process. Figure 4-5 illustrates the phases of the patient care process: patient admission, patient care services, medical record documentation, charge capture and coding, patient dis-charge, billing, and accounts receivable management.

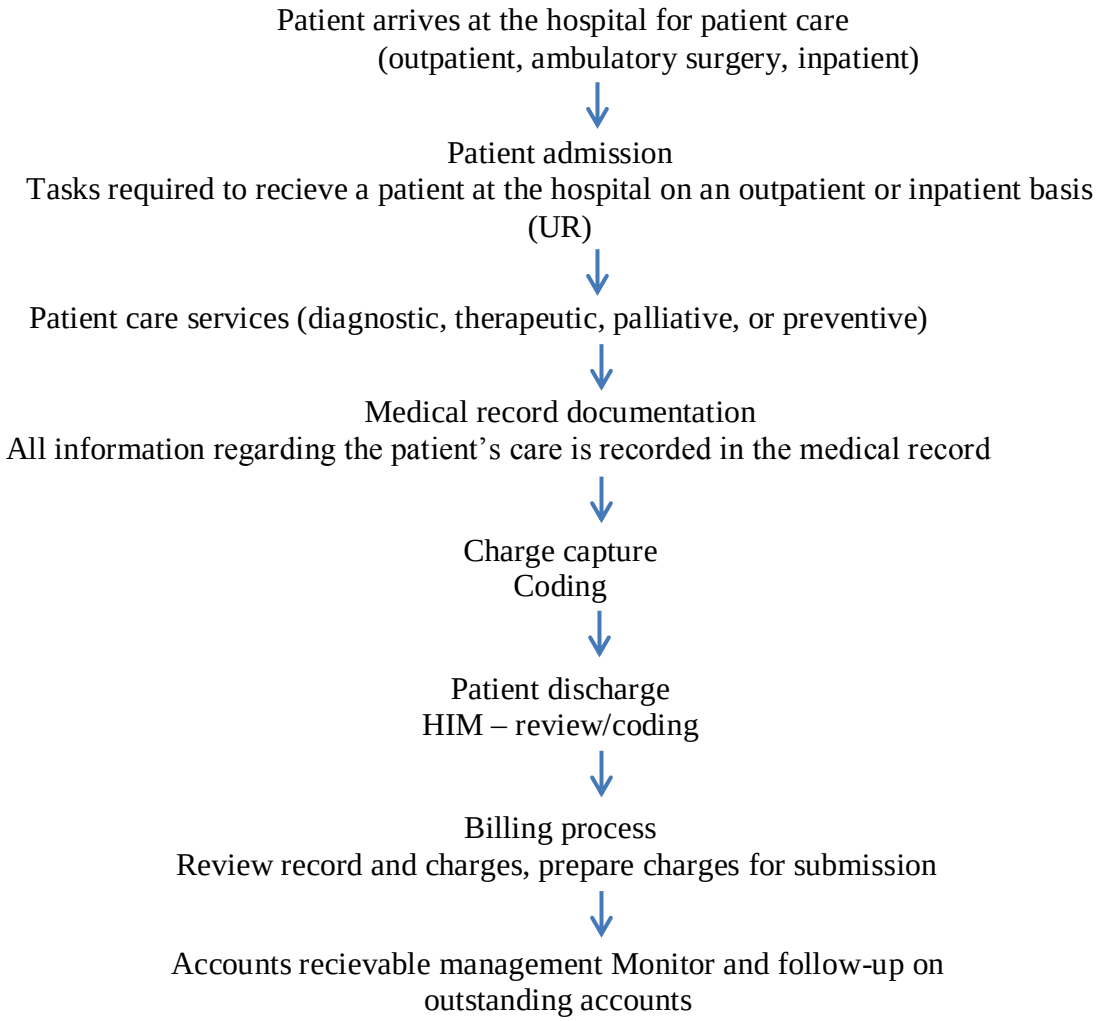


Figure 4-5 Phases of the patient care process

Hospital Billing Process

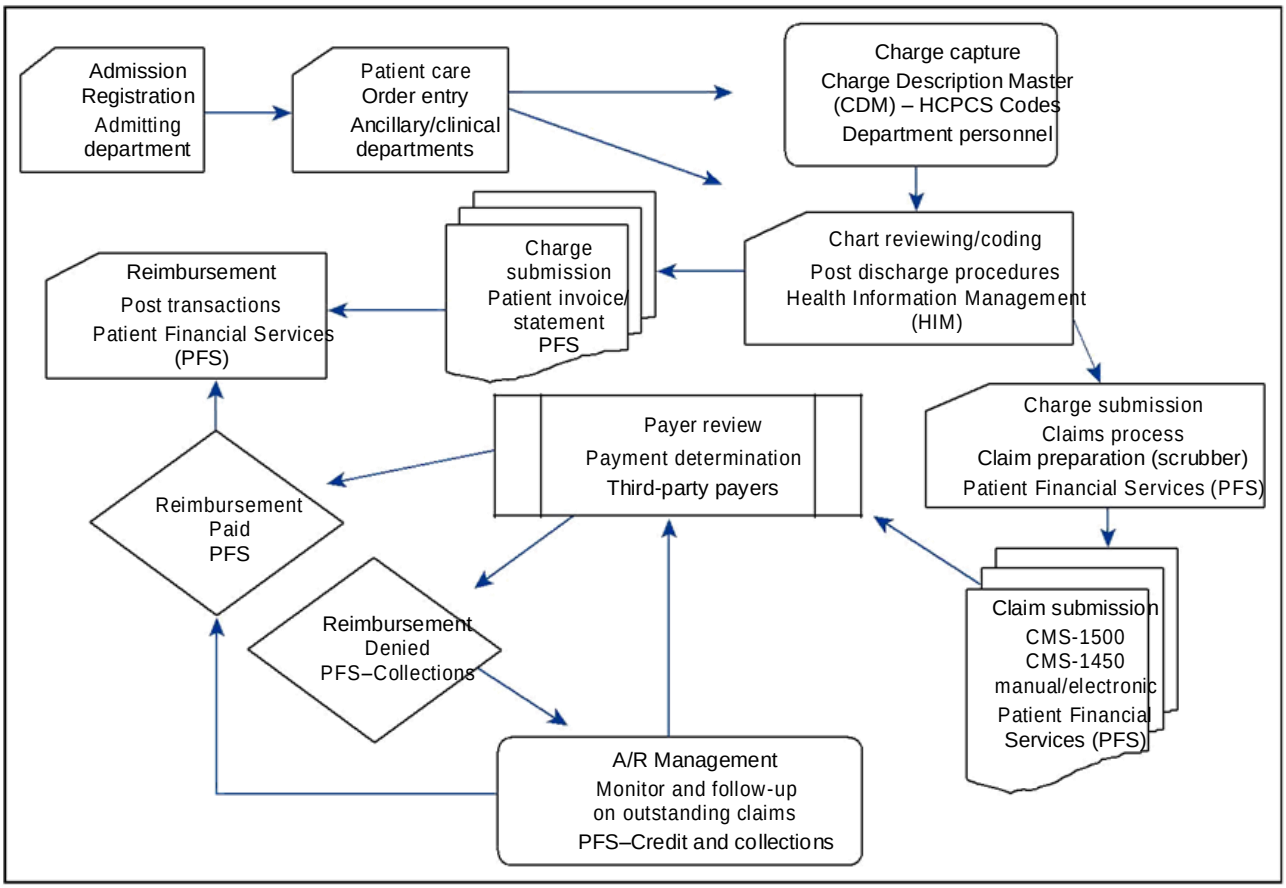


Figure 4-28 The hospital billing process. *(Courtesy Sandra Giangreco.*

To maintain financial stability the hospital must have an efficient process for obtaining reimbursement from patients and third-party payers. The hospital billing process begins when orders are submitted for patient care services, and it ends when the account balance is for billing throughout the patient stay. These data are utilized by the PFS Department to perform billing functions, which include charge submission and posting of patient transactions. The billing process includes preparation and submission of claim forms to third-party payers, preparation and submission of patient statements, and posting patient transactions such as payments and adjustments.

The billing process includes submitting charges to third-party payers and patients, posting patient transactions, and following-up on outstanding accounts. As discussed in the previous chapter, information collected during the patient visit is utilized to complete the tasks required to bill for services rendered. A review of the purpose of the billing process will provide an understanding of how vital billing functions are for the hospital to maintain a sound financial base.

The role of hospital billing and coding professionals is complicated because of the ever-changing health insurance environment and variations in payer guidelines. It is essential for billing and coding professionals to understand payer guidelines in order to ensure that proper reimbursement is obtained and to be compliant with payer guidelines.

Methodology

- *Type of study* - Descriptive cross-sectional
- *Study population* - All patients getting OPD billing done, Billing Executives and Floor managers of OPD at Medanta, Gurgaon
- *Study Sample* - Observation of 100 patients for 1 month
- *Study area*- Medanta – the Medicity, Gurgaon
- *Duration of Study* – 2 months
- *Type of Data* - Qualitative
- *Technique* – Direct Observation of Operations & Unstructured Interviews
- *Tool*- Written Descriptions
- *Operational Definition*:
    - Operational Process Flow – Billing process pertaining to real time activity on floors by Billing executives
    - IT Process Flow – Billing process carried out using the system and software like HIS and SAP
- *Inclusion criteria* –
        - Number of patients getting billing done at OPD
        - Patients getting billed for Diagnostic services
- *Exclusion criteria* –
        - Patients getting admitted in IPD or Emergency and Day care
- *Data collection* - Primary and Quantitative (4 weeks)
- *Data entry* - Manually
- *Data Analysis* – Microsoft Excel

- Sequence/Flow Analysis:-
    - Some of the easiest problems to miss in a process involve the sequence or flow of information. This is probably because it's easy to get caught up in the tradition of "we've always done it that way" or "if it isn't broken, don't fix it." Consideration should be given to the idea that just because something worked well and was quite successful 5 years ago (or even 2-3 years ago) that doesn't mean that as things change and the business changes the way the work is done shouldn't also be examined to determine if it should change as well.
    - To discover these opportunities it may require the input from someone who is not part of the process on a daily basis, perhaps even someone who is new to the organization and doesn't already understand "how things are done." A process flow model is extremely helpful in these situations.

Results & Discussion

After interactions with Billing executives, floor managers and IT professionals, the following issues were highlighted.

After recording the observations for a month for 100 patients, the following issues and concerns were highlighted along with a plausible list of solutions.

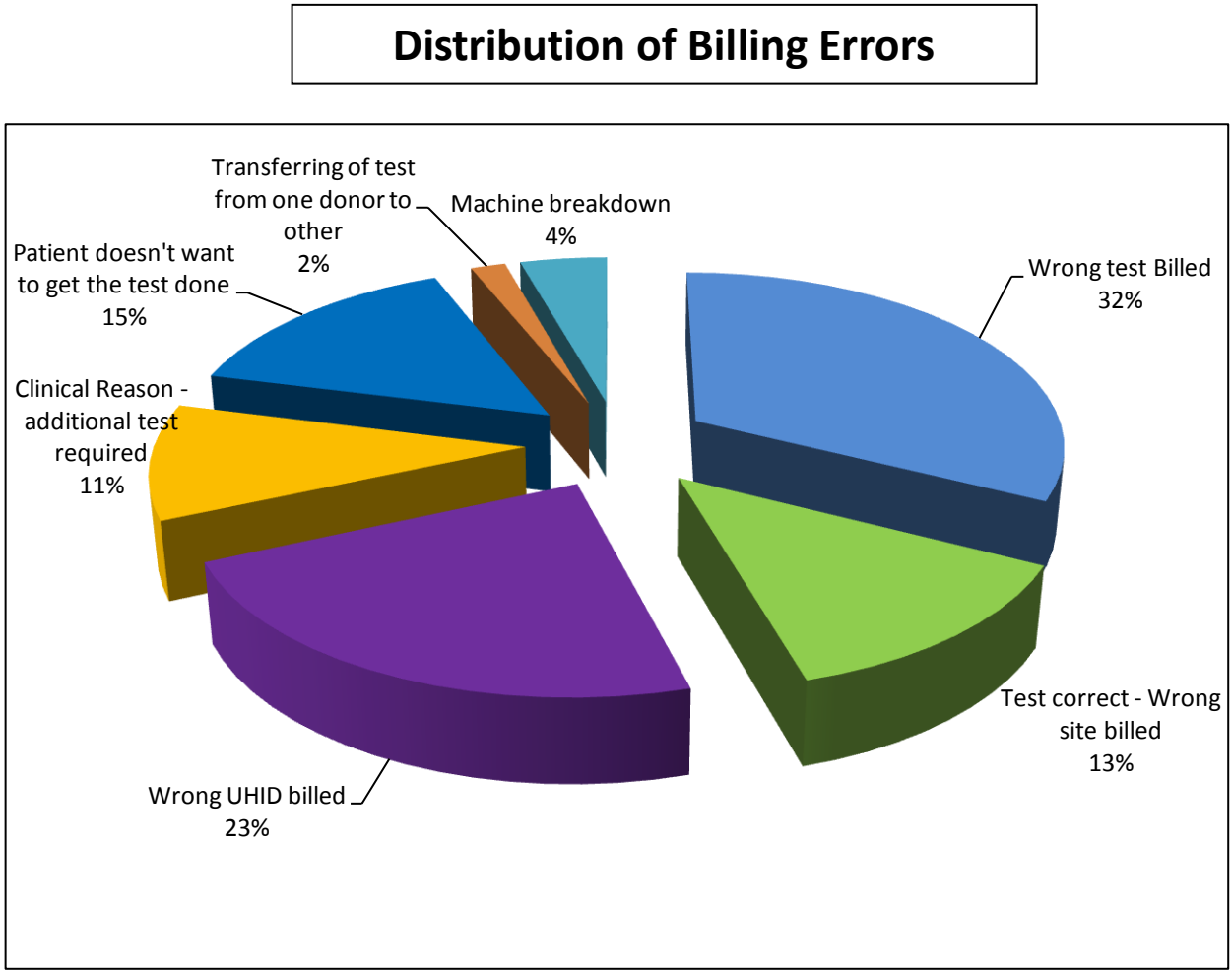


Fig. 3

The existing process flow for billing was analysed for gaps, exceptions, alternate process flows, comments and suggestions.

1. **PROCESS FLOW – Operations (**Fig. 4)

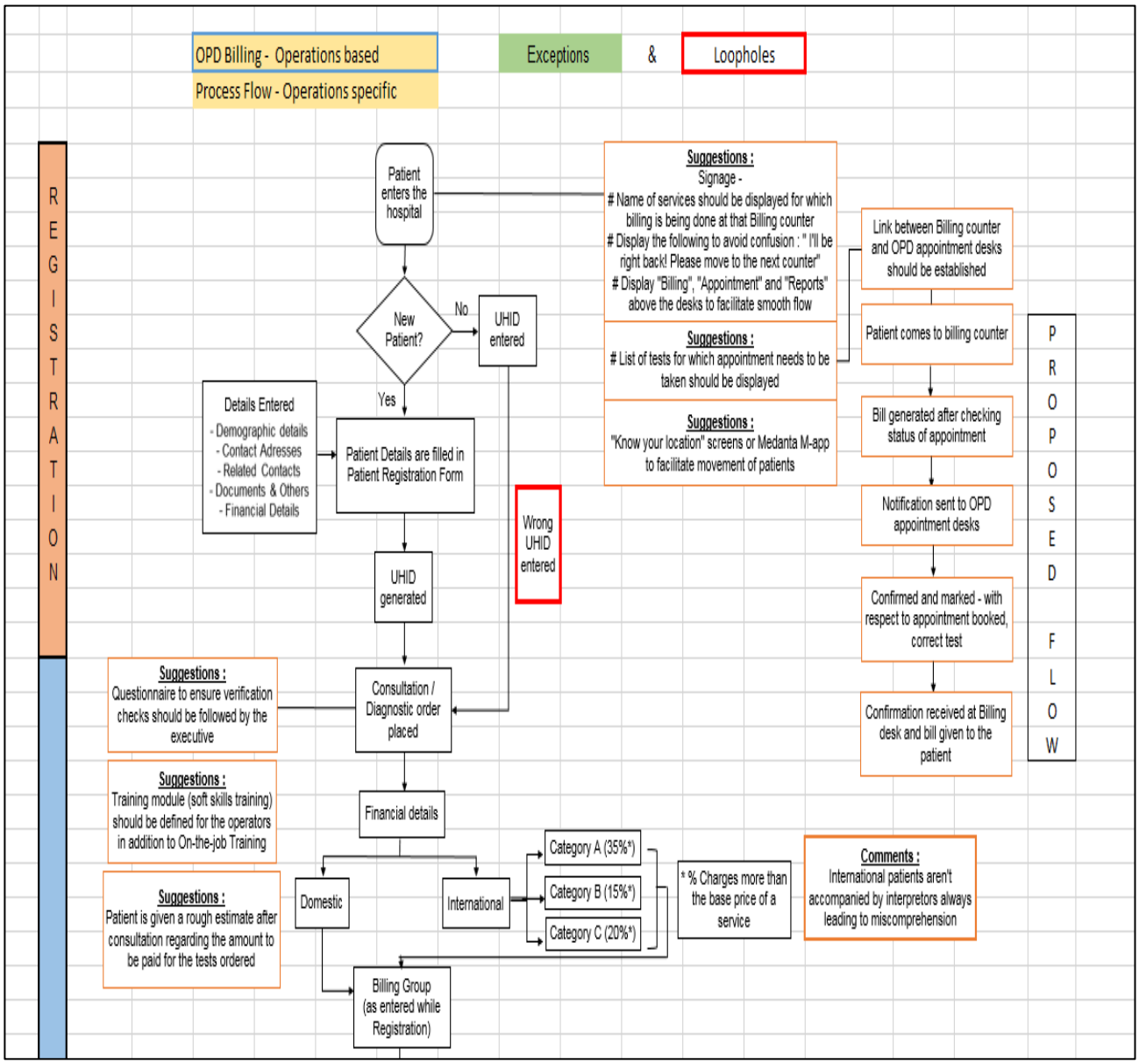


Fig. 4 continued

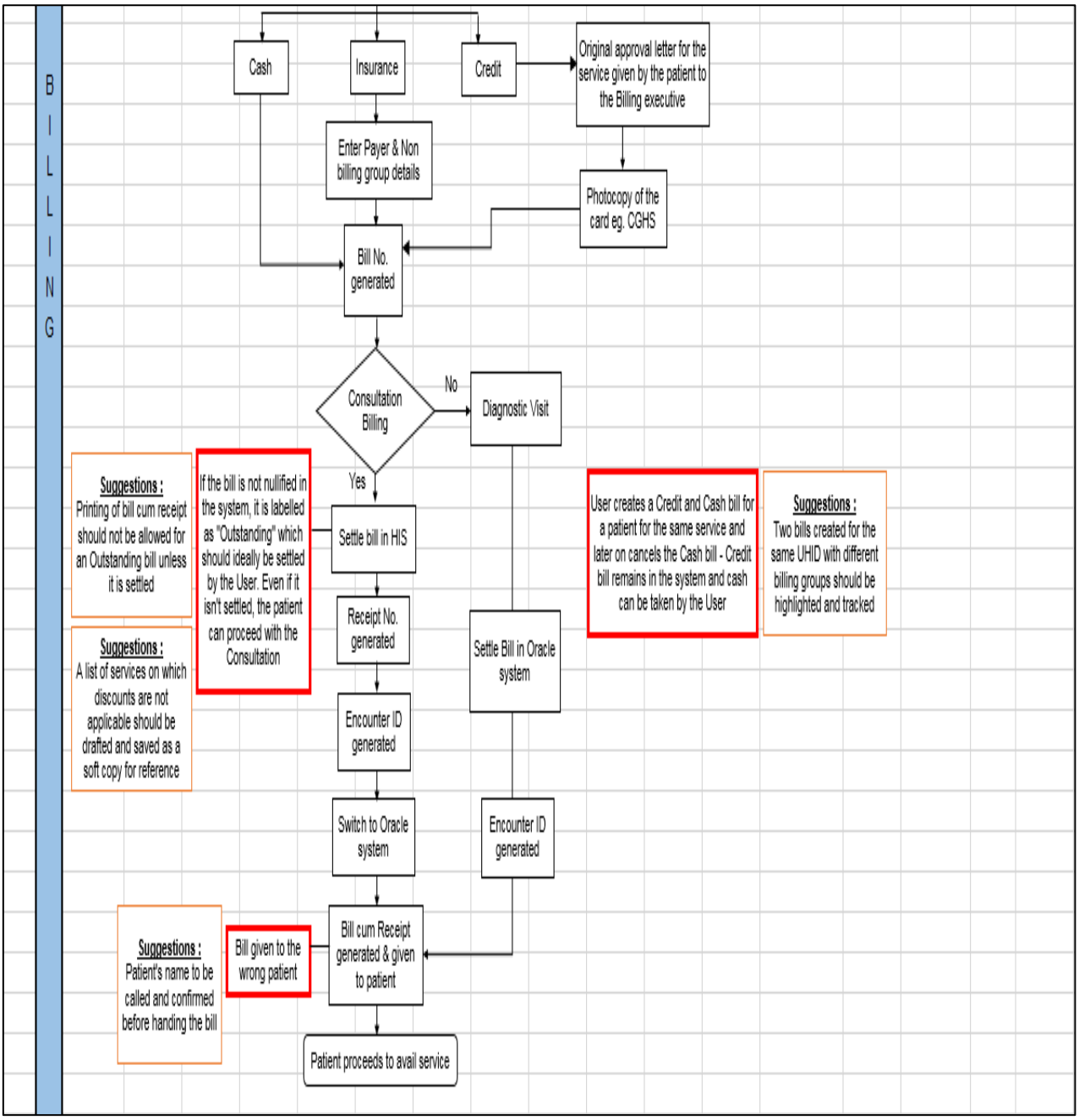
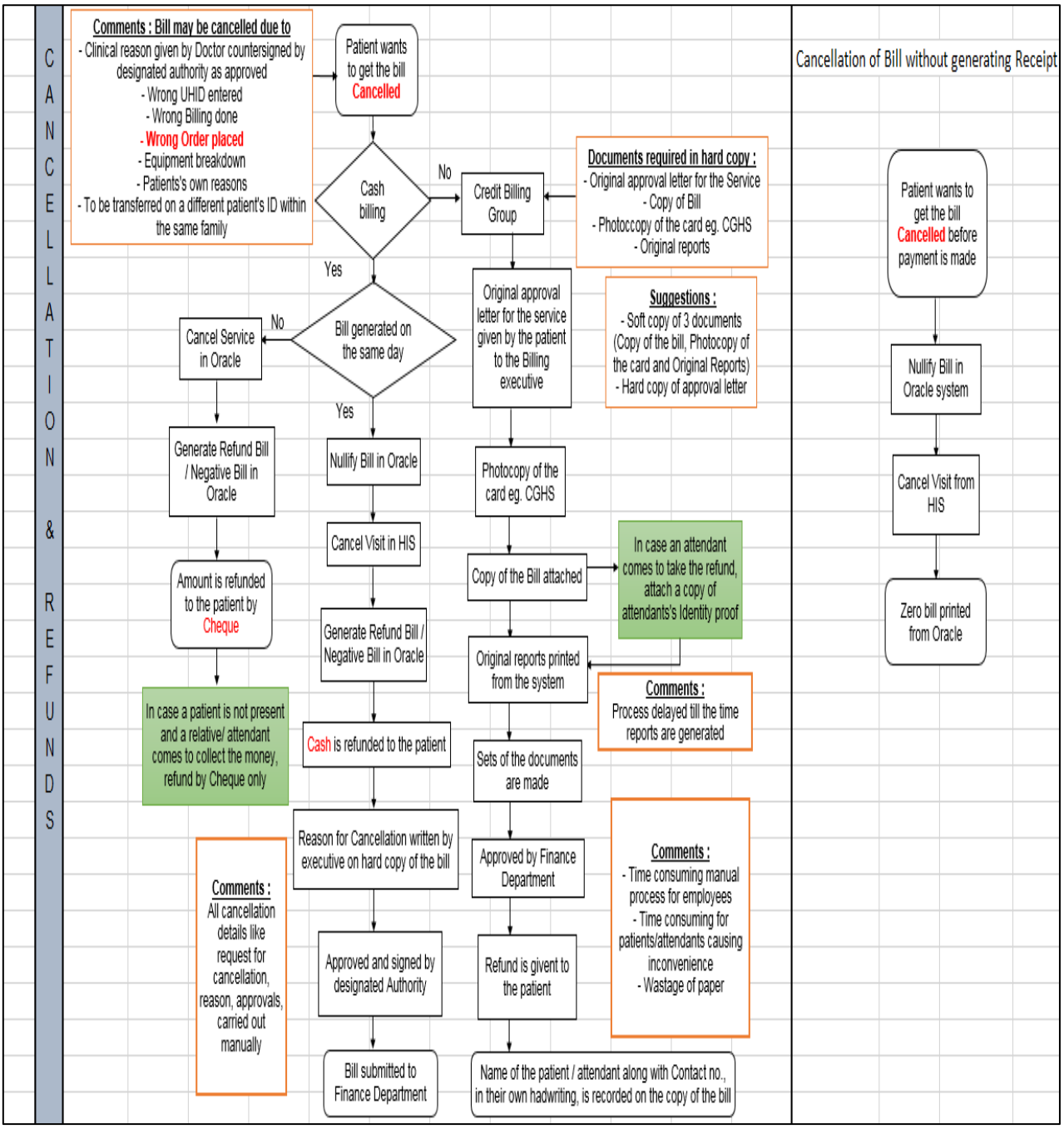


Fig. 4 continued


CANCELLATION & REFUNDS
Comments : Bill may be cancelled due to
- Clinical reason given by Doctor countersigned by designated authority as approved
- Wrong UHID entered
- Wrong Billing done
- Wrong Order placed
- Equipment breakdown
- Patients's own reasons
- To be transferred on a different patient's ID within the same family
Patient wants to get the bill Cancelled
Cash billing
No
Credit Billing Group
Documents required in hard copy :
- Original approval letter for the Service
- Copy of Bill
- Photoccopy of the card eg. CGHS
- Original reports
Yes
Bill generated on the same day
No
Cancel Service in Oracle
Original approval letter for the service given by the patient to the Billing executive
Suggestions :
- Soft copy of 3 documents (Copy of the bill, Photocopy of the card and Original Reports)
- Hard copy of approval letter
Yes
Generate Refund Bill / Negative Bill in Oracle
Nullify Bill in Oracle
Photocopy of the card eg. CGHS
Amount is refunded to the patient by Cheque
Cancel Visit in HIS
Copy of the Bill attached
In case an attendant comes to take the refund, attach a copy of attendants's Identity proof
In case a patient is not present and a relative/ attendant comes to collect the money, refund by Cheque only
Generate Refund Bill / Negative Bill in Oracle
Original reports printed from the system
Comments :
Process delayed till the time reports are generated
Cash is refunded to the patient
Sets of the documents are made
Comments :
All cancellation details like request for cancellation, reason, approvals, carried out manually
Reason for Cancellation written by executive on hard copy of the bill
Approved by Finance Department
Comments :
- Time consuming manual process for employees
- Time consuming for patients/attendants causing inconvenience
- Wastage of paper
Approved and signed by designated Authority
Refund is givent to the patient
Bill submitted to Finance Department
Name of the patient / attendant along with Contact no., in their own hadwriting, is recorded on the copy of the bill
Cancellation of Bill without generating Receipt
Patient wants to get the bill Cancelled before payment is made
Nullify Bill in Oracle system
Cancel Visit from HIS
Zero bill printed from Oracle

2. **PROCESS FLOW – IT** (Fig. 5)

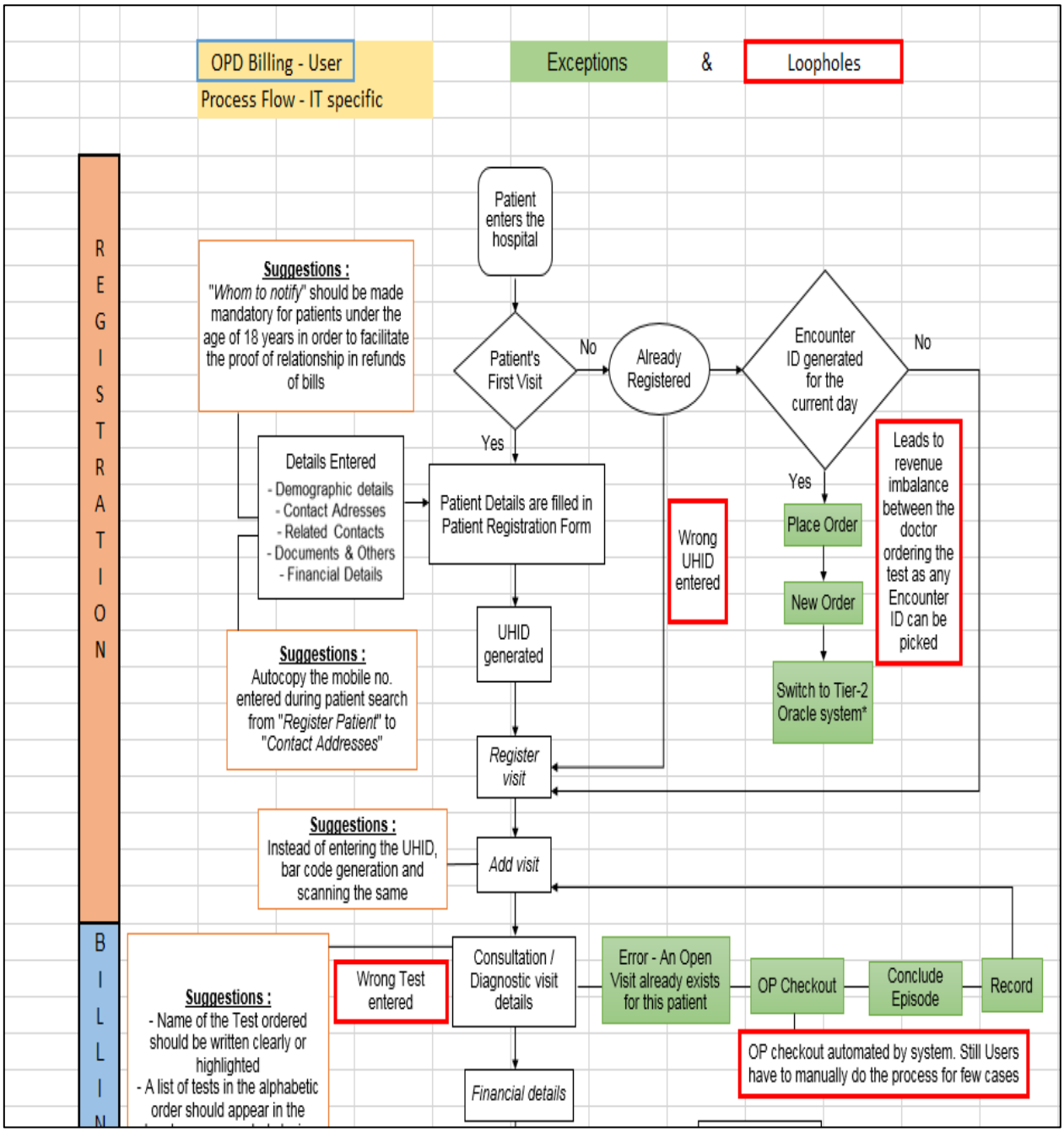


Fig. 5 continued

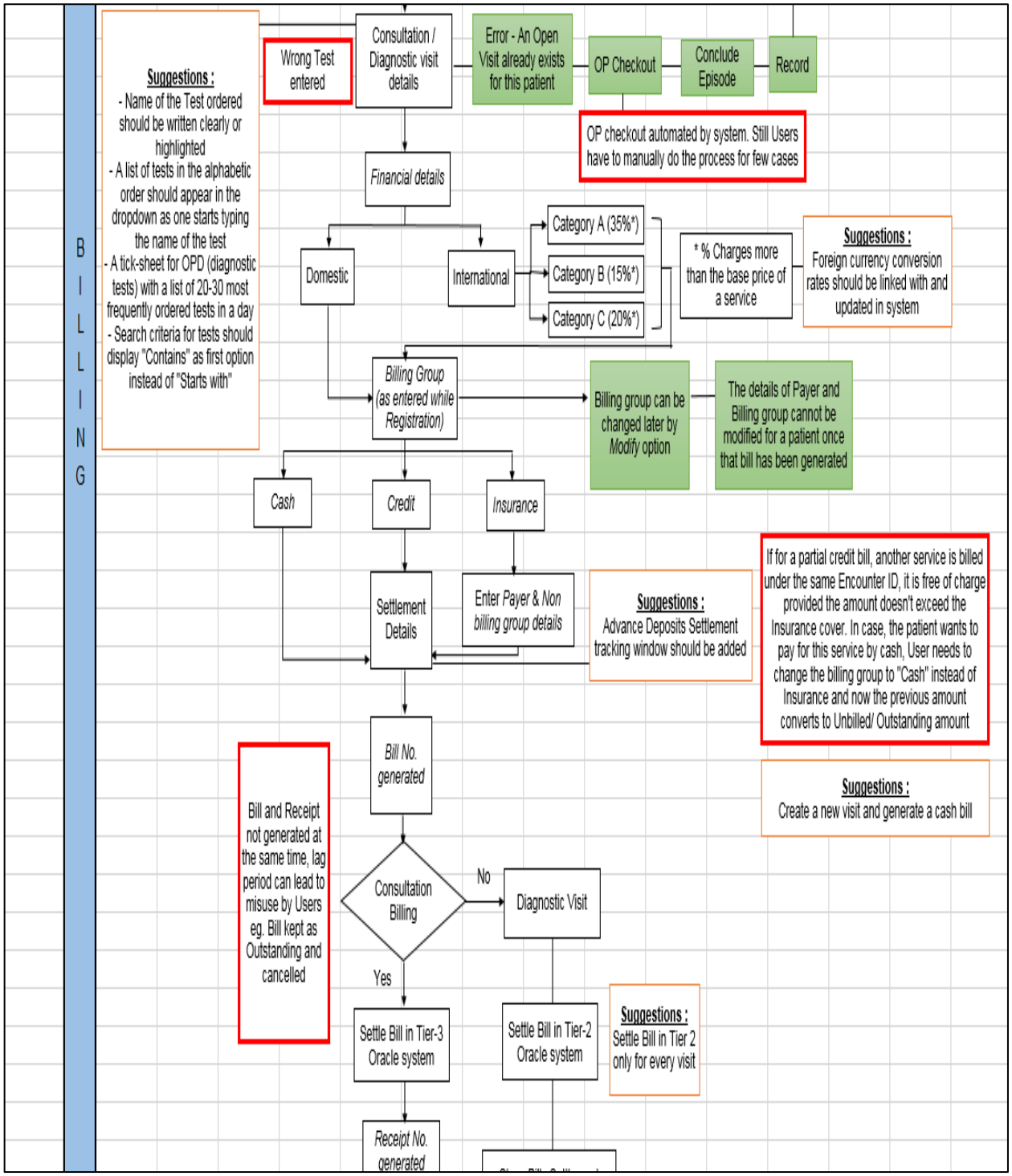


Fig. 5 continued

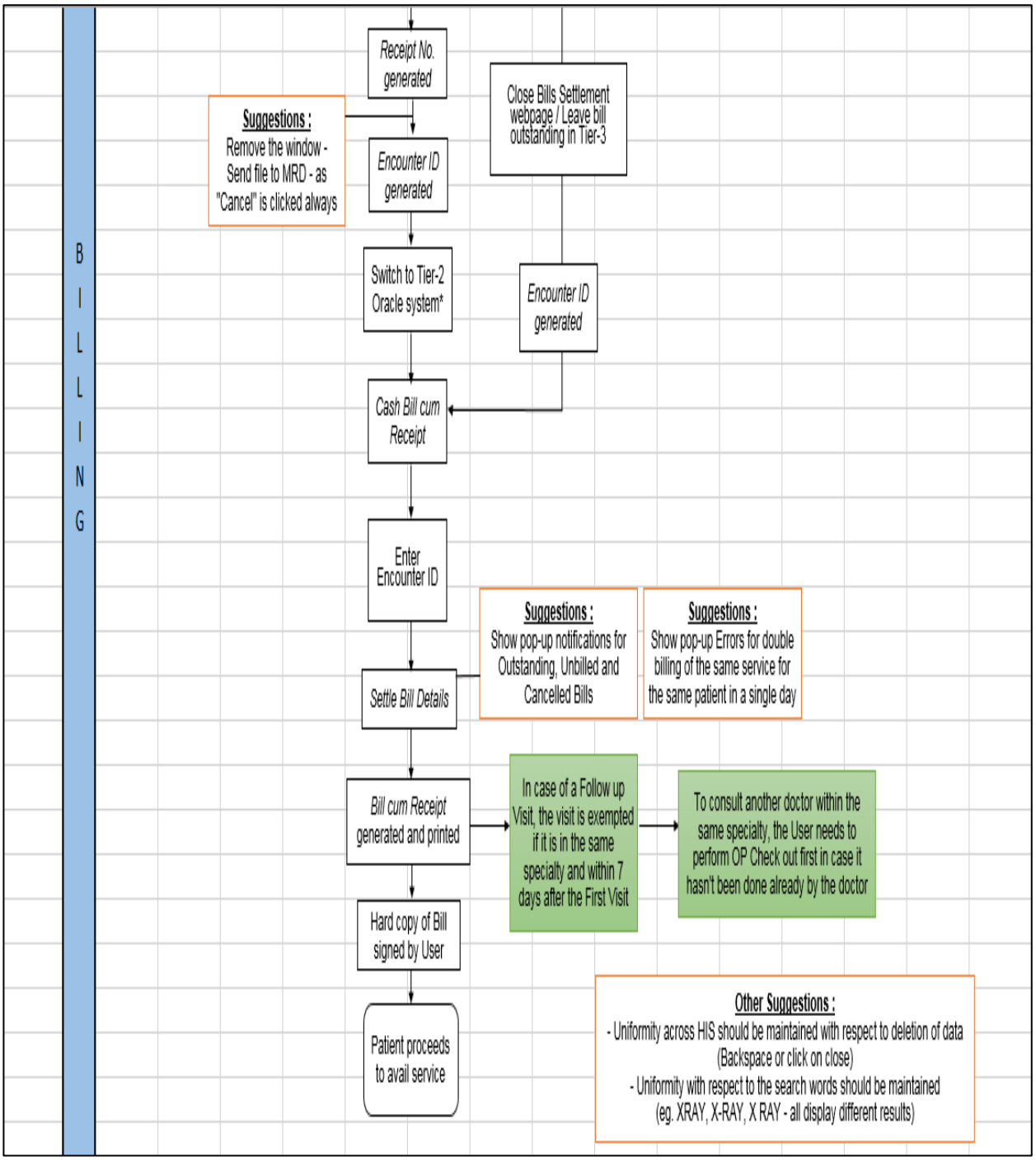
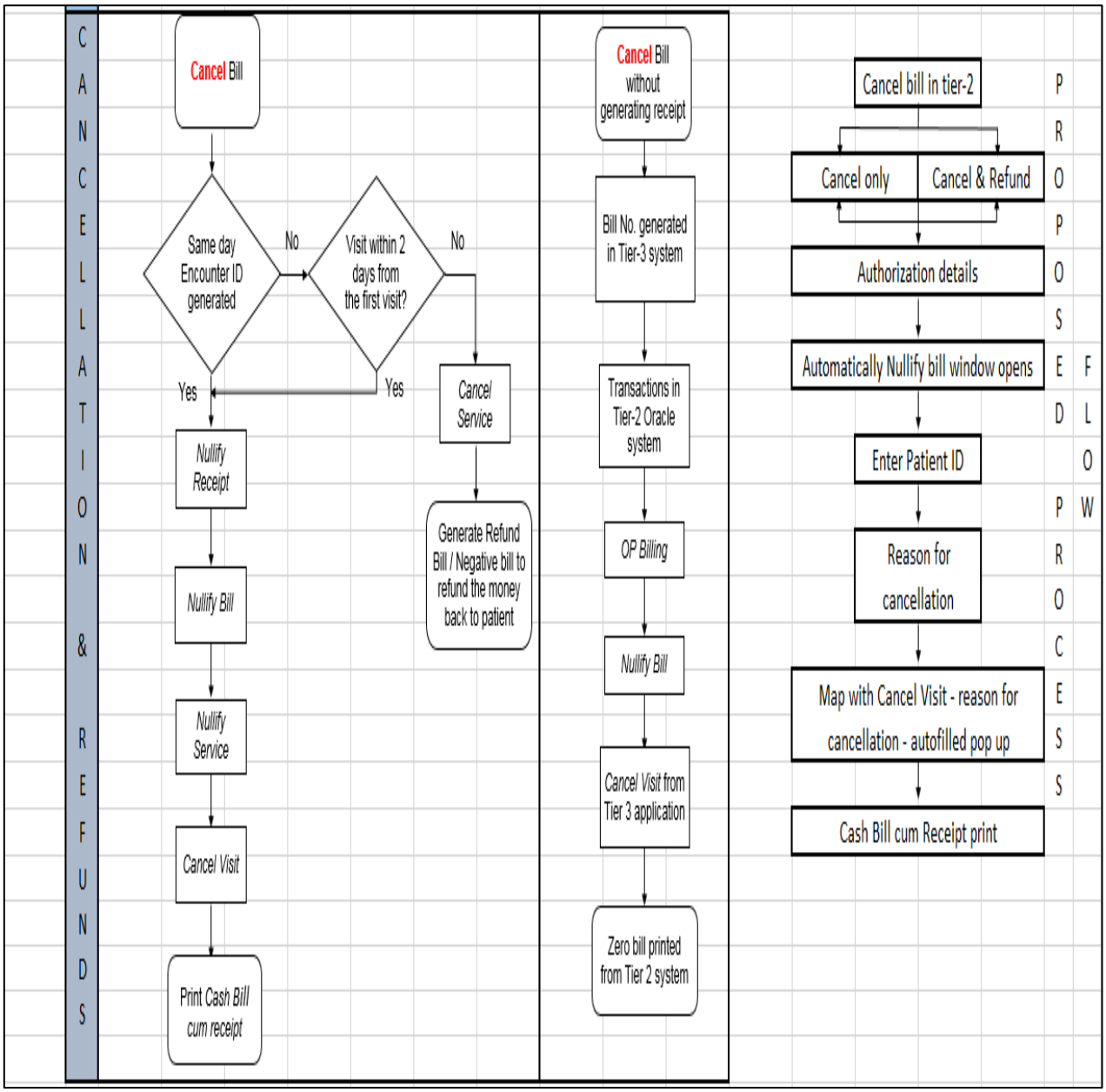


Fig. 5 continued



Conclusion

On the basis of the results obtained, the ideal process flow is framed as follows

1. **IDEAL PROCESS FLOW – Operations** (Fig. 6)

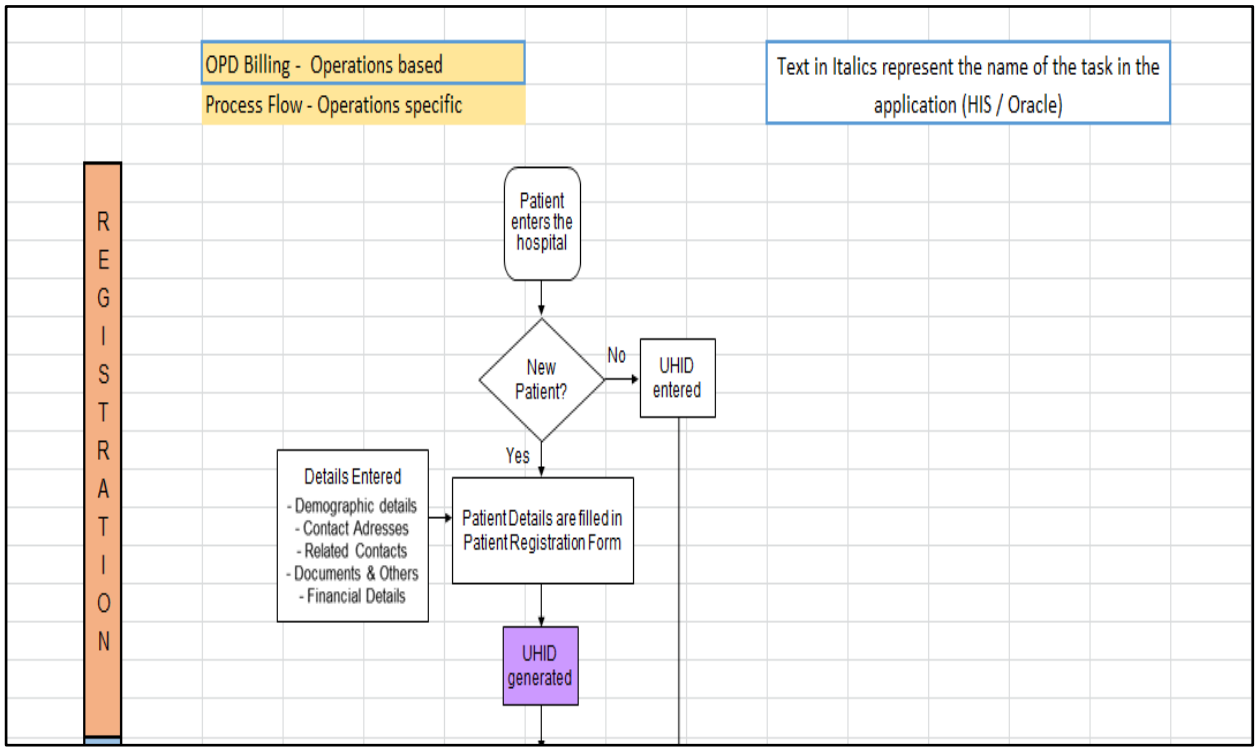


Fig. 6 continued

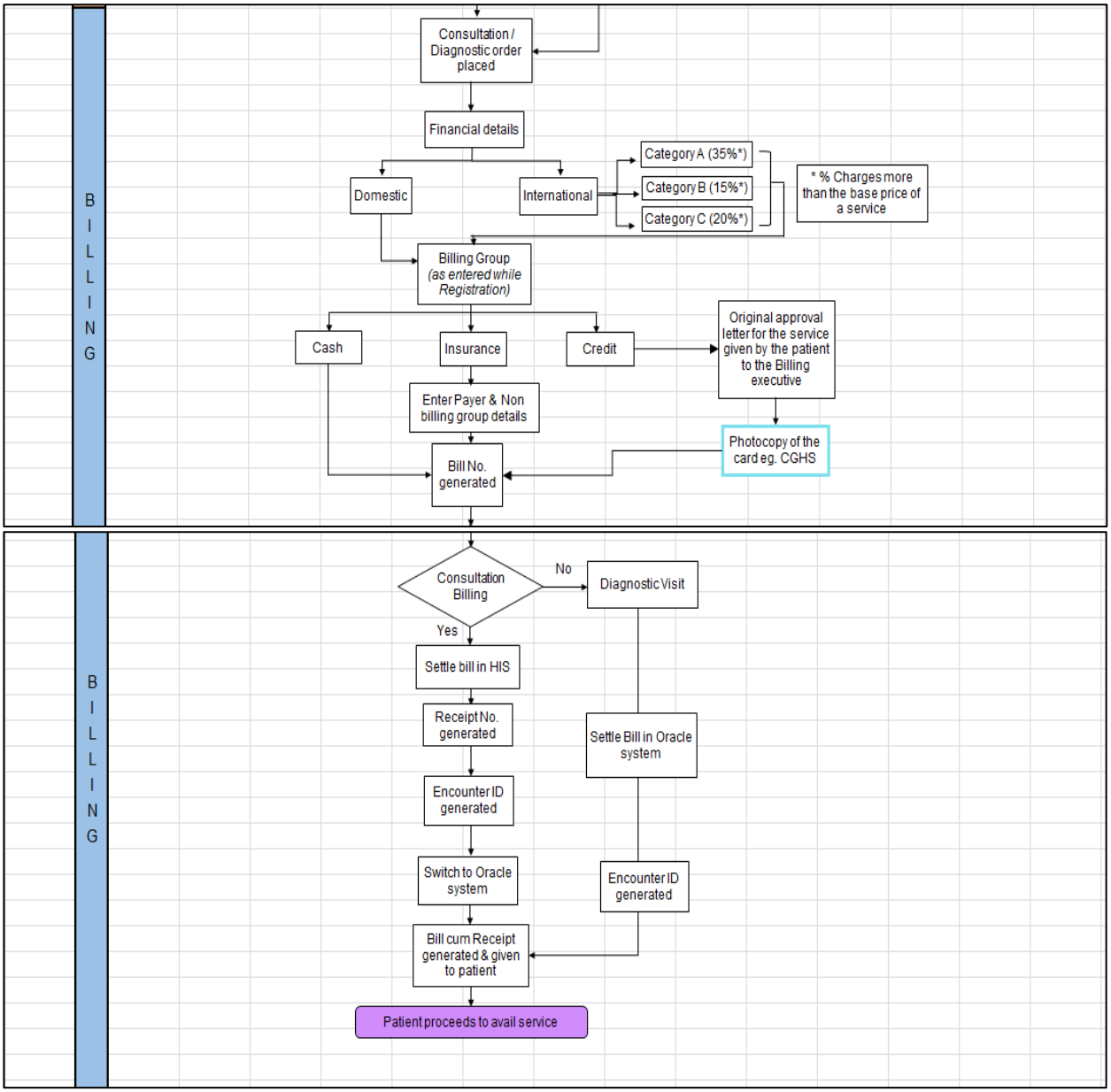
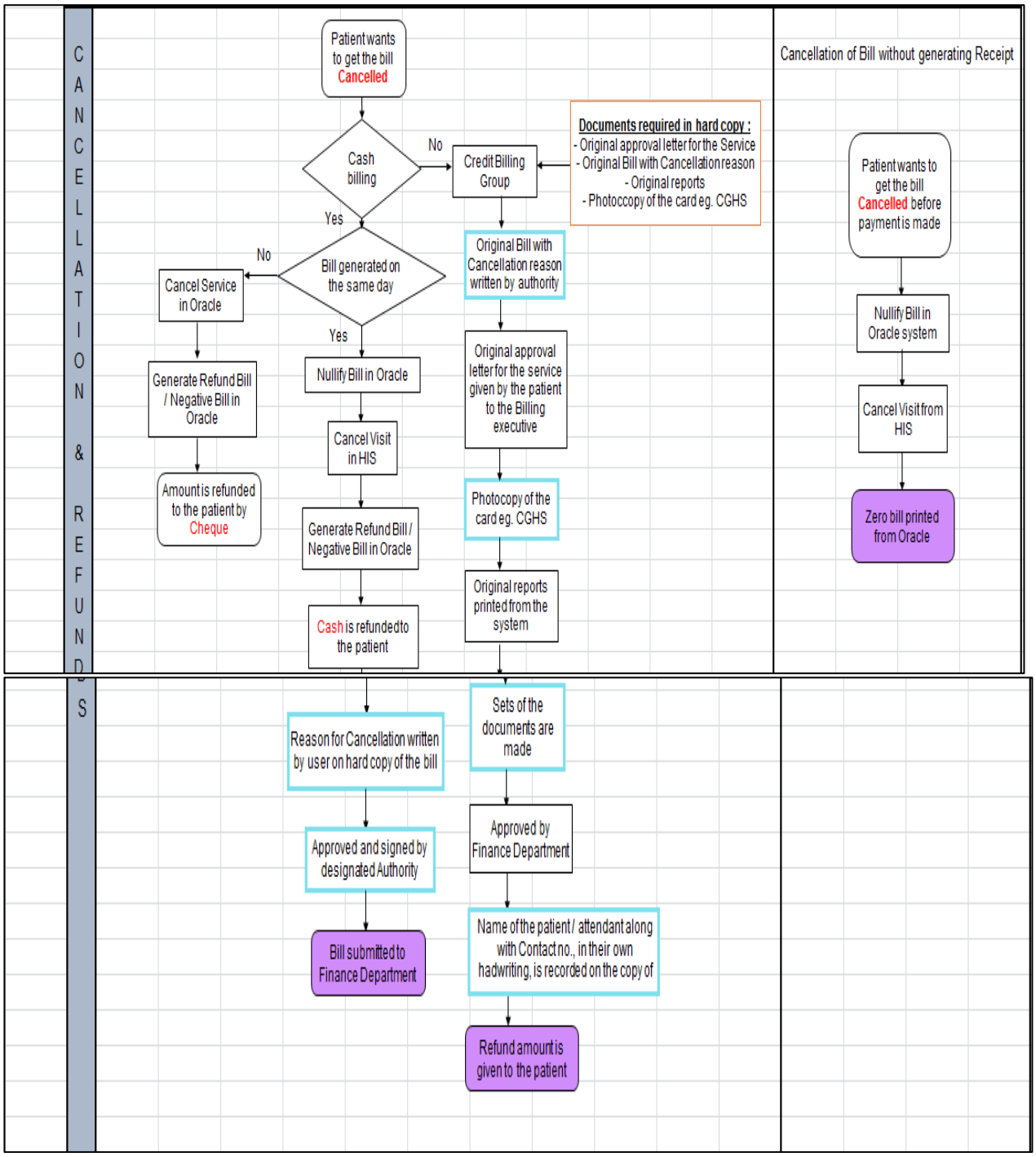


Fig. 6 continued



2. **IDEAL PROCESS FLOW – IT** (Fig. 7)

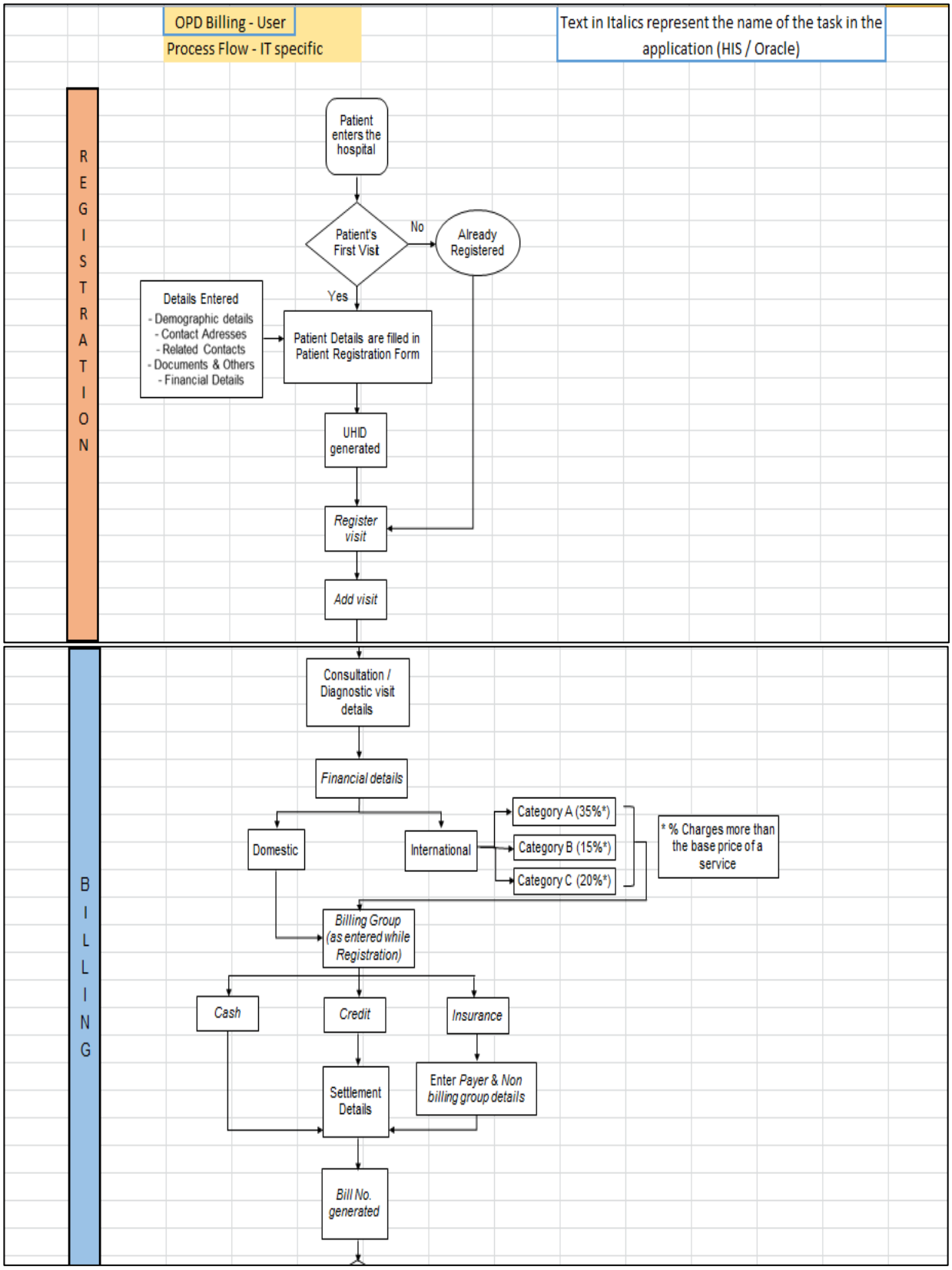


Fig. 7 continued

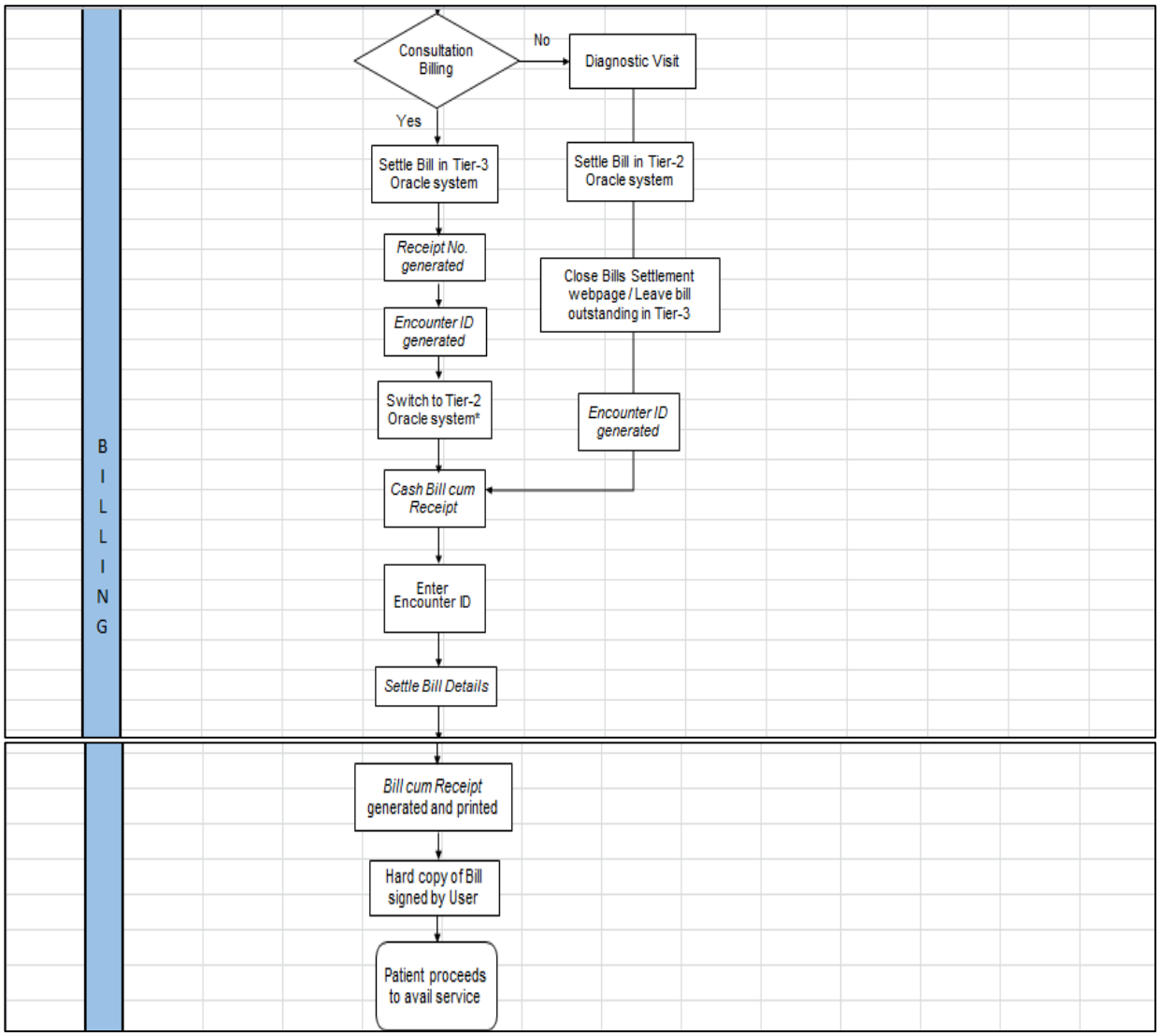
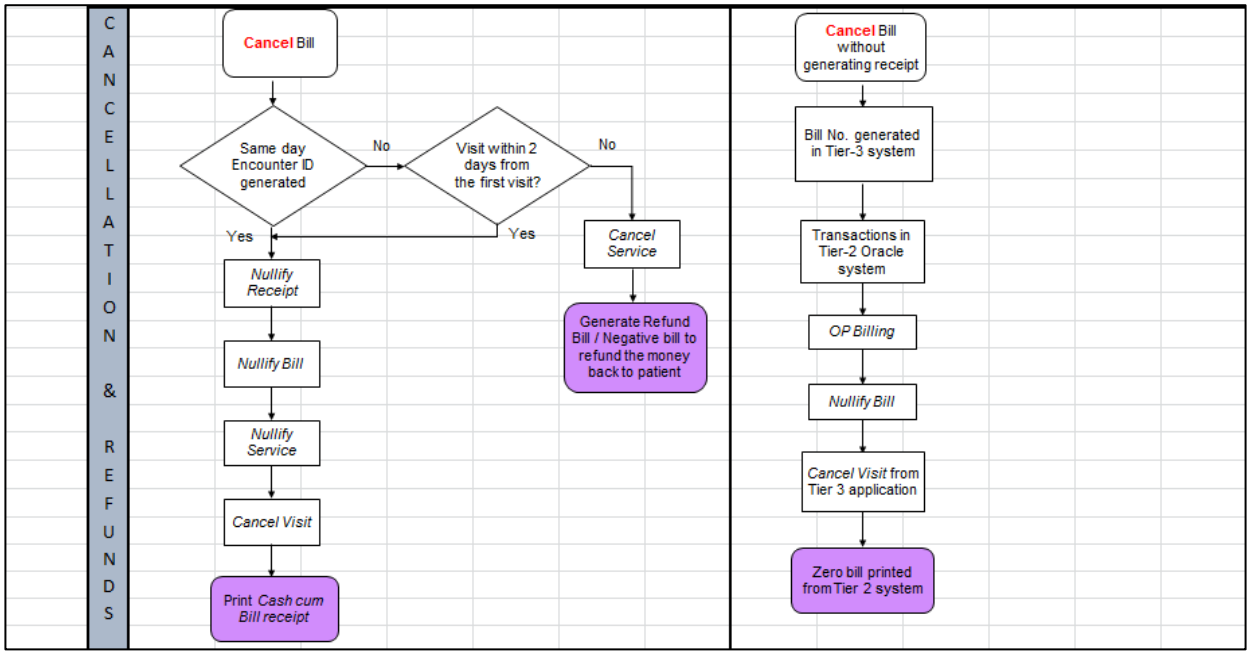


Fig. 7 continued



- The Problem Areas identified after analysis of the Billing process flow gives the following areas of concern along with the recommendations apart from the ones mentioned along with the process flow are as follows:-

S. No.	Gap Areas	Recommendations
1	Training schedule for the following Users (Operational & IT) not defined ▪ Billing Executives using IT software ▪ Floor Managers	Training Schedule and Manual for Users should be defined(Sample Manual attached in Appendix)
2	Manual prescriptions lead to errors	Electronic prescriptions to be encouraged
3	Lengthy process in the system	Alternate process flows to be tested
4	Cancellation and Refunds ▪ Protocol not defined ▪ Manual processing followed	Authorization of Cancellation and Refunds to be given to the Floor Managers through the system to reduce and discontinue manual processes eventually

Bibliography

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Ethical Considerations

- Respondent's confidentiality and privacy should be maintained throughout the study.
- Prior to collection of data, an informed consent should be taken.
- Results of each respondent will not be disclosed or shared with any other respondent and thus the data will be kept secured.
- Results of the study will be displayed with reference to the entire study and will not reveal individual results.