Dissertation Title

"Revenue Cycle Management"

A Dissertation Proposal for

Post-Graduate Diploma in Health and Hospital Management

by

Mandeep Singh

International Institute of Health Management Research

New Delhi -110075

May, 2013

Dissertation Title

"Revenue Cycle Management – New Avenues for Dell"

A dissertation submitted in partial fulfilment of the requirements for the award of

Post-Graduate Diploma in Health and Hospital Management

by

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May, 2013

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Certificate of Dissertation Completion

April 14, 2013

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Mandeep Singh** has successfully completed his 3 months internship in our organization from January 14, 2013 to April 14, 2013. During this tenure, the intern has worked on **"Revenue Cycle Management"** under the guidance of me and my team at Dell International Services Whitefield, Bangalore.

We wish him good luck for his/her future assignments.

Regards,

Adarsh Naik

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Certificate of Approval

The following dissertation titled **"Revenue Cycle Management"** is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post- Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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Certificate from Dissertation Advisory Committee

This is to certify that **Mr. Mandeep Singh**, a graduate student of the **Post- Graduate Diploma in Health and Hospital Management**, has worked under our guidance and supervision. He is submitting this dissertation titled **"Revenue Cycle Management"** in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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To Whomsoever It May Concern

This is to certify that **Mr. Mandeep Singh**, of International Institute of Health Management Research (IIHMR), Delhi campus has been working with Dell Services for his dissertation project.

Project Details:

Project Name: Revenue Cycle Management
Duration: 12 Weeks
Location: Bangalore
Guide Name: Laxmikant Pathak
Sponsor Name: Vivek Vig

He has successfully completed his project and his performance during the tenure of the internship has been found to be satisfactory.

His findings in course of the project has been found to be practical and relevant and some the recommendations will be incorporated on the floor on approval from the business.

We wish him good luck for her future assignments.

Thanking You,

Regards,

Adarsh Naik

Adarsh Naik
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I am highly indebted to my mentor Mrs. Anandhi Ramachandran for her valuable guidance and motivation on various aspects of project.

Contents

Abbreviations

RCM	Revenue Cycle Management
HIPAA	Health Insurance Portability & Accountability Act
PBM	Pharmacy Benefit Management
PPM	Physician Practice Management
EOB	Expression of Benefit
AMA	American Medical Association
CMS	Centre for Medicare Service
ICD	International Classification of Diseases
SNOMED	Systematized Nomenclature of Medicine Clinical Terms
PMS	Practice Management System
EDI	Electronic Data Interchange
CPT	Current Procedural Terminology
NCCI	National Correct Coding Initiatives
NCPDP	National Council for Prescription Drug Program
HSA	Health Savings Account
FSA	Flexible Savings Account
HRA	Health Reimbursement Account
TPA	Third Party Administrator
ICCS	Integrated Care Coordination System
HDHP	High Deductible Health Plan
CDHP	Consumer Driven Health Plan
AWC	Average Wholesale Price
WAC	Wholesale Acquisition Cost

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PART – 1 Internship Report

The details about internship at Dell International Services, Bangalore are divided into following headings:-

1.1 Organization Profile

Dell International Services is the support and services division of Dell Inc., the large American computer hardware company, with operations inin India(Bangalore, Hyderabad, Chandigarh, Noida), Europe (Bratislava, Dalian), Latin America (Panama City, Brazil, San Salvador), Africa (Morocco), Canada(Edmonton) and the Philippines, (Quezon City).

Services provided by Dell International Services

- **Healthcare & Lifesciences**
- **Dell Global Analytics** - Dell Global Analytics (DGA) is a captive analytics division supporting multiple functions such as Pricing, Web Analytics, Supply Chain, Marketing, Quality, Services, Financial Services and Contact Center Analytics. It is a single, centralized entity with a global view of Dell's business activities spanning Dell's business units of Consumer, Large Enterprise, Public and Small & Medium Business. DGA supports all the three geographies: Americas, EMEA (Europe, Middle East, Africa) and APJ (Asia Pacific), supporting over 500 internal customers.
- **Customer Care**
- **Hardware Warranty Support** for Consumers (USA, UK and Ireland), XPS (UK, Ireland and South Africa), SMB, ANZ, Enterprise Server and client desktops and portables support for UK and Ireland
- **Dell Financial Services**
- **Small and Medium Business Chat Support**
- **Email Support**
- **Spanish-speaking Support'**
- **Dell on Call'** *(Now Known as Solution Station)*
- **Solution Station (Now known as Dell Tech Concierge - DTC)**

1.2 Details of the Project

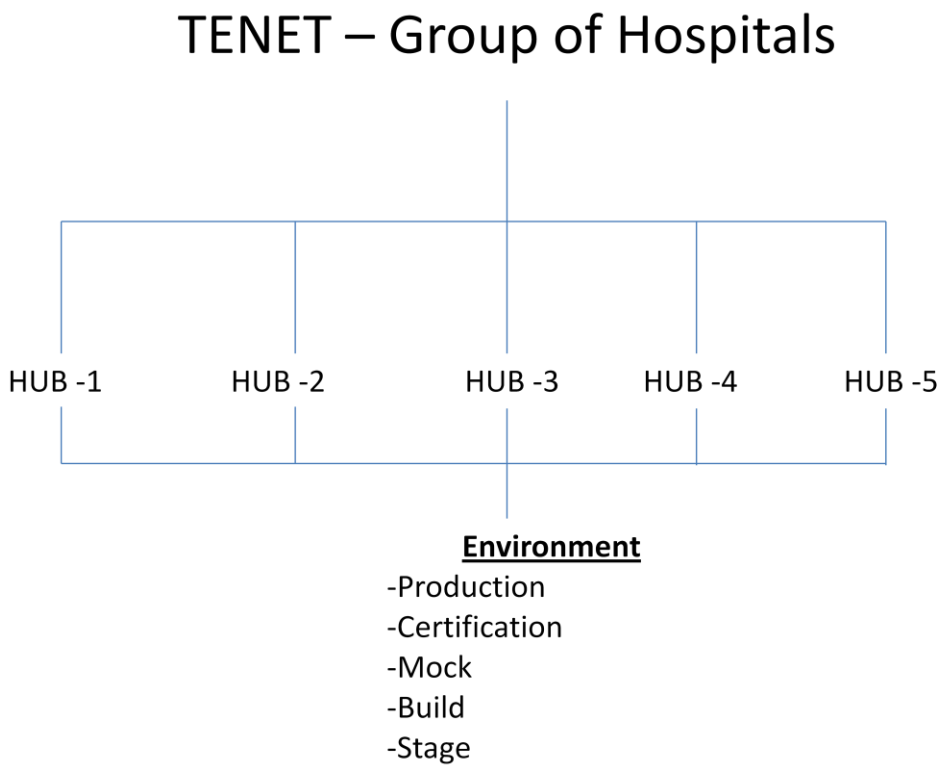
Tenet Healthcare Corporations is one of the largest investor owned healthcare delivery systems in USA. It runs

- 49 hospitals
- 124 outpatient centers
- 14 Conifer Service Centers

Dell International Services (Healthcare and life-sciences vertical) is in contractual obligation with Tenet Healthcare Corporations to provide functional support for Electronic Medical Record, ERP used by Tenet's Hospitals. The functional support is in the form of 24X7 model where both the onsite as well as the offshore team sitting in Dell, Bangalore handle the work. Right now Dell is providing support only for the hospitals that have been divided in the form of hubs.

In order to provide support in an efficient way the list of 49 hospitals is divided geographically which are called as hubs. There are five hubs in which the hospitals have been divided. These hubs are then further classified into various environments or servers, where each environment has its specific use.

Name of the Environment/Domain	Use
Production	Live Server
Certification	For testing purpose
Mock	For training purpose
Stage	For testing purpose
Build	For Configuration



1.3 Tasks Handled

Internship at Dell International Services started on 14th January 2013 and concluded on 14th April 2013. During this tenure lot of tasks were handled which are explained below:-

- Testing & Validation

At Dell, each month, service packages (SP) are installed by the onsite Cerner Team. Followed by the installation, the offshore team at Dell Bangalore needs to validate the service package installation by testing the various modules of Cerner Millennium by testing and validation. Following are some of the modules that are tested after SP installation.

Name of the Module	Functionality
FirstNet	Emergency Department Module
SurgiNet	Surgical Module
RadNet	Radiology Module
PathNet	Pathology Module
Powerchart	EMR
PharmNet	Pharmacy Module
eMAR	Medication Administration Module
Scheduling	Scheduling Module
Charting	Clinical Reporting tool
Core	User Creation Module
iNet Clindoc	Clinical Documents

A certain downtime is provided to the offshore team at Dell Bangalore in which the testing and validation needs to be done. The test scenarios used for testing remains nearly constant but are changed as and when required. Any abnormal behavior observed, while performing the testing task is recorded and reported to the Cerner onsite team in the form of quality control documents. Share-point is the common platform that is used for reporting of these quality control documents with the onsite team. The abnormalities are then rectified by the software engineers and then tested again.

- User Creation

For the purpose of testing, each month new users are needed to be created so that using these users, the test scenarios can be conducted and the proper functioning of the modules can be validated. These users that are created are called as Generic Users. The password for such users is kept constant throughout the list so that it becomes

easy for the testers to use them for testing the modules. The generic accounts are created for each hub (i.e hub1, 2, 3, 4 & 5) as well as each facility/hospital and for each department (eg. Radiology, pharmacy, pathology, physician, nurse, front desk executive etc.)

- Audits

There are two types of audits that are conducted on quarterly basis

I. Multi- Organization Audit

In multi-org audit, a check for the association of the Cerner Millennium users is done with the organization/hospital, they are working with. It may happen that a physician associated with an organization, may have left it and joined some other organization. In such a case this physician still having access in the old organization would mean violation of the HIPPA act. Therefore in order to prevent such an activity, every quarter this audits is conducted

II. Generic Account Audit

In generic account audit, the accounts created as discussed earlier as a part of user creation activity are inactivated so that the same accounts are not used for testing again

- Configuration

In configuration task, functional changes in the modules are processed. The request for the changes in the module, are processed by the hospital and is sent initially to the onsite team. The onsite team forwards the configuration request in the form of a ticket to the offshore team sitting back in India. As soon as the configuration ticket is received the changes are made

- Cerner Command Language (CCL)

CCL is similar to SQL. CCL is used to write codes that help in automating the above mentioned jobs. CCL automation codes are normally written onsite

1.4 Learning

Performing the above mentioned tasks and undergoing through a rigorous training session at Dell, learning about CERNER and how the offshore support model works was immense.

The summary of learning at Dell is mentioned in the form of points:-

- Functional Overview of Cerner Millennium
- Knowledge of the hospital workflow and its integration
- Backend Configuration
- Overview of the security access rights of Cerner Millennium users
- Working knowledge of various Cerner Millennium modules
- Testing & Validation

Apart from the working knowledge of Cerner Millennium, why it is the most used EMR in the world as compared to other EMR's like EPIC, McKesson is because

- Robust
- Can be integrated easily with any other EMR and can be used as a standalone over the counter healthcare ERP
- Minimum Clicks
- User Friendly & good GUI

Part – 2 - Dissertation Report

1.0 Abstract

Unlike the other avenues example retail industry, healthcare business model is significantly different. The ways transactions are processed in the rest of the industries are not as complex as it is in the healthcare industry. Consider a retail industry, one pays the money and gets the product in hand. Consider a tourism industry, one pays for the tour package and enjoys the services but if we consider a healthcare industry, the revenue operations is not simple. There has to be lot of intermediately steps that the process has to go through in order to result deserving funds reach the healthcare provider's account. The management of the whole cycle of billing to bill being paid by the patient and finally the money reaching the healthcare provider's account is called as Revenue Cycle Management.

The dissertation report tries to explain the concepts of revenue cycle management by studying the stake holders and further studying the market landscape of revenue cycle management in USA. At last it proposes new business avenues in the field of revenue cycle management. The analysis for the report is solely based on the secondary research data available on the public domain.

So based on the secondary analysis on revenue cycle management, it was found that according to the changes taking place in Medicare Plans (i.e. inclusion of Part C & Part D) as well as the focus of the healthcare shifting towards reducing the healthcare prices and making consumer as the part of choosing the right plan, Consumer Driven Health Plan and Pharmacy Benefit Management are the two avenues that needs to be focused upon from the new business avenue point of view.

2.0 Introduction

In an era, when the world economy is shrinking and the healthcare prices are shooting up, there is an urgent need for the healthcare companies to reduce the cost of healthcare and at the same time improve the quality of healthcare for the patients.

In lieu of this crisis, lots of significant technology initiatives have been taken in the areas of clinical solutions as well as for streamlining of the administrative cost. Exceptional findings were observed when the wastage in the administrative cost was calculated. According to a research conducted by Harvard Medical School and Public Citizen, stated that around 31% of $1.3 trillion in US was devoted only for the administrative paper work.

The application of technology as well as outsourcing of the administrative functions is sought to be the ultimate solution for the problem. Realizing the need of the hour, the report will focus on the identified administrative components like creation, submission, analyzing and finally paying for the medical bill which broadly can be referred to as Healthcare Revenue Cycle Management.

There are several companies in the market that employ various kinds of business models as well as services in context to revenue cycle management, both from the payer side as well as the provider side. Macroeconomic drivers are creating ample opportunities for the new as well as existing revenue cycle vendors to explore new avenues and growth in the market. Some of these ripple effects that will be discussed in detail later on are:-

- The changing arena and the history of healthcare revenue cycle with the concept of Consumer Driven Healthcare (CDH)
- Regulatory challenges like ICD 10, HIPPA etc.
- New opportunities created by the reforms of Medicare and Medicaid
- Successful case studies of administrative cost savings with offshore services as well as automation of the processes
- Use of data collected in revenue cycle management for new avenues like Pharmacy Benefit Management (PBM)

3.0 Macro-Economic Drivers

The shooting healthcare cost in the provider market and the shrinking profit margins, has resulted in an unstable financial position amongst various healthcare providers. It is estimated that, approximately one third of the US hospitals are running on negative margins. Following are some of the factors that have lead to the poor situation of the healthcare market:-

- **Regulatory Pressures**

The compliance for the government regulations like Health Insurance Portability & Accountability Act (HIPPA), Patriot Act, Sarbanes Oxley in terms of training and technology, involves complex requirements. This possess huge burden on the healthcare organizations' resources

- **Administrative Process Inefficiency**

It has been estimated that most of the physician claims leave the office with errors and half of these get lost in the way. This problem arises because of the following reasons:-

  - Manual Process
  - Redundant Data Collection
  - Repetitive process of submission of claims

The major reason for the above issues is the complex healthcare revenue operational system. Medicare Part B has provisions for having supplementary coverage. Due to inefficiencies in the system, the supplementary coverage most of the times gets delayed or go uncollected. This leads to huge losses for the healthcare organization. These inefficiencies pose a challenge for the revenue cycle vendors to bring in solutions to streamline the work process.

- **Uninsured Patients**

Lots of financial pressure is posed on the healthcare providers by the uninsured patients as most of the times, the fees have to be waived for them

- **Traditional Business Processing Systems**

Payers are in extreme pressures to bring in flexibility in designing the health plans and bring in higher service level and at the same time keep the processing cost as low as possible. The situation worsens when the organization uses the outdated or legacy technology. Working on old technologies creates backlog and the payer is unable to pay for the claims on time

- **Changing Market Dynamics**

Consumer Driven Health plan is a plan where the consumer is given the power of spending for his or her treatment. The health plans are made by keeping the consumer at the centre of the healthcare system. The payer market is heading towards these new health plan trends. For this purpose, significant amount of work is required to transform the internal procedures, product offering and supporting IT system to run the operations

- **Pool of Information**

The pool of information present with the payer and provider is used for the 3rd party applications like Pharmacy Benefit Managers (PBM) where the prescriptions are regulated as per the Medicare Part D special advantage plan. A lot of offshore companies are moving towards supporting the PBM operations

4.0 Revenue Cycle Landscape

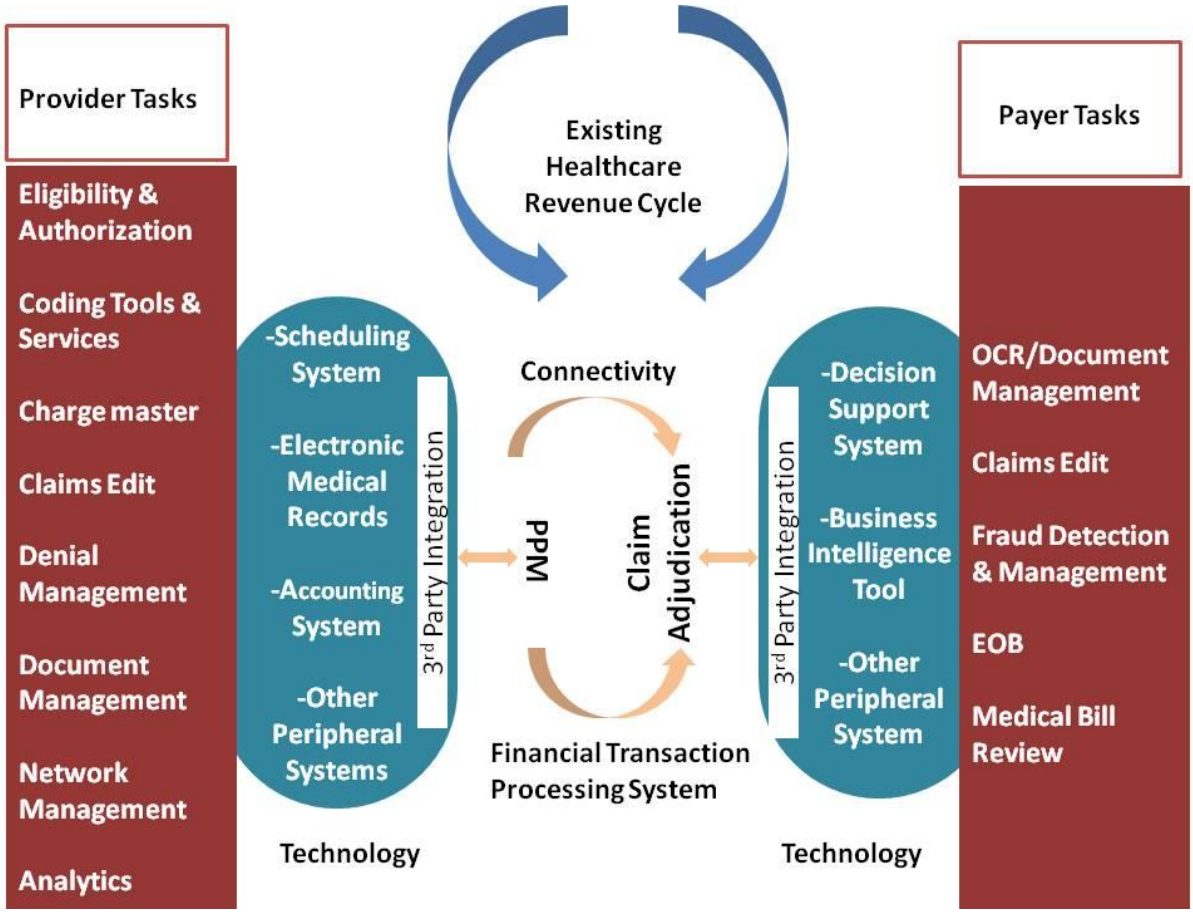


Figure 1 Revenue Cycle Landscape

The healthcare revenue cycle starts right from, when the patient first time calls the healthcare organization till he or she is discharged. It consists of following major steps:-

4.1 Eligibility Verification

- The process starts with collecting the appointment information (if registered) approximately 3-4 days before the actual meeting of the patient with the doctor
- The patient's insurance coverage and demographic information is verified with the insurance company
- Patient's account with issues are mapped with appropriate status code
- Then the eligibility reports are forwarded to the corresponding site location
- Front desk at the healthcare site location verifies the invalid or missing patient account information

4.2 Medical Coding

- The healthcare facility prepares the bill and upload it on a secured server located at the site or hosted or sent manually
- Payer downloads the bill and distributes it for coding amongst its team. Certified coders can only do the job as per the guidelines of AMA and CMS
- The coded bills are verified again by the team
- The audited bills are sent to the charge entry team to create the claims

4.3 Patient Registration & Charge Entry

- Patient's record is analysed whether the patient is a new patient or an established patient. If the patient is new, the patient account is created in the system, otherwise the system is updated for existing patient
- After the coded bills are created, thorough audit of the bill is done to ensure quality prior to claims submission

Claims Process Management (Overview)

Medicare Primary & Secondary Claims

- The Medicare claims are submitted directly to the Medicare via the healthcare PMS from the billing department
- The commercial insurance claims are submitted through a clearing house
- The claim acknowledgment reports are extracted for analysis of any rejected claim in every 24 hours

Paper Claims

- Printouts on CMS 1500 form is taken and is mailed to various insurance companies

4.4 Payment Posting & Reconciliation

- Expression of Benefits (EOB) document is prepared next and is handled by the payment posting team
- The team analyses the EOB document and any adjustments in the charges, flagging of denials are processed
- Audit of the EOB documents are done by the experts before submitting it so as to ensure high quality standards

4.5 Account Receivables Management

- From the payment posting department the work is then transferred to the accounts receivables department. This department works on the unpaid as well as the paid part of the claims
- Turnaround time is set for each claim depending upon the complexity of the claim and the amount of the claim
- The final prepared report with the required information is forwarded to the healthcare organization

5.0 HEALTHCARE PROVIDER LANDSCAPE

The role of healthcare provider in revenue cycle management starts from the time the patient contacts healthcare facility and ends successfully when it receives the eligible amount that is the various encounters that come across in a provider side revenue cycle and how these encounters to be paid by the patient to the healthcare provider by the payer. Below is an overview of are handled by the organizations.

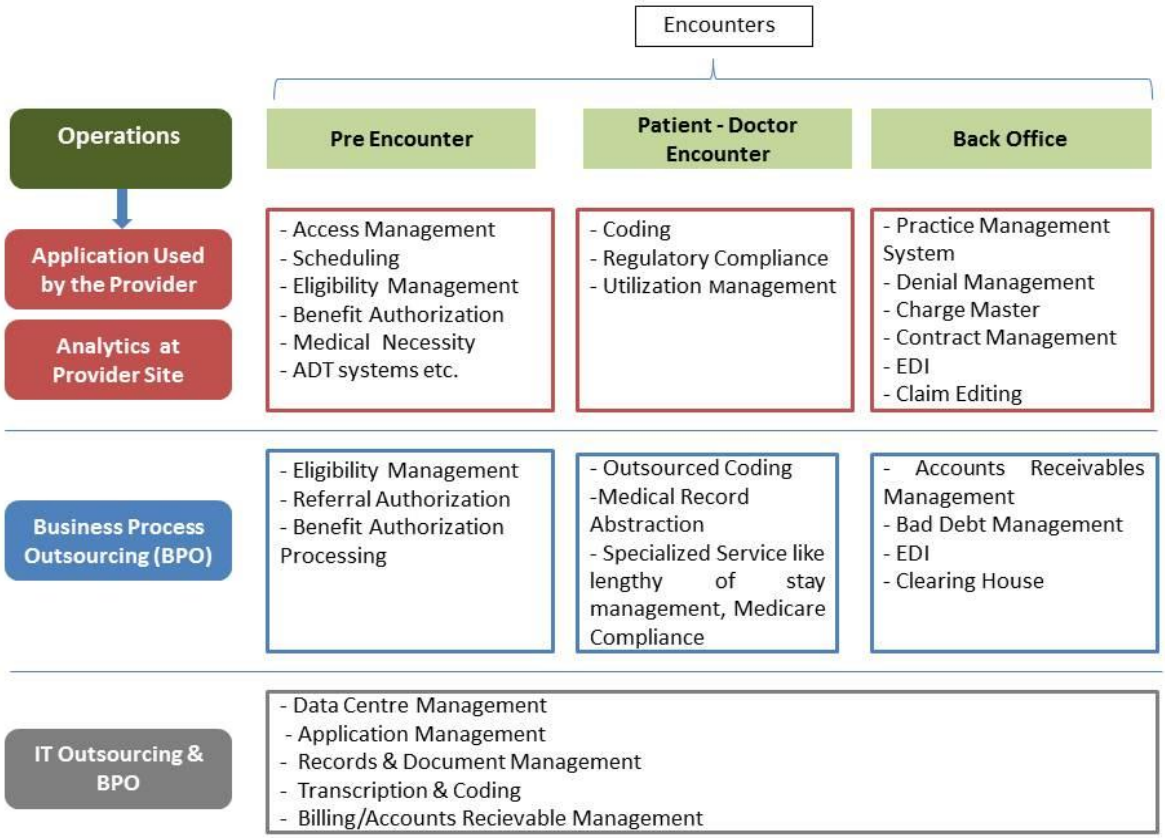


Figure 2 Provider Landscape

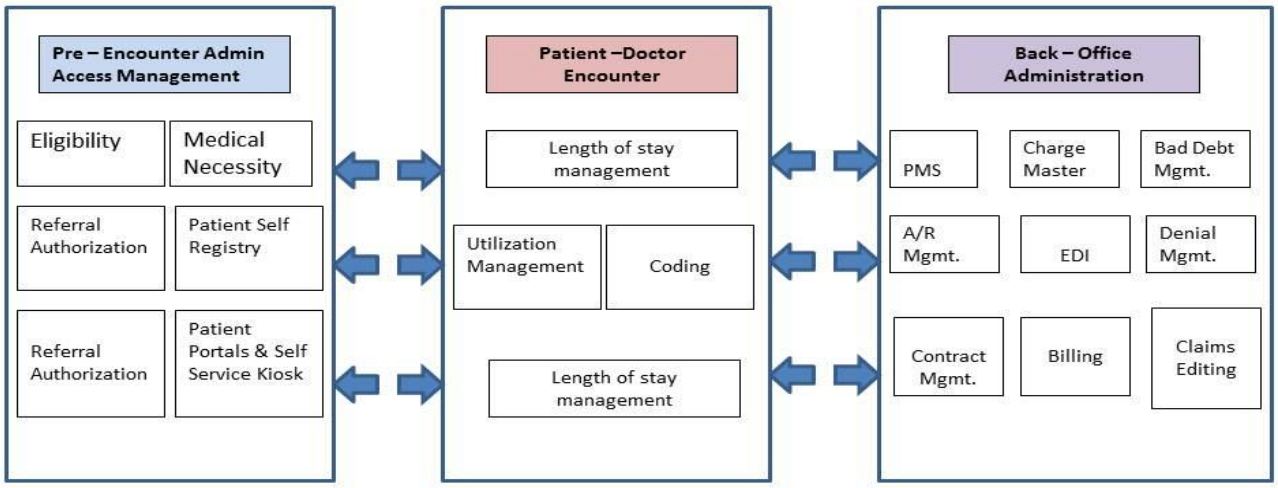
PROVIDER LANDSCAPE	
Encounter	**Explanation**
Pre Encounter Phase	• The pre encounter phase starts right from the time when patient calls the healthcare facility and ends just before meeting the doctor for treatment • The Pre-Encounter Phase involves lot of functions when the RCM is considered. This phase is highly important as if the activities performed during this stage are performed accurately then 90% of denials that take place during the later stages are reduced considerably (http://www.originhs.com/solutions/revenue-cycle-management) • The first step in the pre encounter phase is the registration of the patient. The person handling the Admission discharge & transfer module has its role defined in the access management module. Referrals are needed to be paid special consideration as proper details need to be recorded as to by which doctor and for what treatment has the patient been referred to the new healthcare facility • After registration, the scheduling of the patient is done by assigning him or her the appointment date with the doctor • Post scheduling the patient details and the documents available are forwarded to the payer organization for verification and eligibility check. Depending upon the approval (Benefit Authorization), the medical necessity is defined for the patient **OFFSHORE OUTSOURCING** As far as the avenues in offshore outsourcing are considered from the provider's point of view • performing the eligibility check with the help of the payer • benefit authorization management • referral authorization management are some of the core avenues where the revenue cycle vendors are working right now Apart from the above mentioned areas, RCM vendors from the provider side are working on the following areas too:- • RCM application management • Data center management • Transcription • Documentation • Billing and accounts receivables

Patient Doctor Encounter	• The patient doctor encounter phase starts when the patient first time meets his or her doctor and continues till the patient is treated for his disease by the doctor in a particular healthcare facility • The activities performed during this phase include:- Coding Coding involves, converting of the medical treatment and diseases into specific clinical codes which are also known as ICD codes (International Classification of Diseases) or SNOMED (Systematized Nomenclature of Medicine) codes. The conversion into codes is done as it is a regulatory requirement for processing of the claim by the payer organization Regulatory Compliance Regulatory compliance like HIPPA (Health Insurance Portability & Prevention Act), Sarbanes Oxley Act, Gramm-Leach Bliley Act requires healthcare provider to be compliant with the documentation work and be compliant with it. Utilization Management Utilization management is termed as the analysis of the relevance of the efficiency of the health-care service and the need of the medical treatment by comparing it with the applicable health care benefits available in the health plan. It describes proactive tasks like peer reviews, concurrent clinical reviews and also includes the appeals of patient, provider and payer. Utilization management involves the following 4 techniques:- o Case Management o Demand Management o Disease Management o Utilization Review **OFFSHORE OUTSOURCING** • Since, employing staff by the healthcare provider for coding of the treatment procedures and diagnosis can be substituted with an outsourced talented & certified people, the focus has shifted. Now most of the healthcare providers are outsourcing their coding work to the offshore centers, India being one of them • Carrying out the analytic activities and preparing reports like average length of stay, Medicare compliance etc. is another kind of work outsourced by the healthcare providers to the offshore RCM vendors • Complying with the Medicare compliance maintenance of documents like CMS 1500 form, UB-04 forms, reporting to Medicare etc. are

	some of the activities which are outsourced Apart from the above mentioned areas, RCM vendors from the provider side are working on the following areas too:- • RCM application management • Data center management • Transcription • Documentation • Billing and accounts receivables
Back Office	The back office work runs parallel to the first 2 encounters. The back office work needs to run smoothly in order to have the encounters run at a good pace. This basically includes more of the administrative work. Following are some of the functions that are performed during this phase:- <u>Practice Management System(PMS)</u> PMS is an application used to manage the appointments, demographic details, performing billing tasks, insurance payers list and generation of reports <u>Denial Management</u> Denial Management from provider side focuses on working on each and every aspect of the billing part before sending it to the payer for approval so that the denials from the payer side is minimum. It is important from the provider side of view so as to make sure that healthcare providers receive each and every dollar it deserves and hence operate in positive profit margins <u>Charge Master</u> Charge master is a comprehensive as well as hospital specific listing of each and every task or item that can be billed to a patient, payers and other health care providers. These are of use to the payer industry to keep a track of the pricing of the hospital prices <u>Contract Management</u> Contract management includes tasks like monitoring the compliance of payer with uncover underpayments, contract terms, negotiating better contracts with the payer <u>Electronic Data Interchange (EDI)</u> Electronic Data Interchange works in accordance with the HIPPA act. This includes the exchange of patient's medical information with the payer and vice versa <u>Claims Editing</u> Claims Editing is a process that includes checking for duplicate entries, checking the code entries for claim processing. Before sending the claim to

	the payer, the claims are verified properly so as to lower down the percentage of denials from the payer side **OFFSHORE OUTSOURCING** As far as the avenues in offshore outsourcing are considered from the provider's point of view • Account Receivable Management • Bad Debt Management • EDI • Clearing House

5.1 Integration of the Functionalities



The RCM vendors working on the provider offshore business side, right now are concentrating on the subsets of the encounters. There are very few vendors who are focusing on the concept of horizontal integration. Integration between these encounters helps in increasing the efficiency of the process. With integration becoming a priority, following are the focus areas

High ROI are estimated further for the vendors if they start managing the provider revenue cycle right from the time when patient calls the healthcare provider till he or she is discharged. With such an implementation, the RCM vendor would be termed as a gatekeeper.

6.0 PAYER LANDSCAPE

The role of healthcare payer in revenue cycle management starts right from the eligibility criteria verification by the healthcare provider and ends successfully when it successfully hands over the eligible amount to the healthcare provider followed by post-adjudication activities. Below is an overview of the various encounters that come across in a payer side revenue cycle and how these encounters are handled by the organizations.

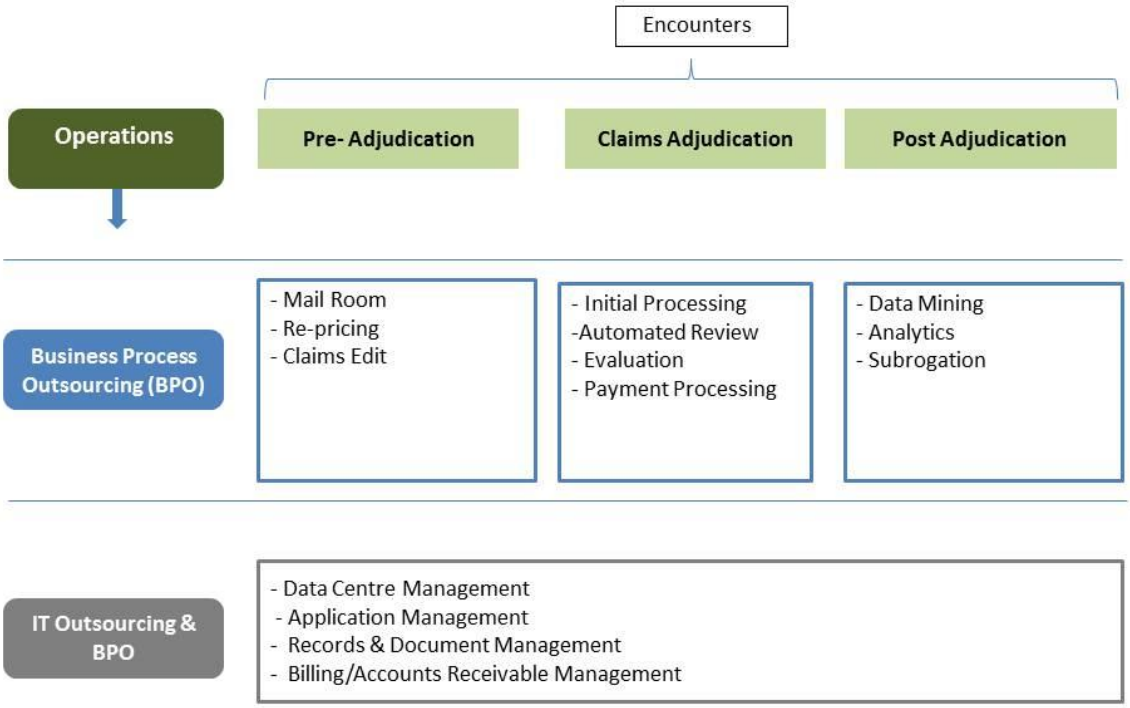


Figure 3 Payer Side Landscape

PAYER LANDSACPE	
Encounter	**Explanation**
Pre Adjudication	Pre adjudication is a phase prior to the actual processing of the payment. During this phase the work required to process the claims adjudication phase is carried out. Following are some of the functions that are performed during the pre-adjudication encounter:- <u>Mail Room</u> The mail room functionality is responsible for storage and management of the mails and documents attached with the mail. The mail room associates receive the mail, store it, process it and archive it when required <u>Re- Pricing</u> The re-pricing team, on receipt of the claim, applies the payer discounts depending on the healthcare provider chosen. If the healthcare provider, is in network provider then the discounts are applied otherwise the price is not altered. The concept of re-pricing is also applied when the patient holds supplementary health coverage or has some discount cards with him. For Example, in a study conducted by AMA (with the help of National Healthcare Exchange Services) the effect of healthcare claim edits on re-pricing was analyzed. The study included 1.7 million claims that were adjudicated by 14 commercial health insurers and several Medicare carriers between 1st June 2007 and 30th September 2007. *<u>Findings</u>* For every dollar billed by the healthcare provider:- • $0.43 is discounted (fee schedule adjustments and pricing rules) • $0.01 is discounted based on CPT, Medicare, NCCI • $0.01 is discounted based on proprietary claim edit • $0.10 is paid by patient

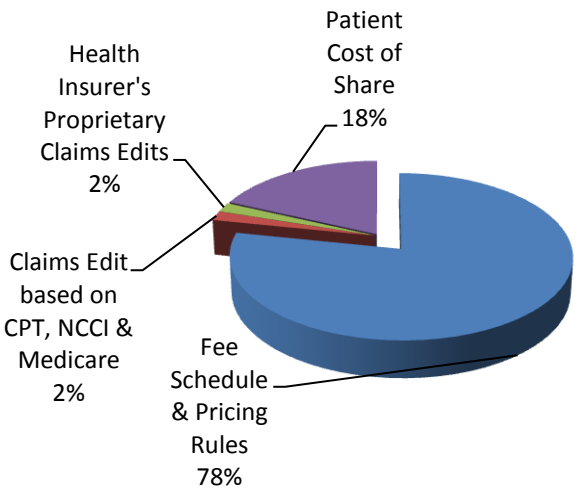


Figure 4 Discounted Value Breakup
Source:- National Healthcare Exchange Service 2007

Claims Edit

During conducting claim edits, the health insurer determines whether the specific codes listed on the claim are eligible for payment. A claim edit can be based on:-

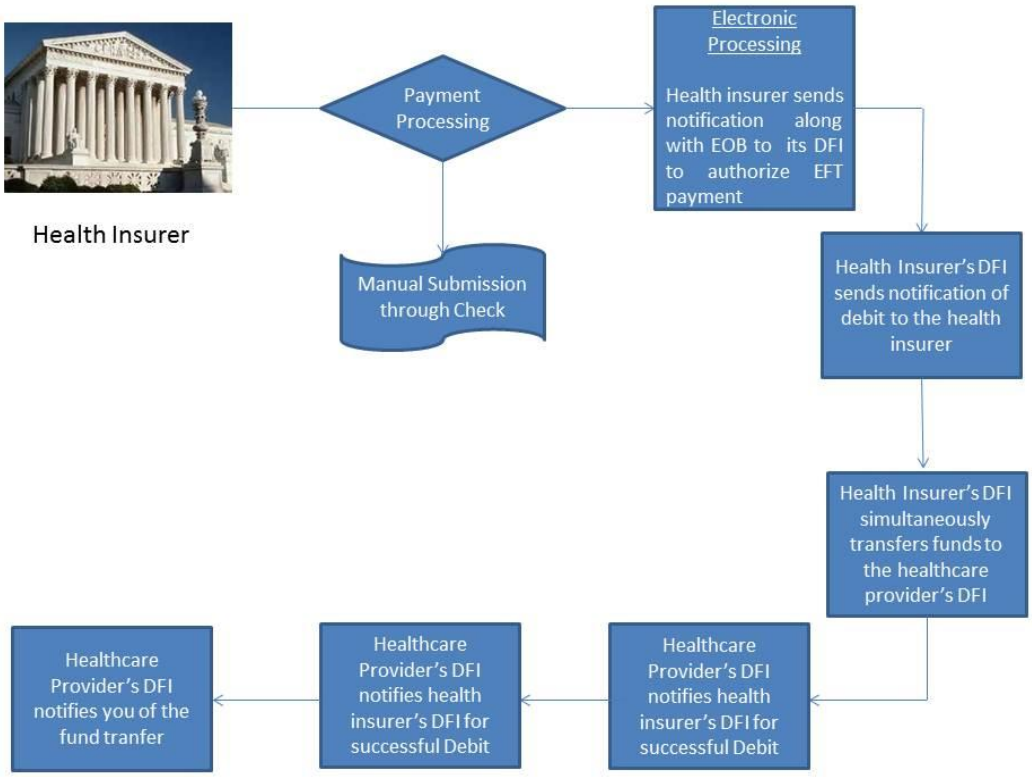
- Procedure Code – Gender Conflict
- Coding Errors
- Clinical Rationale

Correcting the claim does not guarantee payment as new codes may subject to different claim edit rule

Most Common Health Insurer Claim Edits

- Procedure code is only allowed with other procedure code
- Product and age conflict
- Procedure code is not allowed with other procedure code
- Procedure & Gender Conflict
- Procedure is only allowed with other procedure with modifier
- Procedure is not allowed
- Diagnosis and age conflict

Adjudication	Adjudication is the phase during which the final processing of the health insurance claim takes place. Following steps are taken during the adjudication process in order to process the claim:- <u>Initial Processing</u> Once the health insurer receives the claim for final review, the insurer checks for the completion of data fields <u>Automated Review</u> Reviewing of the claim involves the procedure of verifying the healthcare benefits for the patient:- • Verifying that whether the claim is consistent with the health insurer's rules and procedures • Whether the claim is an original claim or a duplicate claim • Whether all the provided information is sufficient enough to process the claim completely • The services provided is a covered benefit or not <u>Payment Processing</u> When the health insurer approves the claim, the payment for the claim is queued in a payment register or 'to pay' system. Then the payment register is reviewed by health insurer and the payment for the claim is processed in the cycle for the next check run. During the check run, the check is processed by the health insurer and is mailed to the health care provider along with a paper called as Expression of Benefits (EOB). In case of the electronic transfer of funds the health insurer processes X12 835 EOB and sends it to the health care provider directly or through a clearing house With the concept of Consumer Driven Healthcare taking up pace in the health insurance market, the payment processing methods have changed. Consumer driven healthcare would be discussed later under Market landscape <u>Information Routinely Found on EOB</u> • Patient Name • Date of Service • Physician (Service Provider) • Patient Account Number • Patient Group Number • Subscriber (insured) • CPT codes billed • Charges at 100% • Amount allowed (negotiated rate) • Amount Paid (Negotiated Rate minus copayment, coinsurance and/or

	deductible) • Contractual Adjustment Amount • Patient Responsibility (including co-payment, coinsurance and deductible)  **Figure 5 Flow of Payment From Payer to Provider** DFI – Depository Financial Institution/ Bank EFT- Electronic Funds Transfer Funds – actual dollars, check or other
Post Adjudication	The post-adjudication phase starts after the transfer of the funds to the healthcare provider. Following are some of the functions performed during this phase:- <u>Data Mining & Analytics</u> In order to improve on the efficiency of the operations, the transactional data, demographics data etc. is pulled up and various kinds of meaningful analysis is done using the data. One such analysis representing the top 7 identified reasons for the denial of claim is as below

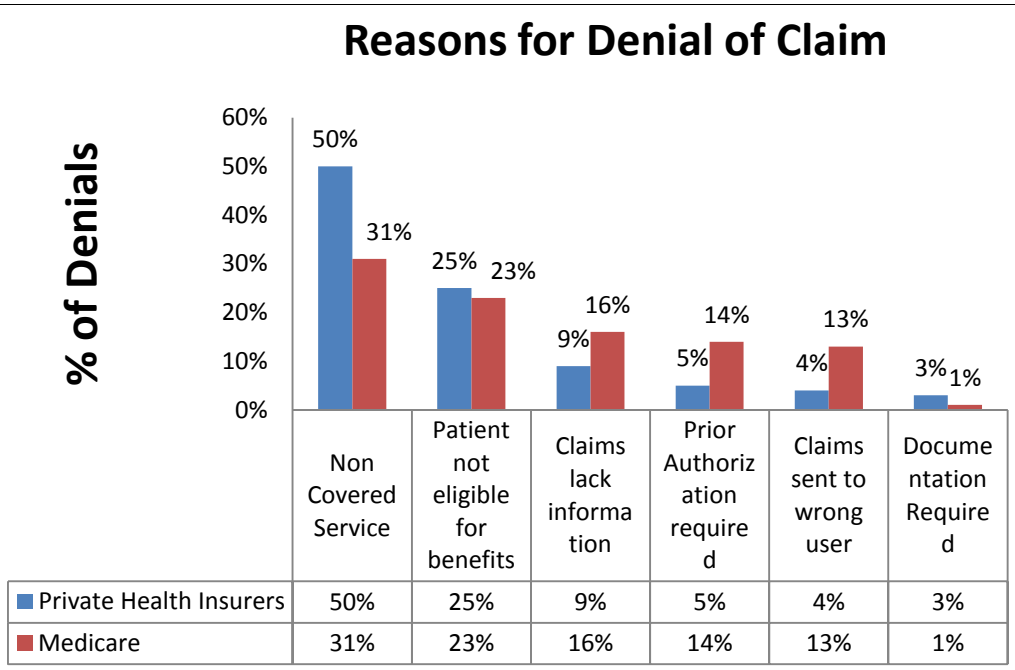


Figure 6 Reasons for Denial of Claim

Source - National Healthcare Exchange Services 2007

Such kind of analysis is performed by individual payers also for improving and further streaming its processes

Subrogation

Subrogation is widely used concept, especially in healthcare. Consider a case where Mr. X is injured or fall ills because of someone else's action (Mr. Y). Mr. X is insured by the Health Insurance Organization, 'A'. In such a case where because of Mr. Y, Mr. X got hospitalized, then 'A' will seek reimbursement from Mr. Y's insurance organization. A organization will pay for Mr. X's claim and also help him in seeking legal action against Mr. Y.

The need for subrogation is common mostly in accident cases.

6.1 The Concept of Clearing House in RCM Landscape

Clearinghouse acts as a liaison between the healthcare providers and the health insurers. The need of clearinghouse is there as the number of health insurers in the market is many and in order to send the claim independently to each insurer, becomes a little difficult task. So rather than sending electronic claims to individual health insurer as a separate transmission, the use of clearinghouse's internal software which is in the form of a central portal, transmissions to the appropriate health insurer take place.

Also some health insurers still do not accept X12 837 claims or encounter transaction that requires one to send the data to the health insurers in a particular format. In some cases it is required to convert an electronic claim to CMS 1500 manual claim before forwarding it. For a healthcare provider, this conversion process can be difficult. To make this task easy, clearing house performs this task for the healthcare provider. Also in case where some information is missing in the claim like patient's address, date of birth or ICD code, the claim is managed by coordinating with the provider for the missing information

6.2 Clearing House & its Changing trends

With the health insurers realizing the need of the clearinghouse in the whole transaction, lot of them have hired their own dedicated clearinghouses. With this change, a new trend of, network of clearing houses have developed in the market where these clearing houses act as front –end claims processor to receive the claims electronically or in paper format.

6.3 Mandatory Forms for Processing of Health Insurance

Paper Form	Function
CMS -1500	CMS-1500 is the standard paper claim form used by health care professionals and suppliers to bill Medicare Part A/B and Durable Medical Equipment Medicare Administrative Contractors
UB – 04	UB04 claim form is used by facilities rather than physicians for their health insurance billing. Hospitals, rehabilitation centers, ambulatory surgery centers, clinics etc. need to bill their services on the UB04 form in order to get paid. Physician billing is done on the CMS 1500 claim forms
ADA-2006	Dental Billing
NCPDP WC/PC UCF	Pharmacy Billing

Table 1 List of Forms used in RCM

6.4 Electroninc - Payer Transaction

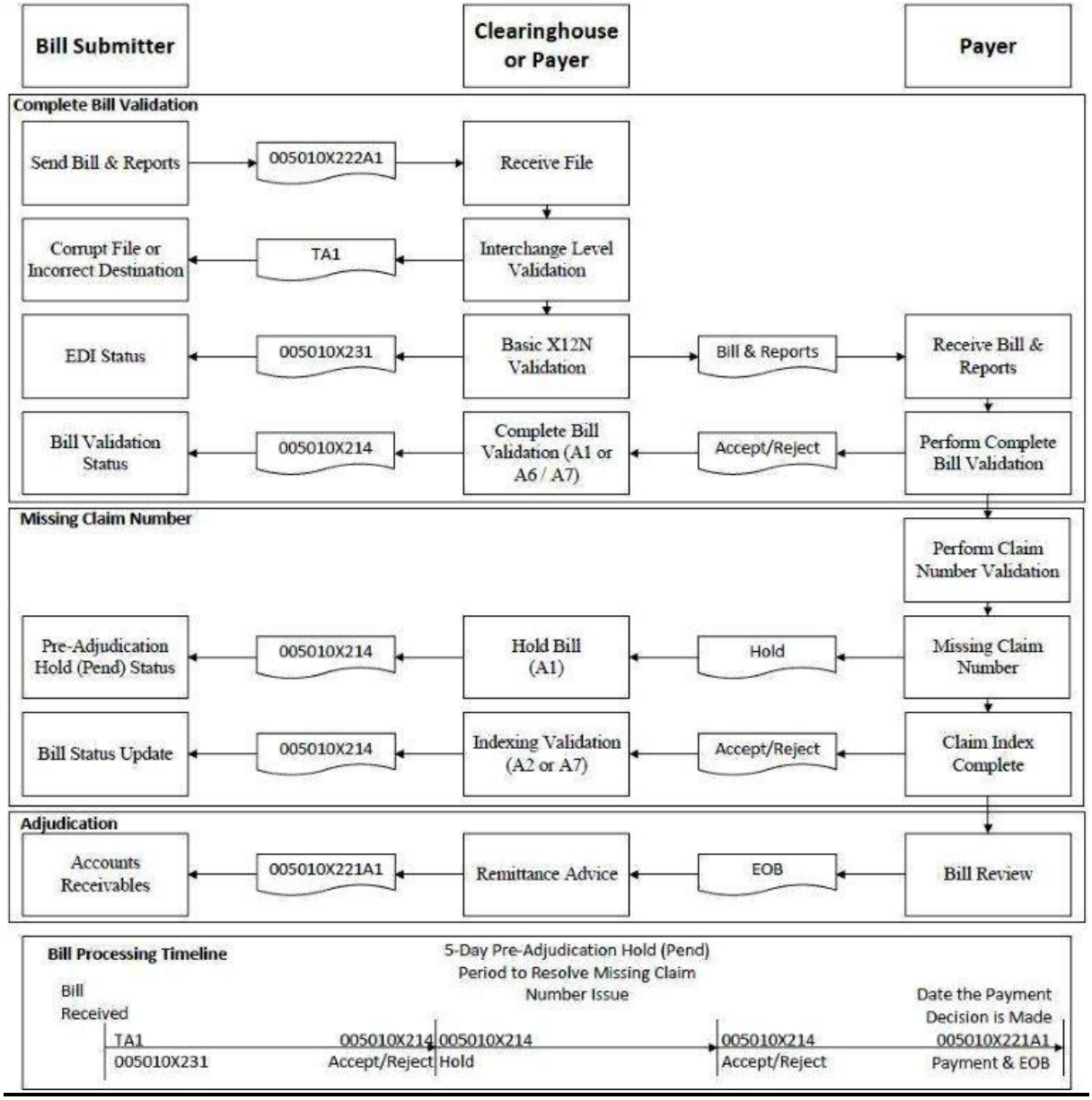


Figure 7 Health Insurance Exchange

Source - http://www.cbs.state.or.us/wcd/

7.0 Market Landscape

SWOT ANALYSIS	
Strengths • Established offshore support model • Past experience of handling revenue cycle management before it was sold to Conifer Health • Own Hardware Support • Own Server Support • Brand Image – No.1 Healthcare Service Provider (Gartner)	**Weakness** • High competition as need to start fresh when market has good amount of players running RCM models
Opportunities • Relatively new areas under RCM – Consumer Driven Healthcare and Pharmacy Benefit Management	**Threats** • Established market landscape for the old avenues of RCM and gradually shifting market players towards Consumer Driven Healthcare and Pharmacy Benefit Management Model

After realizing the need of the integration of the functionalities of RCM, lots of integrated RCM software have emerged in the market. Providers and payers are quickly adapting to this new change by adopting the complete administrative software to manage the whole RCM cycle. At the same time there are organizations which are working on the legacy systems and do not want to scrap the existing system. Such organizations have the option to upgrade their RCM administrative platform. Following is the adoption rate which focuses on 5 areas:-

Priority Focus Areas for RCM Market	
Consumer Focus	
Web Bill Pay	26.77%
Web Pre-Registration	15.22%
Web Scheduling	6.32%
Eligibility Verification	
Medical Necessity Alert at Registration	34.05%
Medical Necessity Alert at Scheduling	20.58%
Rules & Billing Capacity	
Claim Attachment Rules	25.45%
Claim Denial Rules	25.90%
Biller's Dashboard	21.66%
EMR Documentation for Claims	3.65%
Claims Processing	
Claims Remittance Updates AR	14.50%

Direct Payer Claims	11.59%
EFT Transaction	22.51%
Treasury Funds	
Eligibility Transaction with Payer	14.79%
N=5,281	

Table2 Adoption Rate of Providers for Various Modules

Source – HIMSS Analytics, 2011

Few top vendors in the market that are providing offshore support to both the providers and the payers are:-

Accenture (Ireland)	Medusind (U.S.)	GeBBS Healthcare (U.S.)	Omega Healthcare (India)
Inventive (U.S.)	Affiliated Computer Services	Computer Services, Corp	DST Systems, Inc
Electronic Data Systems, Inc.	Infocrossing, Inc.	Unisys Corp	Conifer Health Solution with Dell

The top proprietary software vendors available in the market are:-

Allscripts	GE	Availity	HMS
Cerner	Healthland	CPSI	McKesson
DSG	MedAssets	Emdeon	Meditech
Epic	Navicure	Gateway EDI	Nebo
NextGen	OptumInsight	Passport	Quadax
QuadraMed	RelayHealth	SCI	Siemens
SSI	Unibased	ZirMed	

7.1 Regulatory Requirements

As the health care providers are striving hard to lower down their operational costs, similarly the government healthcare programs such as Medicaid and Medicare are under pressure to lower the costs of the operations without actually compromising on the quality. The challenge of government funding for healthcare has led to several legislative initiatives that has a direct impact on the competitive landscape for the technology vendors as well as outsourcing companies for serving these markets

Over the past few years a number of service providers have built strong business by serving the government sector. Large outsourcing companies like ACS, CSC, Unisys and EDS have established strong track records for managing several complex rules and continuously evolving government regulations associated with Medicaid and Medicare programs. Long term contracts exist between the service provider and the outsourcing arrangements to manage the entire or a part of claims processing function including the supporting IT infrastructure.

Medicare Overview	
Managed by Federally Sponsored Intermediates	*Managed by Commercial Health Plans*
Part A • Hospital Insurance program to pay for inpatient, nursing facility and hospice care • 45% of the Medicare spending in 2005	Part C • Medicare Advantage plans such as HMO's, PPO's and private Fee-for-service • 15% of the Medicare spending in 2005
Part B • Supplementary insurance for physician, outpatient and preventive services • 35% of Medicare spending in 2005	Part D • Prescription drug benefit program • Introduced in January 2006

Table 3 Medicare Plan

Medicare Benefit Payment FY 2004 = $295 Billion

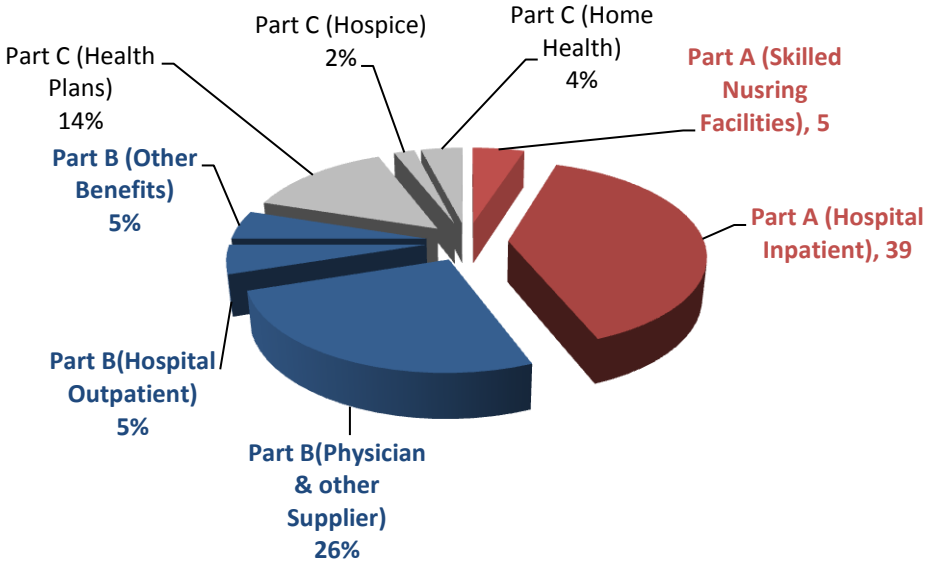


Figure 8 Medicare, 2004 breakup for Health Plans Categories

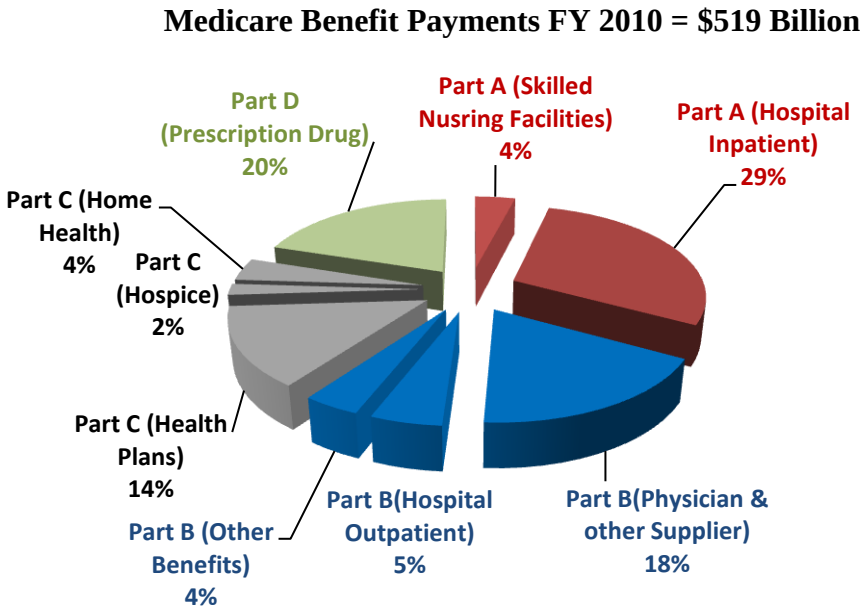
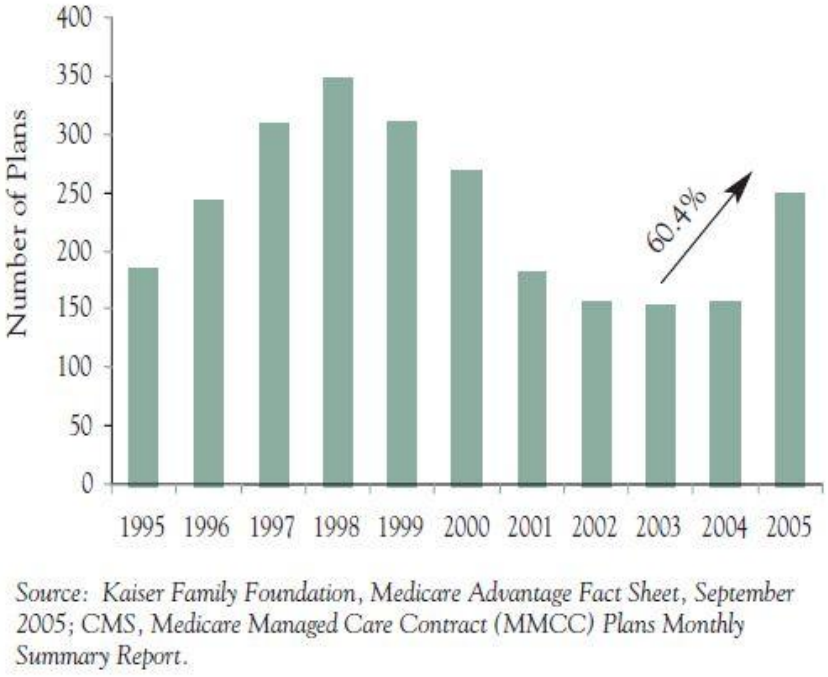


Figure 9 Medicare, 2010 breakup for Health Plans Categories

Although if we see the market which was relatively stable, with the coming up of new legislative, the competition factor has evolved up in the market. For example, the Medicare Prescription Drug and Modernization Act (MMA) of 2003 has created number of new incentives for commercial insurance companies to participate in privatized Medicare

The basic purpose of privatized Medicare is to leverage the private sector's ability to provide care at a lesser cost. Also its focus is to help beneficiaries receive a broader set of services than what is available under the traditional Medicare. These plans were earlier termed as Medicare + Choice plans but were renamed as Medicare Advantage Plans in 2003. Medicare Advantage is expected to grow in the next 5-10 years.

7.2 Medicare Advantage Plan



Source: Kaiser Family Foundation, Medicare Advantage Fact Sheet, September 2005; CMS, Medicare Managed Care Contract (MMCC) Plans Monthly Summary Report.

Figure 10 - Trend for Medicare Advantage Plan

As of February 2013, nearly 14.6 million people enrolled in Medicare Advantage Plan which stands to be 28.5% of the 51.1 million people eligible for Medicare according to Centre of Medicare and Medicaid Services. According to a report by Mark Farah Associates (MFA), nearly 1.26 million members enrolled in the Medicare Advantage plan between February 2012 and February 2013.

February 2013 Top Medicare Advantage Organizations with Greater than 250,00 Members				
Parent	Feb-12	Feb-13	Percent Growth	Feb-2013 Market Share
UnitedHealth	2,663,145	3,037,520	14.1%	20.8%
Humana	2,266,233	2,428,250	7.1%	16.7%
Kaiser Foundation	1,077,483	1,149,866	6.7%	7.9%
Aetna	432,902	627,753	45.0%	4.3%

WellPoint	685,933	611,114	-10.9%	4.2%
Cigna	402,229	441,122	9.7%	3.0%
Highmark	328,093	344,279	4.9%	2.4%
Coventry	248,422	307,009	23.6%	2.1%
BCBS of Michigan	264,128	298,163	12.9%	2.0%
Subtotal >250,000	8,368,568	9,245,076	10.5%	63.4%
All Others	4,947,212	5,331,011	7.8%	36.6%
Total	13,315,780	14,576,087	9.5%	100%
Source: Mark Farrah Associates (MFA) analysis of CMS enrollment data; data is available in Medicare Business Online™				

Table 4 List of Medicare Advantage Organization

In the above table, United Health Group remains the top Medicare Advantage Enrollment Organization with a percentage growth of 14.1% over the previous years and capturing a market share of 20.8% followed by 16.7% market share for Humana and 7.9% for Kaiser Foundation

The growth in the number of Medicare Advantage plan can be credited back to the increase in the number of Medicare Advantage Plan in the year 2005 as shown in the above graph.

Providers face myriad of regulatory challenge due to evolving classification of terminologies, codes and reimbursement policies. As far as revenue cycle is considered, up to date regulatory content is paramount for ensuring appropriate billing in a clinical context. Coding helps in

ICD (International Classification of Disease) & SNOMED (Systematized Nomenclature of Medicine) are example of some codes that can be used as the basis for disease and illness classification. In US currently ICD 9 is followed as the system for payment justification and disease classification. The drive for shifting to ICD 10 has started to provide more detailed framework for coding and classification. This transition provides ample opportunity for the organizations focusing on Coding, Compliance & Reimbursement Management (CCRM).

8.0 New Industry Dynamics – Healthcare Revenue Cycle

8.1 Consumer Driven Healthcare

Realizing the inefficiencies of the current healthcare payer – provider process, need of the hour is to have some innovative measures so as to tackle the shortcomings. One such problem is that the patient or better called as consumers are not considered as the main part of the healthcare system. Therefore, most of the decisions that are taken are not patient centric.

Traditional Managed Care Model

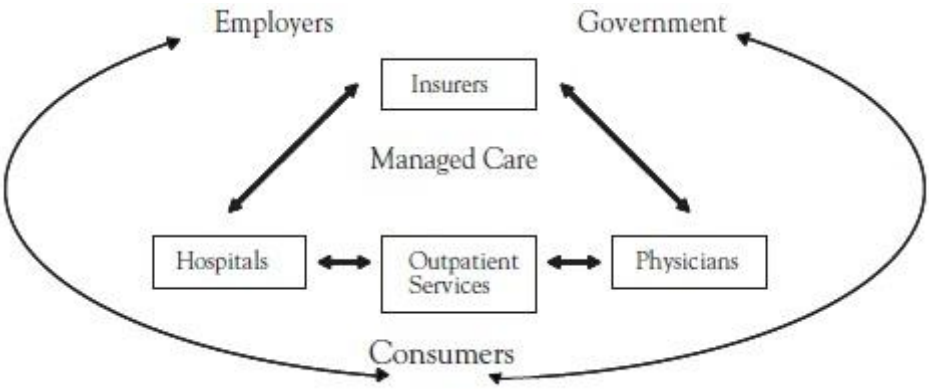


Figure 11 Traditional Payer Provider Landscape

Source - Triple Tree

Looking into the need, Consumer Driven Health (CDH) has evolved as the new approach to the traditional managed care system. The uniqueness of the CDH system is that it is customer centric and the payment flows have shifted from the provider to the customer with some non-traditional accounts in the revenue cycle processing workflow.

Customer Centric Model

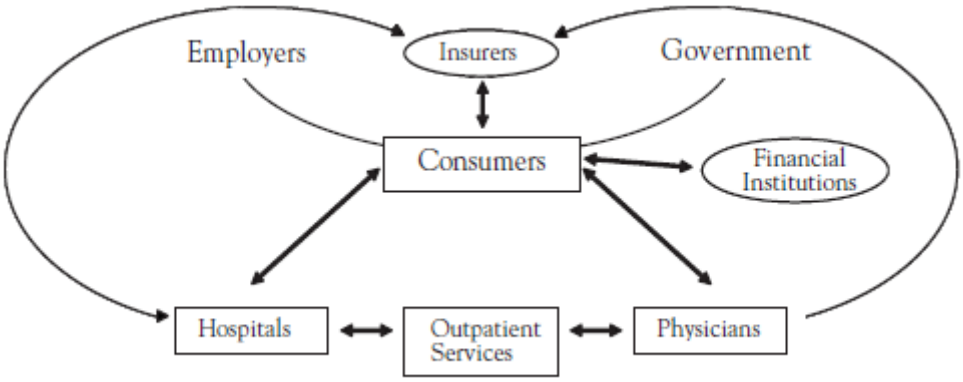


Figure 12 -Changing Trend-Consumer Driven Healthcare

Source - Triple Tree

Consumer Driven Health is defined as a healthcare strategy that heightens consumer's awareness towards utilization and cost of healthcare services through modified plans and design incentives. Consumer Driven Health encompasses the following strategies:-

Health account plan that have tax advantage for the consumers along with greater flexibility and financial responsibility in accessing care. These tax advantage accounts are combined with a Consumer Directed Health Plan (CDHP). The tax advantage accounts are as follows:-

8.1.1Health Savings Account (HSA)

- Health Savings Account is a tax saving account that is integrated with a High Deductible Health Plan. The balance in HSA account is owned by the participant and is accumulated on tax free basis
- Both employers and employees can make contributions to the HSA. The employee contribution towards the HSA is tax free. Employer's contribution to HSA is not taxable
- The HSA owner has the full discretion to decide as to how to invest the HSA money
- HSA balance rolls from one year to another and the best thing is that it does not get forfeited when the employer changes i.e. there is no 'use it or lose it' rule
- The funds can be withdrawn tax free from HSA under a condition that the funds are used only for qualified medical expenses under certain permissible healthcare premiums. The distributions from HSA that are non-qualified are taxable as income for disabled individuals or those over age 65. Additional 20% excise tax is applied for the non-qualified distributions who are under 65 years and who are not disabled

Attributes of HSA (2012 Guidelines)		
There are number of guidelines that determine the plan design of a qualifying High Deductible Health Plan. Some of these guidelines are as follows:-		
Minimum Deductible		
Individual	$1,200	
Family	$2,400	
Maximum Out of Pocket Cost		
Individual	$6,050	
Family	$12,100	
% Coverage		
	In Network	Out of Network
Preventive Care	100%	60%
Primary Care Physician	80%	60%
Specialty Care Physician	80%	60%
Inpatient Hospital Services	80%	60%
Outpatient Surgical Services	80%	60%
Emergency Care	80% after deductible, in network	

- Contribution of up to $3,100 for an individual and $6250 for a family are allowed for 2012. For individuals aged 55 and above and are not enrolled in Medicare can make contributions up to $1,000 in 2012
- Persons covered under a HDHP cannot be covered under any other health plan which is not high deductible
- Flexible Spending Account (will be discussed later) are not compatible with HDHP and therefore cannot be elected by a HSA participant or his or her spouse. Also certain limited purpose FSAs may be allowed

Forms Used	
Form 1099-SA	Used for reporting a qualified expense as well as other account distributions
Form 5498-SA	Used for reporting all contributions for both employer and employee and the earned interest
Form W-2	Reports employer contribution including the pre-tax payroll deductions. It is produced by an employer in box 12 with code W
Form 8889	Reports all contribution, withdrawals, interest, excess contributions and any withdrawals for non-qualified expenses. This form is completed by accountholder and submitted with tax filing

8.1.2 Health Reimbursement Account (HRA)

- Health Reimbursement Accounts are employer funded tax saving account that reimburse employees out of pocket medical expense and individual health insurance premiums
- HRA are funded solely by the employer and cannot be funded through employee salary deductions. The parameters for the Health Reimbursement accounts are set by the employer and the unused dollars remain back with the employer
- Once an employee leaves the job, the funds are not transferred to the new employment account

Attributes of HRA
Guidelines that determine the HRA plan are as follows:-
• There is no lower limit or no upper limit for the amount that can be deposited in the account by the employer • No funds are expensed by the employer until reimbursements are paid • Employees are reimbursed tax free for the eligible or qualified medical expenses up to a maximum • HRA are used to reimburse only those items (co-pays, coinsurance, deductibles) agreed by the employer that are not covered by the company's selected health insurance plan (can be any health insurance plan, not specifically high deductible plan) • Employers define for their employees what funds can be used for what purpose i.e. out of pocket expense (co-pays and deductibles) • The expenses paid through HRA plan is similar to that paid by Flexible Savings Account (FSA) which will be discussed later • Eligibility for the Reimbursement under HRA account guidelines:- o Current Employees o Spouses and dependents of these employees o Spouses and dependents of diseased employees o Any person, on the behalf of employee can claim as a dependent except:- ▪ The person has a gross income of $3,400 or more ▪ The person filed a joint return • The unused amount at the end of the year gets carry forward to the next year • Employers do not have to be enrolled into any other plan like HAS's High deductible plan to have the benefit of HRA
Forms Used

Form – 1108	Used for reimbursement from the HRA account

8.1.3Flexible Spending Account (FSA)

- Healthcare flexible spending account is a kind of cafeteria plan that allows the consumers to fund for un-reimbursed healthcare expenses with prior tax contribution made towards individual FSA account
- The choice of selection of account depends solely on the employee. Employee by estimating their healthcare expenses, just before the start of the plan, choose an amount to be deducted from their pay-check over a course of an year

Attributes of FSA	
Guidelines that determine the FSA plan are as follows:-	
• There is no limit to the amount of money which the employee or employer can contribute to the accounts but the plan must specify a maximum dollar amount or a maximum compensation percentage that can be made for the FSA account • Provides tax benefit employee funding of certain benefits that one's employer generally do not cover like chiropractic, orthodontia, vision etc. • Helps in reducing employee's taxable income • Reduces the liability for FUTA (Federal Unemployment Tax) and FICA (Federal Insurance Contribution Act) tax • These accounts are suitable for the employers with 50 or more employees and are meant for providing extra benefits that enables employees to offset out of pocket medical expenses • Health FSA needs to be administered as COBRA benefit • Employees are even refunded for expenses that are not yet funded through payroll deductions. For Example Mr. A elects to contribute $1,200 annually ($50 per pay period) to his FSA beginning from Jan 1st. Suddenly employee needs a medical condition to be treated that is covered under FSA eligibility criteria however Mr. A has submitted only $100 till date. But as a reimbursement amount the patient would receive an amount of $1200. Note- Since the employer's liability associated with the plan, a maximum limit is set. As per 2013, the upper limit set is $2500.	
Most employers choose to outsource the account for plan administration	
Set up/Renewal Fees	$600 - $3,000
Monthly Per Participant fees	$3 to $6
Services	Debit Card, Plan Document, Summary Plan Description, From 5500 preparation
Forms Used	
Form 1009	Employees guide to FSA with Debit Card
Form 1010	Employees guide to FSA without Debit Card
Form 1104	Used for claiming under the health FSA to obtain qualified medical service from a physician, hospital or facility to prevent or alleviate a defect, physical disease or illness
Form 1105	Form to substantiate purchases made with the

	Debit Card
Form 1114	This form is used to receive debit card for the dependant or for replacing a lost or stolen card
Form 1131a	The form lists examples of dental and vision expenses eligible for payment under a Limited Purpose Health FSA plan
Form 1131b	This form provides a useful overview of medical expenses that typically qualify for reimbursement under a Health FSA account
Form 1132	Form to get the letter of medical necessity from your provider to receive reimbursement from FSA
Form 1400	Form for requesting reimbursement from a Health FSA plan

8.1.4 Consumer Driven Healthcare Payment Processing

In order to operate these accounts there has to be a separate processing phenomenon as compared to the existing traditional phenomenon. With the help of these accounts the major responsibility has now shifted in the hands of the consumers which actually are also the goal of Consumer Driven Healthcare concept. Following are the various kinds of payment processing system:-

1. Traditional Payment System

Under traditional plan, the claim is submitted to the payer by the provider directly or through a clearing house for processing. The claim is adjudicated and re-priced according to the plan chosen and remitted back to the provider

2. Adjudicated CDH Payment

Under the CDH model, the healthcare claims are initially adjudicated against the patient's high deductible plan. Once the benefit has been confirmed, a secondary adjudication is done against the CDH specific rules that determine patient's liability. The secondary adjudication will identify appropriate account for payment and will send a payment instruction to either a financial institution for HSA account or carrier's payment system for HRA and FSA accounts

3. Consumer Debit Card Payment

In this kind of transaction use of debit card is made to make timely payments. In this type of transaction the patient presents his or her debit card on the receipt of Expression of Benefit

(EOB) followed by which the payment is directly transferred to the provider's account from the consumer's account

4. Direct Account Payments

An alternative to debit card payment is direct account payment. Here the funds are approved and then transferred through an online portals from provider to payer accounts. This approach is same as that of 'PayPal' type model.

The figure below shows how the above mentioned operations take place in the real scenario. 1, 2, 3 and 4 refers to traditional payment flow, adjudicated CDH claim payment, consumer debit card payment and direct account payment

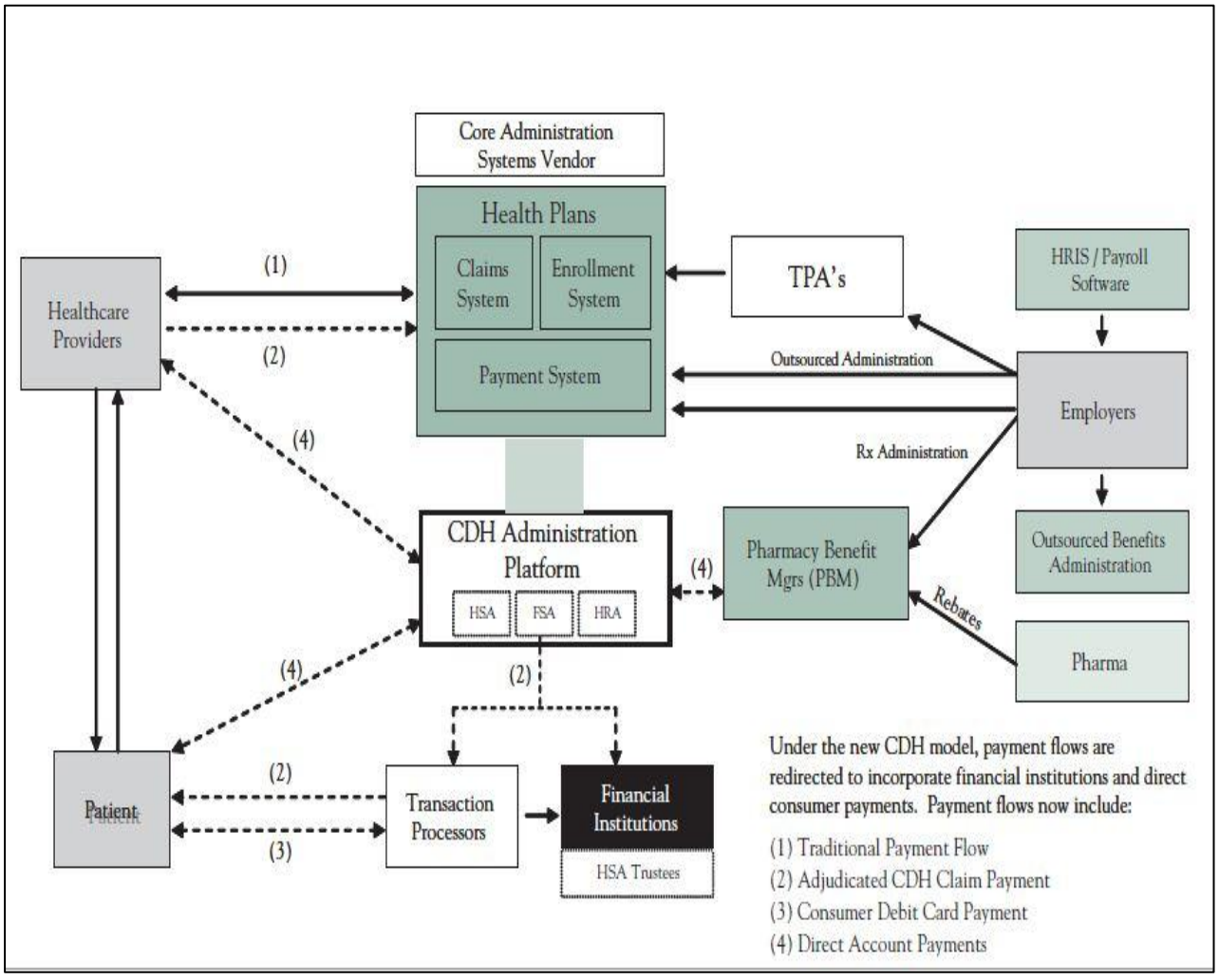


Figure 13- Consumer Driven Healthcare Landscape

Source - Triple Tree

8.1.5 Payer Side Implication for CDH

The payer side challenges as far as consumer driven healthcare is concerned are:-

- Domain Expertise
- New Software Technologies
- Changes in the business process of health plans

Apart from the above challenges following figure demonstrates the added steps in the process:-

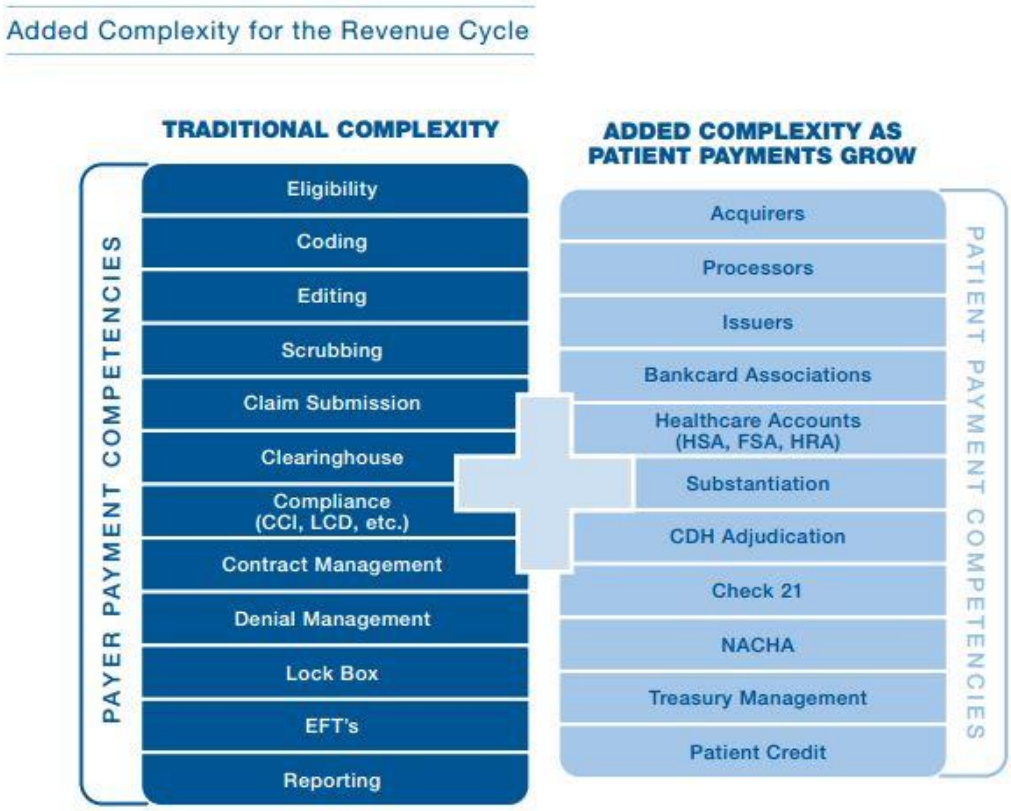


Figure 14 Challenges in the Consumer Driven Healthcare Model

Source - InstaMed

In order to help in managing the challenges, outsourced service providers have emerged in the market which with the help of domain expertise and integrated technology platform for administration of CDH programs

8.1.5.1Case Studies

Case Study 1

CareGain Inc. has a leading technology platform which is being used by Fiserv health. This technology platform has helped in bridging the gap between financial service and health insurance by allowing health insurance to combine claims and enrollment system with the platform. Moreover this platform has Fiserv TPA by providing integrated decision support tools and administrative capabilities across its customer base.

Case Study 2

In order to match the competition level in the consumer driven healthcare market, the focus would be more of a consumer centric environment because the consumers have become more active in selecting their health insurance and evaluating the providers. Connextion, $70million Florida based healthcare outsourcing firm is an example of an emerging leader in helping payer organizations evolve with the migration to consumer driven healthcare as well as government sponsored health plan. The success of the company is mainly due to the

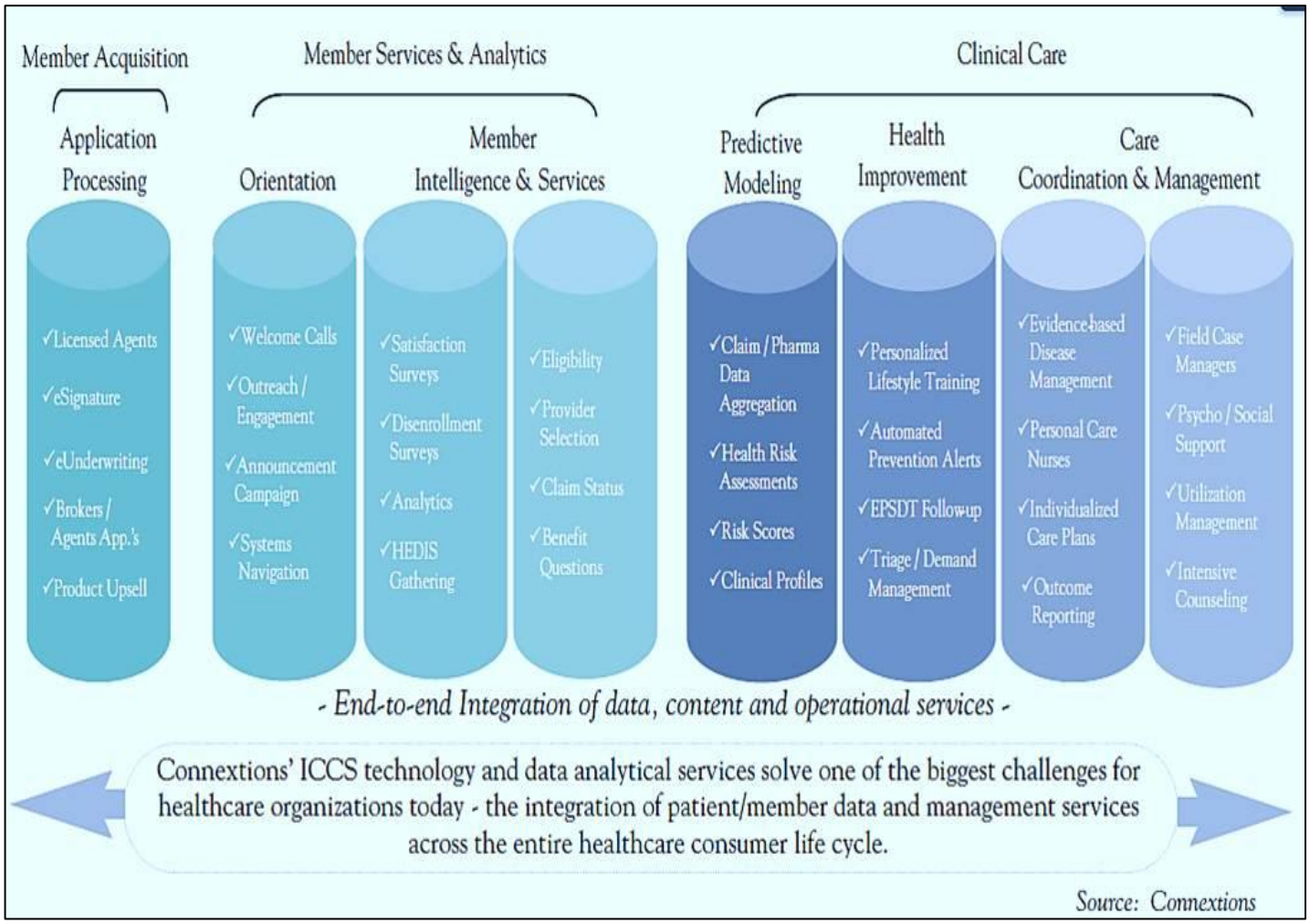


Figure 15 Connextions- Integrated Administration Platform

beauty of the Integrated Care Coordination System (ICCS) with the help of which it is used for aggregating, analyzing, disseminating member/patient data across administrative and clinical functions that constitute healthcare consumer lifecycle.

Connextions with the help of ICCS aggregates claims and their related predictive risk modeling as well as modeling data from payers and analyze it to enable various member acquisition, member acquisition, clinical care services and member administrative data. Even though disparate functions with the help of the integrated platform a common view of data is created. The backend clinical care part helps the payer organization to make future predictions regarding the retention of the patients by mapping the experience of the patients.

8.1.6 Provider Side Implication for CDH

The provider side challenges as far as consumer driven healthcare is concerned are:-

- Price, quality and customer service improvement as consumers have taken charge of their health spending decisions
- Technology Improvements – Improved front end experience to allow user friendly interaction of the consumer with the provider
- Since after CDH, the provider business has become more of a retail business where the payment is in the hands of the consumer therefore verifying the active insurance coverage, medical necessity and authorization/referrals at the point of scheduling. Doing so helps in accelerating the cash flow
- Increase in denials as the chances of having bad debt are more. Therefore the claims may be returned as zero payments

8.1.6.1 Case Studies

Case Study 1

SCI Solutions has developed an access management portal for provider market which has streamlined the pre-encounter administrative functions that fully integrate all the required revenue cycle administrative functions. The integration of the patient scheduling and revenue cycle administrative process, SCI solutions have helped in improving the front door experience by improving service levels, customer satisfaction during patient's first interaction with the health system. As a result the integrated platform provides tremendous ROI by reducing errors in patient billing and maximizing reimbursements

Case Study 2

In lieu of the zero payments due to bad debt in the health accounts, the number of denials increased. UnitedHealth Group introduced a program in which the insurer would pay directly to the provider for the services as soon as claim is processed. Then UnitedHealth will act as a creditor for the members to collect money along with the interest through the deductions through payroll in coordination with the employer

Case Study 3

Empire Blue Cross Blue Shield has partnered with American Express for offering credit to the members having HSA account. When the patient swipes the card, the insured amount is deducted from the account and the remaining balance is billed to patient's credit card

8.1.7 Consumer Driven Healthcare Insurers and Enablers

1	Ancillary Care Management, Inc.	8	Health Grades, Inc. (HGRD)
2	Definity Health (Division of UnitedHealth)	9	National Research Corp. (NRCI)
3	Destiny Health Lumenos, Inc. (Division of WellPoint)	10	CareGain
4	MyHealthBank, Inc.	11	eDocAmerica
5	One Call Medical, Inc.	12	Emmi Solutions
6	LLC Subimo, LLC	13	HealthAllies (Division of UnitedHealth)
7	WageWorks, Inc		

Table 5 List of Consumer Driven Healthcare Administrators

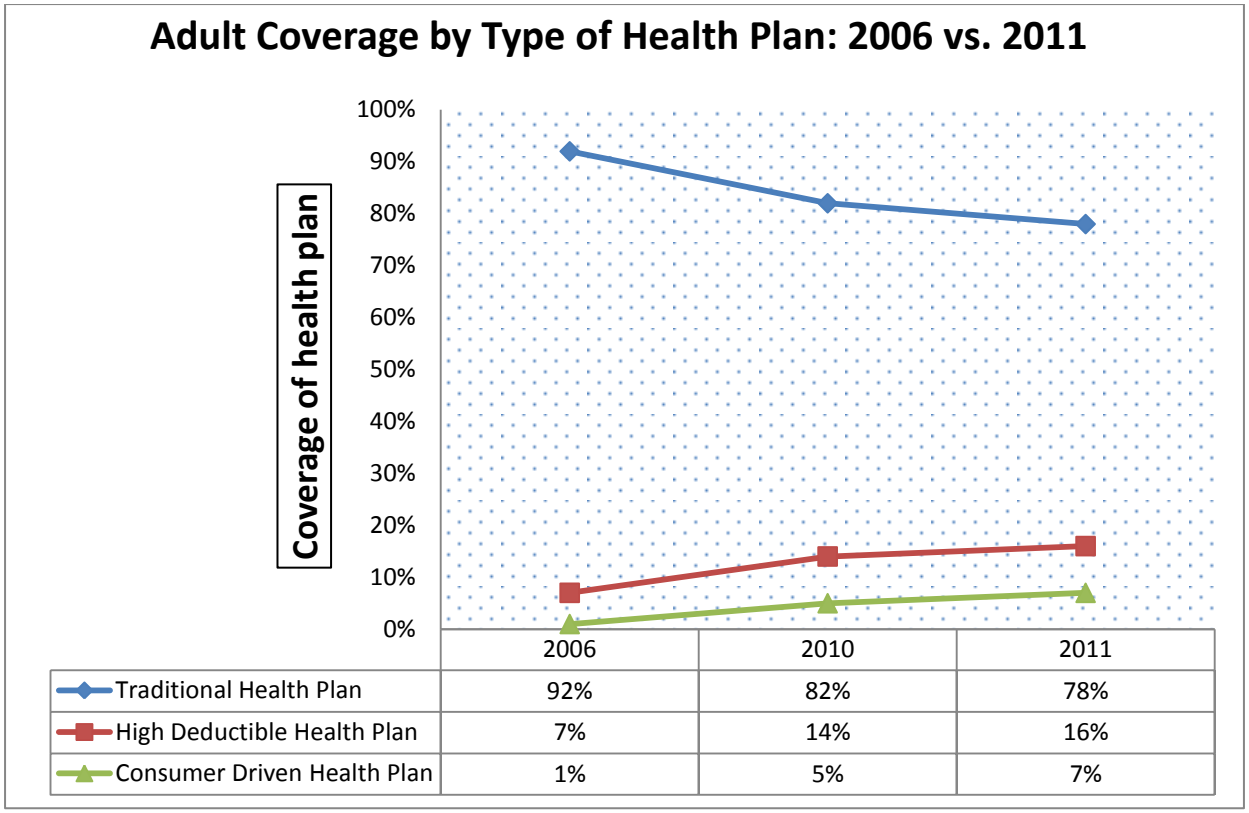


Figure 16 Trend of HDHP & CDH in comparison to Traditional Plans

Source: 11th annual EBRI/MGA Consumer Engagement in Health Care Survey, EBRI Issue Brief, December 2011.

8.2Pharmacy Benefit Management (PBM)

8.2.1 What is PBM?

Pharmacy Benefit Management (PBM) is a concept which helps in managing the prescription drug benefit on the behalf of employers, union groups, Part D Plans (PDP), third party administrators, managed care organization as well as other payers or entities which pay for drug benefits for their members. A PBM will carry out following functions either directly or through outsourcing:-

- Contract with retail and mail pharmacy network
- Adjudicate drug claims
- Develop drug or formulary list of covered therapies
- Manage cost, utilization trends prescription drugs
- Provide benefit design consultation
- Contract for manufacturer rebates
- Provide fee-based clinical services to improve member care

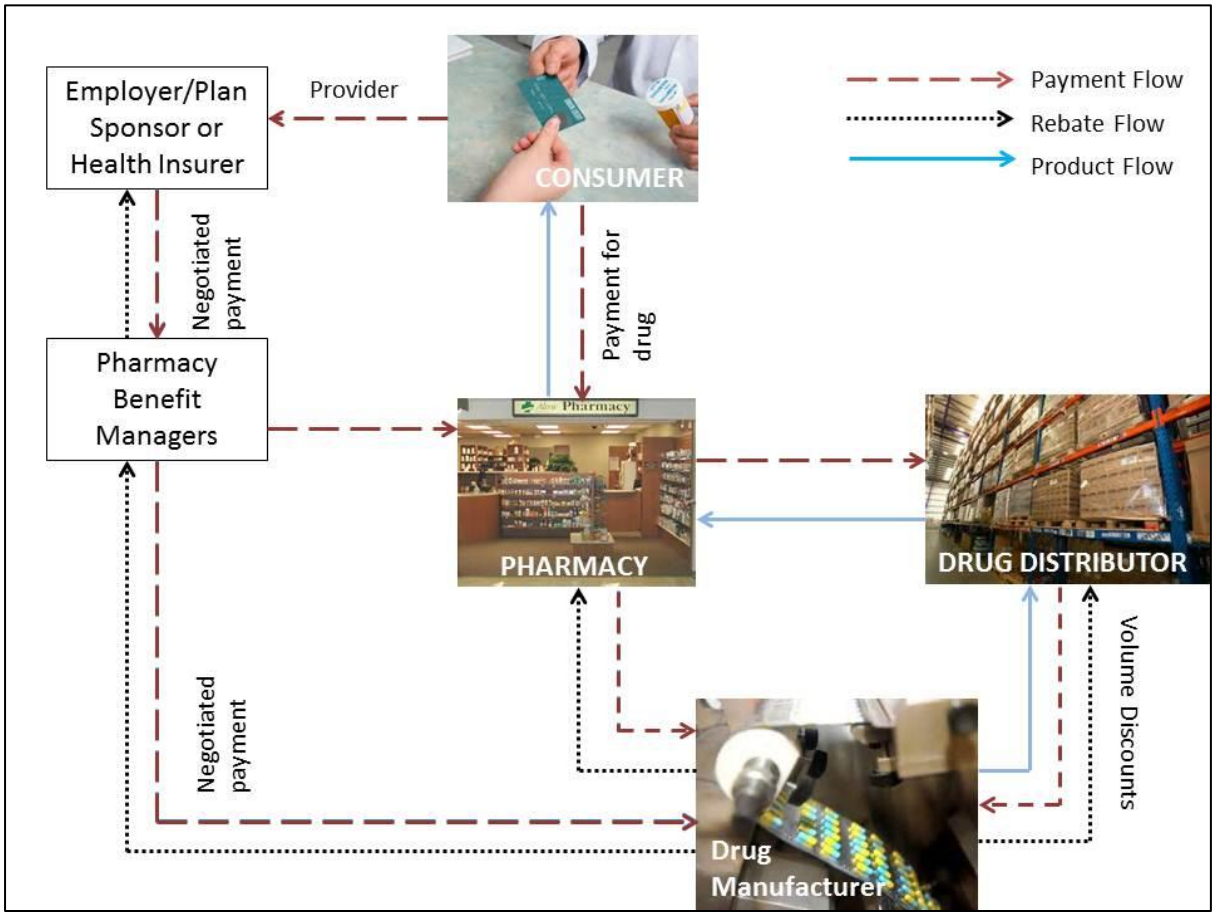


Figure 17 Overview Diagram of PBM, Pharmacy & Consumer Interaction

8.2.2 Medicare Part D Plan

Part 1	In this type, initial $ 325 has to be paid by the consumer followed by 25% co-insurance towards the prescription drug cost
Part 2	This part provides the patient with medication co-payment where the coverage extends to a point where the total retail cost of the medication reaches $2970
Part 3	This is also called as the Donut Hole Coverage. Earlier, before 2010, the total retail pharmacy cost if reaching above $2970 had to be paid by the consumer but in 2013, a rebate of 52.5% on the branded drug and 21% on generic formulary medications
Part 4	When the person spends more than $4750 for prescription medication, according to this part, they would be protected by catastrophic coverage. Here the cost of the medication is substantially reduced with the help of subsidy

Table 6 Medicare Part D Plan Explanation

Example

Mr A's yearly prescription drug expense has reached to $3,000. Now in order to guide him as to how much he has to pay and how much benefit will he get from Medicare Part D plan, following are the calculation steps to be followed:-

- To start with, an initial amount of $325 has to be paid

- Balance = $2970-$325 = $2645 (Note- The reason for subtracting $325 from $2970 and not from $3000 is because the next step is calculation of co-payment and therefor $325 has to be subtracted from the maximum co-payment limit)

- The balance amount will be paid in the ratio of 25%:75% where 25% will be paid as a co-payment by the patient and 75% will be paid by the payer

- Therefore the balance amount which Mr A has to pay apart from $325 is 25% of $2645 i.e. $661.25

- As per the Part 3 rule of Medicare Plan D, the amount more than $2700 i.e. $30 will be paid by Mr. A. But as of 2013 the rules have changed. Kindly refer above table for the new policy

Now total amount which Mr. A has to pay from his pocket = $325 + $661.25 + $30 = $1016.25

8.2.3 Operational Workflow for Pharmacy Benefit Management

Physician

Prescription

Patient

Claim Submission

Employer/Plan Sponsor or Health Insurer

CODES NCPDC

Claim Adjudication Process

1. Eligibility Verification
2. Clinical Input Provided to Pharmacist
3. Application of Network Discounts & Dispensing Fee
4. Payment to pharmacist
5. Data transferred to PBM warehouse

Pharmacy Benefit

Expression of Benefit

CODE NCPD

Funds transferr towards adjudic claim

Mail order Pharmacy Dispensing

Dispensing of approved drugs to Consumer

Community Pharmacy Dispensing

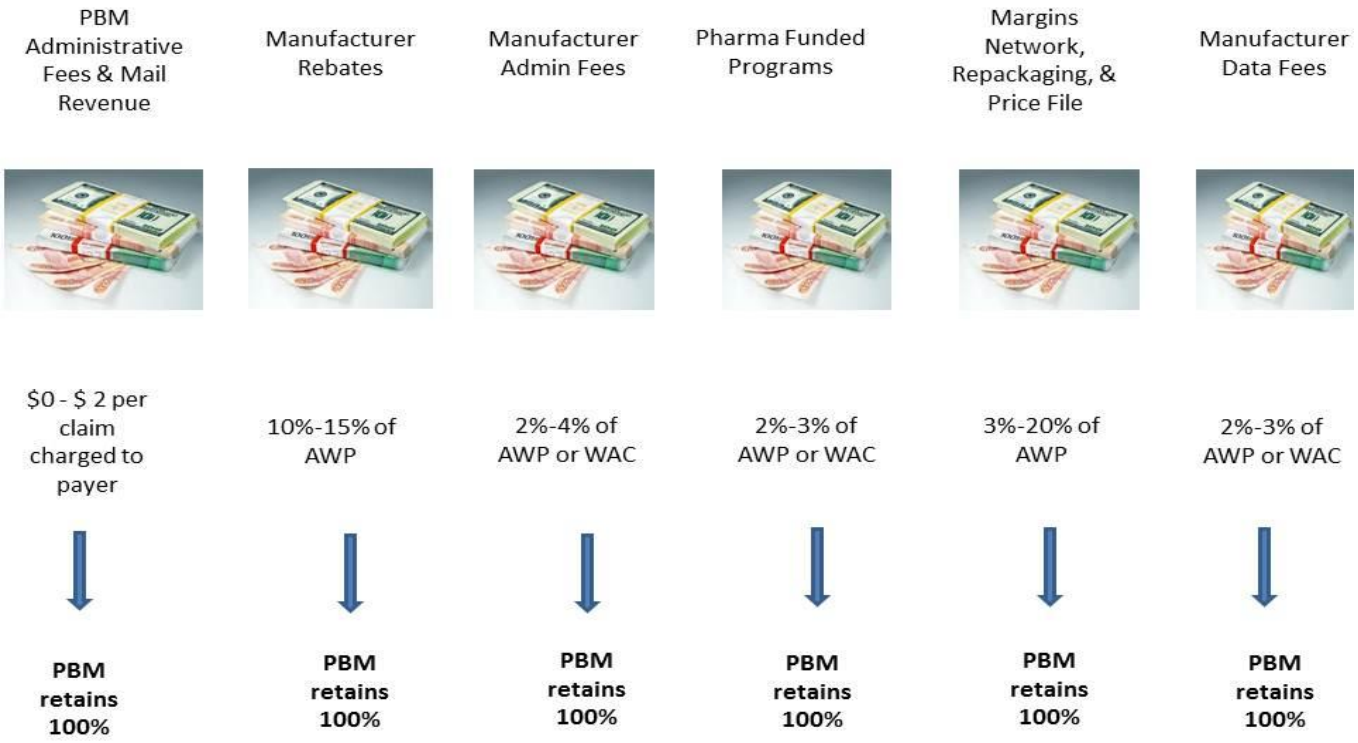
Patient

Co-Payment

8.2.4 Business Model of PBM

The business model was relatively simpler in 1990's but with the increase in the competition the complexity in the business model increased. Displayed below is a snapshot of the revenue generation areas for a PBM. The revenues are generated from:-

- Administrative fees from plan sponsors
- Drug pricing rebates and other program fees from pharmaceutical manufacturers
- Markup on drug pricing
- Dispensing fees and makeup on drug pricing for scripts dispensed by mail service and specialty pharmacy



Terms	Explanation
Drug Rebates	Drug rebates is the money paid to the PBM based on the market share of the targeted drug product. PBM keep a percentage or share of the rebate to cover the administrative costs of negotiating, contracting and administering the rebate program on the behalf of plan sponsor
Average Wholesale Price (AWP)	Published or suggested cost of pharmaceuticals charged to a pharmacy by a large group of pharmaceutical wholesalers. AWP is the basis for third prescription reimbursement; Pharmacies do not pay for their drugs using AWP. Rather Wholesale Acquisition Cost (WAC) is the current method which is a markup of discount
AWP Discount	Negotiated amount a drug plan pays to pharmacies for the ingredient cost of a prescription and commonly expressed as percentage off on AWP
Copayment	Cost sharing method where a portion of prescription drug cost is paid by the beneficiary. Co-payment varies based on product classification such as brand vs. generic or preferred as well as non-preferred. As per the model, co-payment is kept by pharmacy as a part of negotiation with the pharmacy benefit manager For example Negotiated Ingredient Cost = $20.00 Dispensing Fee = $2.00 Total Due to Pharmacy = $22.00 Co-payment = -$10.00 Balance due to pharmacy from PBM = $12.00
Cost Sharing	Cost sharing refers to the amount; beneficiaries contribute to the cost of each prescription covered by the drug benefit plan. A cost share amount is established in the plan design for major categories of drugs like generic, brand or formulary description
Dispensing Fee	Contracted amount in the TPA description plan, in the $2.00 to $3.00 range , which is paid to pharmacy along with negotiated ingredient cost of prescription
Drug Utilization Review (DUR)	Evaluation of Drug use, physician prescribing pattern, patient drug utilization to determine appropriateness of drug therapy 3 types of forms are used for review:- • Prospective Processed before or at the time of prescription dispensing • Concurrent Processed during the course of drug therapy • Retrospective

	Processed after the drug therapy has been completed
Formulary	List of drugs used to treat patients in a drug benefit plan. Products listed on a formulary are covered for reimbursement at varying levels. Various types of formularies are:- • Closed Formulary Includes non-formulary products which are not covered • Incented Formulary Formulary products are classified by product type including brand, generic, specialty, lifestyle, preferred and non-preferred. Incented formularies are increasingly popular because, when aligned with rational cost sharing levels, they help to drive utilization to the lowest net cost drug product • Open formulary Non formulary products are covered at a defined level
Generic Drug	Chemically equivalent copy designed from a brand- name drug where the patent has expired.

Table 7 Common terms used in PBM Landscape

8.2.5 How is PBM pricing for the payer is done?

Basic Approach to Understand PBM Pricing	
Cost Elements	PBM Vendor
Gross Average Wholesale Price of Drug (A)	A
Minus Network Discounts (B)	A-(B)
Minus Rebates (C)	A-(B+C)
Minus Pharmacy Network Fees (D)	A-(B+C+D)
Minus Member Cost Share (E)	A-(B+C+D)
Plus Administrative Fees (F)	(A+F)-(B+C+D)
Plus Dispensing Fees (G)	(A+F+G)-(B+C+D)
Estimated Net Cost Per Claim	(A+F+G)-(B+C+D)

Drugs not covered under PBM

- Drugs used for anorexia, weight loss, or weight gain
- Drugs used to promote fertility
- Drugs used for erectile dysfunction
- Drugs used for cosmetic purposes (hair growth, etc.)
- Drugs used for the symptomatic relief of cough and colds
- Prescription vitamins and mineral products

8.2.6 Market Opportunity

As far as the pharmacy prescription market is considered, there are over 3.5 billion prescriptions written every year which have a worth of more than $150 billion. Due to the aging population, release of blockbuster drugs, lifestyle drug, direct advertisement to consumers by the pharmaceutical company and increase of drug benefits to seniors according to the Medicare Program the rate of drug utilization is rising by 10-15% every year (Source - SXC).

In order to manage such huge market along with the federal and national laws to protect security and confidentiality of each and every patient, the call for administrative platforms to manage the process in conjunction with the employers, payers , consumers, pharmacies, drug manufacturers and distributors

Existing players

A PBM organization requires an integrated platform to run the claim adjudication process as well as the expertise to run the process therefore the market is open for:-

- In house PBM (Aetna, CIGNA)
- Outsourced PBM (ITC India, Argus Health Systems)
- Software Technology Company making integrated PBM administration platform (Emedon)

Following are the few top companies that are managing end to end PBM process:-

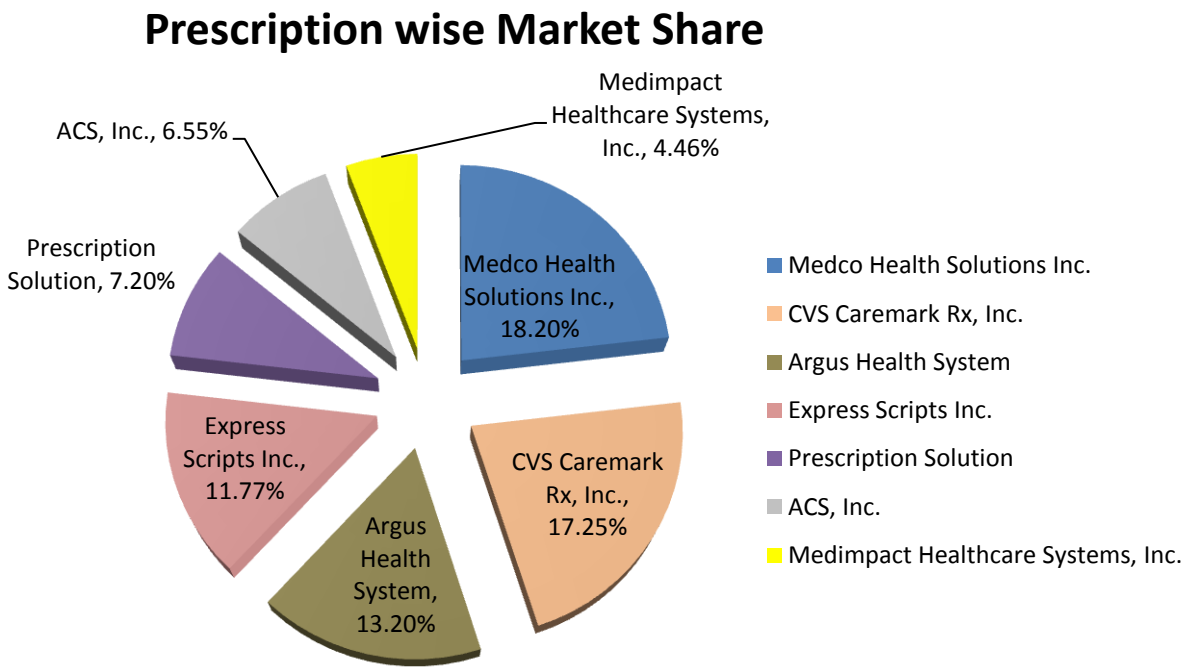


Figure 18 - Division of Companies According to Prescription Volume

Prescription in Volumes

Company	Total Rx/Year
Medco Health Solutions Inc.	695,000,000
CVS Caremark Rx, Inc.	658,500,000
Argus Health System	504,000,000
Express Scripts Inc.	449,300,000
Prescription Solution	274,920,504
ACS, Inc.	250,000,000
Medimpact Healthcare Systems, Inc.	170,400,000

Table 8 - Top 7 High Performing PBM Companies according to Prescription Volume

List of Proprietary Software their Product & their Companies

S.No.	Companies	Products
1	CuraScript, Inc.	Plan Sponsor Alignment
2	SNAPS, Inc	C.A.R.E. System - Enterprise Document Solutions
3	OPUS-ISM, LLC	Pharmacy Management System
4	Zynchros	Pharmacy Services
5	Medinous	Pharmacy
6	Storemed	Medication Carts
7	ExcelleRx, Inc.	Hospice Pharmacia
8	Kelson Physician Partners	Pharmacy Services

9	HCA	COE Pharmacy
10	iSOFT	i.Pharmacy
11	Cerner Corporation	On-Site Pharmacy
12	DSS, Inc.	vxInpatient Pharmacy
13	IntraNexus	SAPPHIRE Pharmacy
14	M2 Information Systems, Inc.	WebRx – the M2 Pharmacy module
15	McKesson Corp.	**1.** Chain Host **2.** EnterpriseRx Accounts Receivable **3.** EnterpriseRx Long-term Care **4.** EnterpriseRx Suite **5.** EnterpriseRx Suite for Independent Pharmacies **6.** Pharmacy Management Software and Services **7.** Pharmacy Navigator **8.** Pharmaserv Suite **9.** Supply Management Online
16	Netsmart Technologies, Inc.	RxConnect
17	SDI Health LLC	Vector One Market Pharmacy
18	Waller Lansden Dortch & Davis LLP	Pharmaceutical
19	Wipro IT Business	IT Infrastructure management services
20	Zynchros	Pharmacy Services

Table 9 - Top 20 Selling PBM Administrative Softwares

Source - http://www.jazdb2b.com/leaf/Healthcare/Pharmacy-Management/Outsourced-Pharmacy-Management-Services.htm?page=2

9.0 Conclusion

According to the *Capsite Report - 2012 Revenue Cycle Management (RCM) Study,* due to the advancements in the Revenue Cycle Management, for the next few years more than 20% of the US hospitals would replace their core RCM solution while other half would be investing in for upgrades in the current RCM solutions. Dell as a number 1 healthcare consulting firm (Gartner) can help the healthcare providers implement well established proprietary software (due to the changes in regulation as discussed earlier) through consultation. Secondly it can also provide support for the implemented administrative platform remotely through globalization.

Similarly for the payer side, due to the changes in the Revenue Cycle Management with the inclusion of HSA, FSA, HRA and PBM, new administrative platforms or up gradations in the existing software is needed. Dell as a consulting firm has a huge market as it can partner with the existing vendors who have well established administrative platforms and provide its expert consulting experience in implementing it in the payer organization. Also extending to this consultation, the remote support can be provided for the implemented software through globalization.

10.0 References

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- **Dell's Revenue Cycle Management**

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- **Streamlining RCM**

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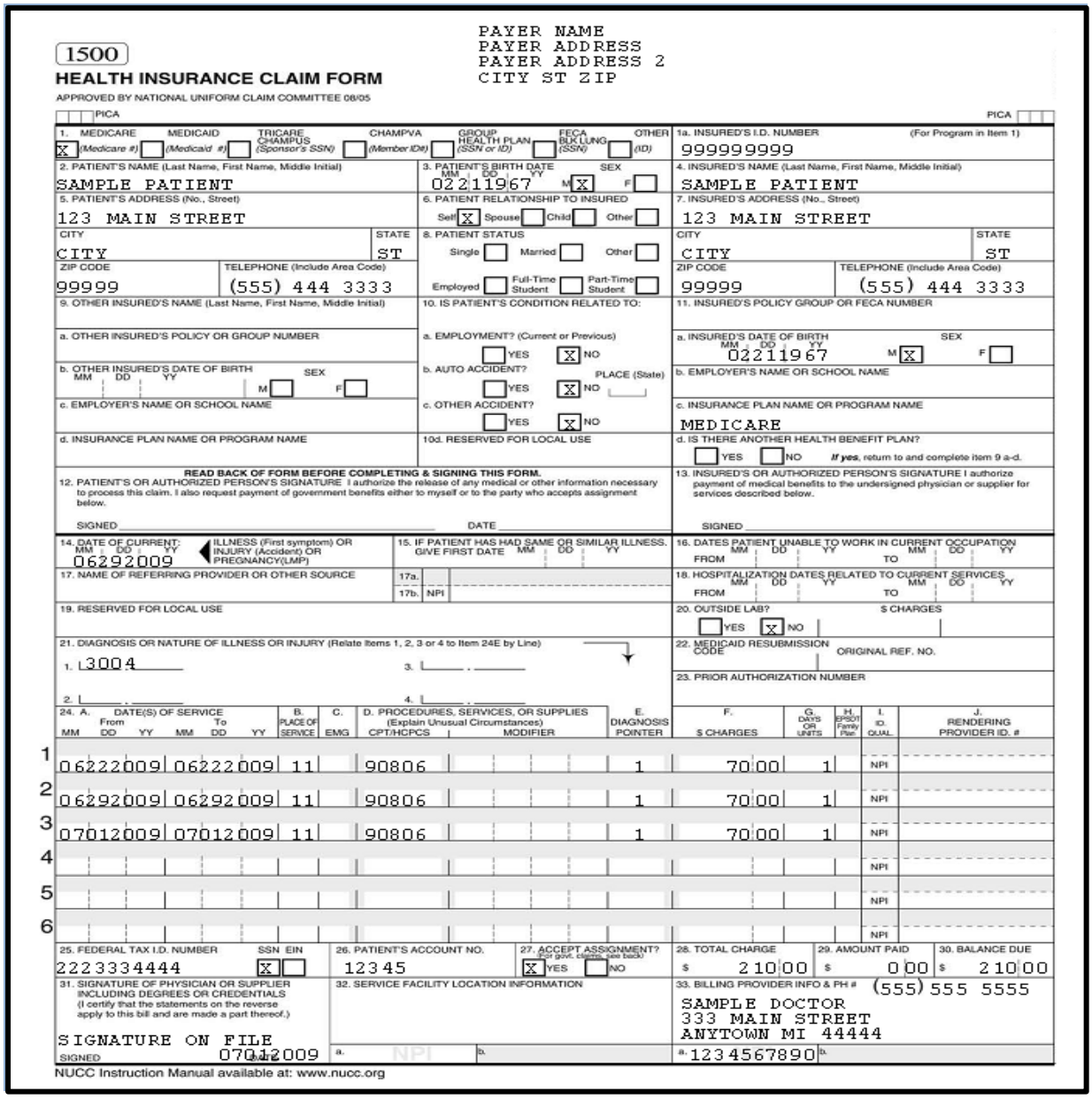
- **Outsourcing**

http://www.google.com/imgres?start=101&hl=en&sa=X&tbo=d&biw=1366&bih=587&tbm=isch&tbnid=TGp0Sb-MQFTG-M:&imgrefurl=http://indiahealthcaresolution.com/Whatwedo.aspx&docid=srCBO1yMQJwumM&imgurl=http://indiahealthcaresolution.com/images/flowchart.gif&w=600&h=450&ei=BNMUUarLJOrMyQHwsIBw&zoom=1&iact=hc&vpx=395&vpy=274&dur=1357&hovh=194&hovw=259&tx=106&ty=118&sig=101372964762228778416&page=5&tbnh=123&tbnw=164&ndsp=25&ved=1t:429,r:16,s:100,i:52

11.0 Annexure

- **CMS 1500 Form**



1500

PAYER NAME
PAYER ADDRESS
PAYER ADDRESS 2
CITY ST ZIP

HEALTH INSURANCE CLAIM FORM

APPROVED BY NATIONAL UNIFORM CLAIM COMMITTEE 08/05

PICA

1. MEDICARE [X] (Medicare #)	MEDICAID [ ] (Medicaid #)
TRICARE CHAMPUS [ ] (Sponsor's SSN)	CHAMPVA [ ] (Member ID#)
GROUP HEALTH PLAN [ ] (SSN or ID)	FECA BLK LUNG [ ] (SSN)
OTHER [ ] (ID)	
1a. INSURED'S I.D. NUMBER (For Program in Item 1)	999999999
2. PATIENT'S NAME (Last Name, First Name, Middle Initial)	SAMPLE PATIENT
3. PATIENT'S BIRTH DATE MM DD YY / SEX	02 21 1967 / M [X] F [ ]
4. INSURED'S NAME (Last Name, First Name, Middle Initial)	SAMPLE PATIENT
5. PATIENT'S ADDRESS (No., Street)	123 MAIN STREET
6. PATIENT RELATIONSHIP TO INSURED	Self [X] Spouse [ ] Child [ ] Other [ ]
7. INSURED'S ADDRESS (No., Street)	123 MAIN STREET
CITY	CITY
STATE	ST
8. PATIENT STATUS	Single [ ] Married [ ] Other [ ] / Employed [ ] Full-Time Student [ ] Part-Time Student [ ]
CITY	CITY
STATE	ST
ZIP CODE	99999
TELEPHONE (Include Area Code)	(555) 444 3333
ZIP CODE	99999
TELEPHONE (Include Area Code)	(555) 444 3333
9. OTHER INSURED'S NAME (Last Name, First Name, Middle Initial)	
10. IS PATIENT'S CONDITION RELATED TO:	
11. INSURED'S POLICY GROUP OR FECA NUMBER	
a. OTHER INSURED'S POLICY OR GROUP NUMBER	
a. EMPLOYMENT? (Current or Previous)	[ ] YES [X] NO
a. INSURED'S DATE OF BIRTH MM DD YY / SEX	02 21 1967 / M [X] F [ ]
b. OTHER INSURED'S DATE OF BIRTH MM DD YY / SEX	M [ ] F [ ]
b. AUTO ACCIDENT? PLACE (State)	[ ] YES [X] NO
b. EMPLOYER'S NAME OR SCHOOL NAME	
c. EMPLOYER'S NAME OR SCHOOL NAME	
c. OTHER ACCIDENT?	[ ] YES [X] NO
c. INSURANCE PLAN NAME OR PROGRAM NAME	MEDICARE
d. INSURANCE PLAN NAME OR PROGRAM NAME	
10d. RESERVED FOR LOCAL USE	
d. IS THERE ANOTHER HEALTH BENEFIT PLAN?	[ ] YES [ ] NO If yes, return to and complete item 9 a-d.

READ BACK OF FORM BEFORE COMPLETING & SIGNING THIS FORM.

12. PATIENT'S OR AUTHORIZED PERSON'S SIGNATURE I authorize the release of any medical or other information necessary to process this claim. I also request payment of government benefits either to myself or to the party who accepts assignment below.

SIGNED _____ DATE _____

13. INSURED'S OR AUTHORIZED PERSON'S SIGNATURE I authorize payment of medical benefits to the undersigned physician or supplier for services described below.

SIGNED _____

14. DATE OF CURRENT: MM DD YY / ILLNESS (First symptom) OR INJURY (Accident) OR PREGNANCY(LMP)	06292009
15. IF PATIENT HAS HAD SAME OR SIMILAR ILLNESS. GIVE FIRST DATE MM DD YY	
16. DATES PATIENT UNABLE TO WORK IN CURRENT OCCUPATION MM DD YY	FROM TO
17. NAME OF REFERRING PROVIDER OR OTHER SOURCE	17a. / 17b. NPI
18. HOSPITALIZATION DATES RELATED TO CURRENT SERVICES MM DD YY	FROM TO
19. RESERVED FOR LOCAL USE	
20. OUTSIDE LAB? $ CHARGES	[ ] YES [X] NO
21. DIAGNOSIS OR NATURE OF ILLNESS OR INJURY (Relate Items 1, 2, 3 or 4 to Item 24E by Line)	1. L3004 2. 3. 4.
22. MEDICAID RESUBMISSION CODE / ORIGINAL REF. NO.	
23. PRIOR AUTHORIZATION NUMBER	

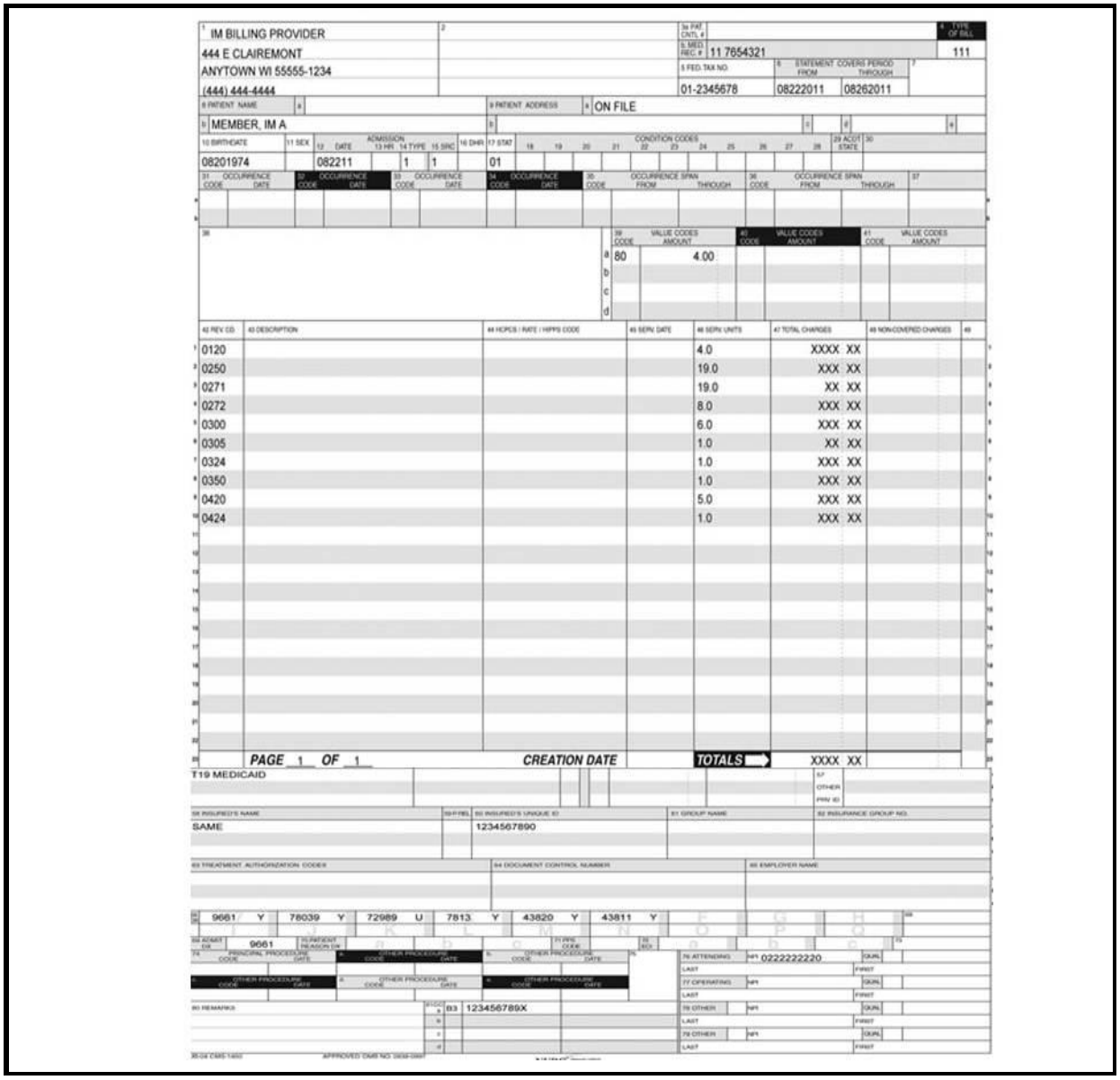
24. A. DATE(S) OF SERVICE From MM DD YY	To MM DD YY	B. PLACE OF SERVICE	C. EMG	D. PROCEDURES, SERVICES, OR SUPPLIES (Explain Unusual Circumstances) CPT/HCPCS	MODIFIER	E. DIAGNOSIS POINTER	F. $ CHARGES	G. DAYS OR UNITS	H. EPSDT Family Plan	I. ID. QUAL.	J. RENDERING PROVIDER ID. #
1 06 22 2009	06 22 2009	11		90806		1	70 00	1		NPI	
2 06 29 2009	06 29 2009	11		90806		1	70 00	1		NPI	
3 07 01 2009	07 01 2009	11		90806		1	70 00	1		NPI	
4										NPI	
5										NPI	
6										NPI	

25. FEDERAL TAX I.D. NUMBER / SSN EIN	2223334444 [X]	26. PATIENT'S ACCOUNT NO.	12345
27. ACCEPT ASSIGNMENT? (For govt. claims, see back)	[X] YES [ ] NO	28. TOTAL CHARGE	$ 210 00
29. AMOUNT PAID	$ 0 00	30. BALANCE DUE	$ 210 00
31. SIGNATURE OF PHYSICIAN OR SUPPLIER INCLUDING DEGREES OR CREDENTIALS (I certify that the statements on the reverse apply to this bill and are made a part thereof.)	SIGNATURE ON FILE SIGNED 07 01 2009	32. SERVICE FACILITY LOCATION INFORMATION	a. NPI b.
33. BILLING PROVIDER INFO & PH #	(555) 555 5555 SAMPLE DOCTOR 333 MAIN STREET ANYTOWN MI 44444		a. 1234567890 b.

NUCC Instruction Manual available at: www.nucc.org

Source - https://www.noridianmedicare.com/dme/claims/images/cms_1500_08-05.png%3f

- **UB – 04 Form**



Source -
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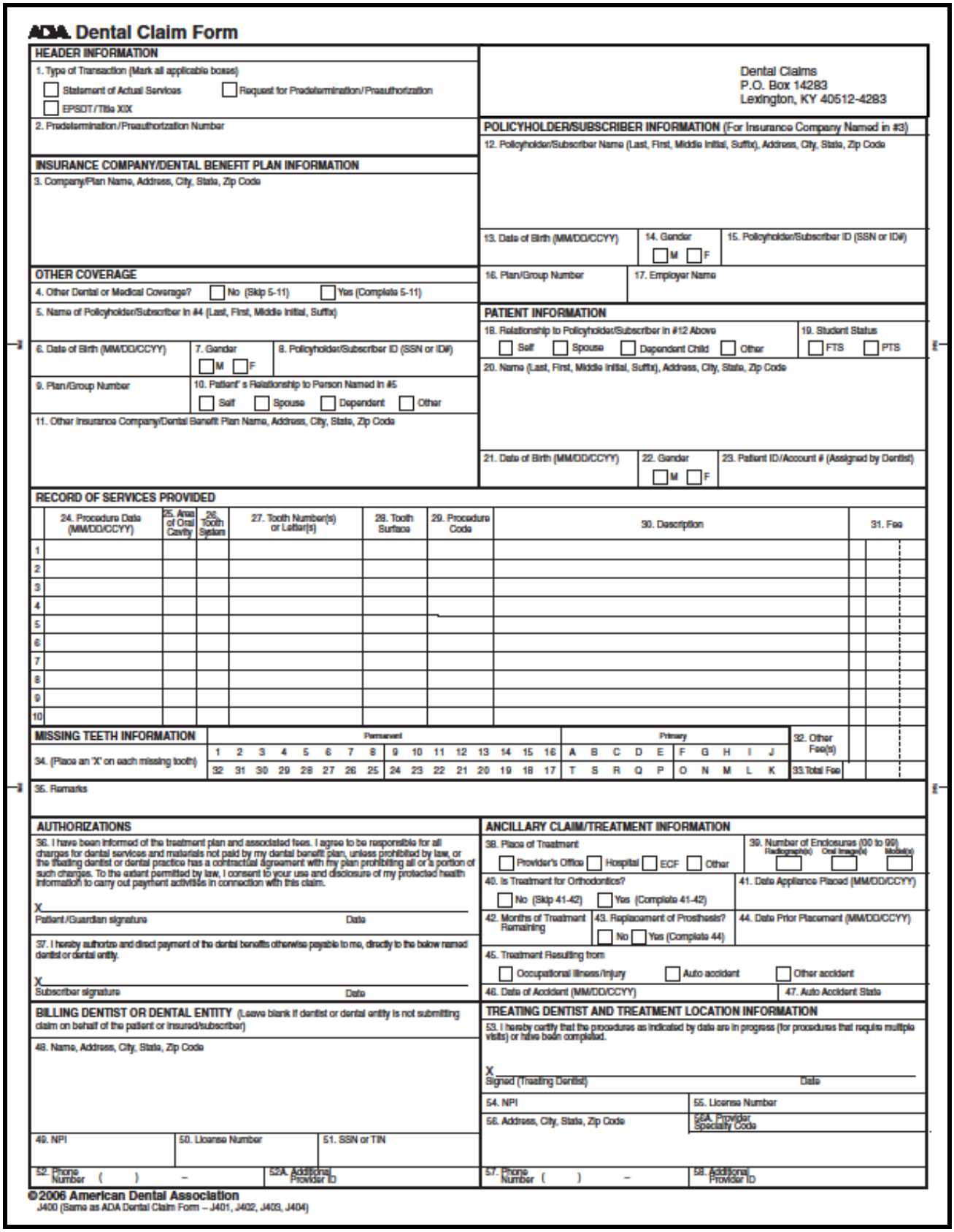
- **ADA 2006 Form**



ADA Dental Claim Form

HEADER INFORMATION

1. Type of Transaction (Mark all applicable boxes)
☐ Statement of Actual Services ☐ Request for Predetermination/Preauthorization
☐ EPSDT/Title XIX

2. Predetermination/Preauthorization Number

Dental Claims
P.O. Box 14283
Lexington, KY 40512-4283

INSURANCE COMPANY/DENTAL BENEFIT PLAN INFORMATION

3. Company/Plan Name, Address, City, State, Zip Code

POLICYHOLDER/SUBSCRIBER INFORMATION (For Insurance Company Named in #3)

12. Policyholder/Subscriber Name (Last, First, Middle Initial, Suffix), Address, City, State, Zip Code

13. Date of Birth (MM/DD/CCYY) | 14. Gender ☐M ☐F | 15. Policyholder/Subscriber ID (SSN or ID#)

OTHER COVERAGE

4. Other Dental or Medical Coverage? ☐ No (Skip 5-11) ☐ Yes (Complete 5-11)

5. Name of Policyholder/Subscriber in #4 (Last, First, Middle Initial, Suffix)

6. Date of Birth (MM/DD/CCYY) | 7. Gender ☐M ☐F | 8. Policyholder/Subscriber ID (SSN or ID#)

9. Plan/Group Number | 10. Patient's Relationship to Person Named in #5 ☐ Self ☐ Spouse ☐ Dependent ☐ Other

11. Other Insurance Company/Dental Benefit Plan Name, Address, City, State, Zip Code

16. Plan/Group Number | 17. Employer Name

PATIENT INFORMATION

18. Relationship to Policyholder/Subscriber in #12 Above ☐ Self ☐ Spouse ☐ Dependent Child ☐ Other | 19. Student Status ☐ FTS ☐ PTS

20. Name (Last, First, Middle Initial, Suffix), Address, City, State, Zip Code

21. Date of Birth (MM/DD/CCYY) | 22. Gender ☐M ☐F | 23. Patient ID/Account # (Assigned by Dentist)

RECORD OF SERVICES PROVIDED

	24. Procedure Date (MM/DD/CCYY)	25. Area of Oral Cavity	26. Tooth System	27. Tooth Number(s) or Letter(s)	28. Tooth Surface	29. Procedure Code	30. Description	31. Fee
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

MISSING TEETH INFORMATION

34. (Place an 'X' on each missing tooth)

Permanent																Primary										32. Other Fee(s)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	A	B	C	D	E	F	G	H	I	J		
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	T	S	R	Q	P	O	N	M	L	K	33. Total Fee	

35. Remarks

AUTHORIZATIONS

36. I have been informed of the treatment plan and associated fees. I agree to be responsible for all charges for dental services and materials not paid by my dental benefit plan, unless prohibited by law, or the treating dentist or dental practice has a contractual agreement with my plan prohibiting all or a portion of such charges. To the extent permitted by law, I consent to your use and disclosure of my protected health information to carry out payment activities in connection with this claim.

X
Patient/Guardian signature | Date

37. I hereby authorize and direct payment of the dental benefits otherwise payable to me, directly to the below named dentist or dental entity.

X
Subscriber signature | Date

ANCILLARY CLAIM/TREATMENT INFORMATION

38. Place of Treatment ☐ Provider's Office ☐ Hospital ☐ ECF ☐ Other

39. Number of Enclosures (00 to 99) Radiograph(s) | Oral Image(s) | Model(s)

40. Is Treatment for Orthodontics? ☐ No (Skip 41-42) ☐ Yes (Complete 41-42)

41. Date Appliance Placed (MM/DD/CCYY)

42. Months of Treatment Remaining

43. Replacement of Prosthesis? ☐ No ☐ Yes (Complete 44)

44. Date Prior Placement (MM/DD/CCYY)

45. Treatment Resulting from ☐ Occupational Illness/Injury ☐ Auto accident ☐ Other accident

46. Date of Accident (MM/DD/CCYY) | 47. Auto Accident State

BILLING DENTIST OR DENTAL ENTITY (Leave blank if dentist or dental entity is not submitting claim on behalf of the patient or insured/subscriber)

48. Name, Address, City, State, Zip Code

49. NPI | 50. License Number | 51. SSN or TIN

52. Phone Number ( ) – | 52A. Additional Provider ID

TREATING DENTIST AND TREATMENT LOCATION INFORMATION

53. I hereby certify that the procedures as indicated by date are in progress (for procedures that require multiple visits) or have been completed.

X
Signed (Treating Dentist) | Date

54. NPI | 55. License Number

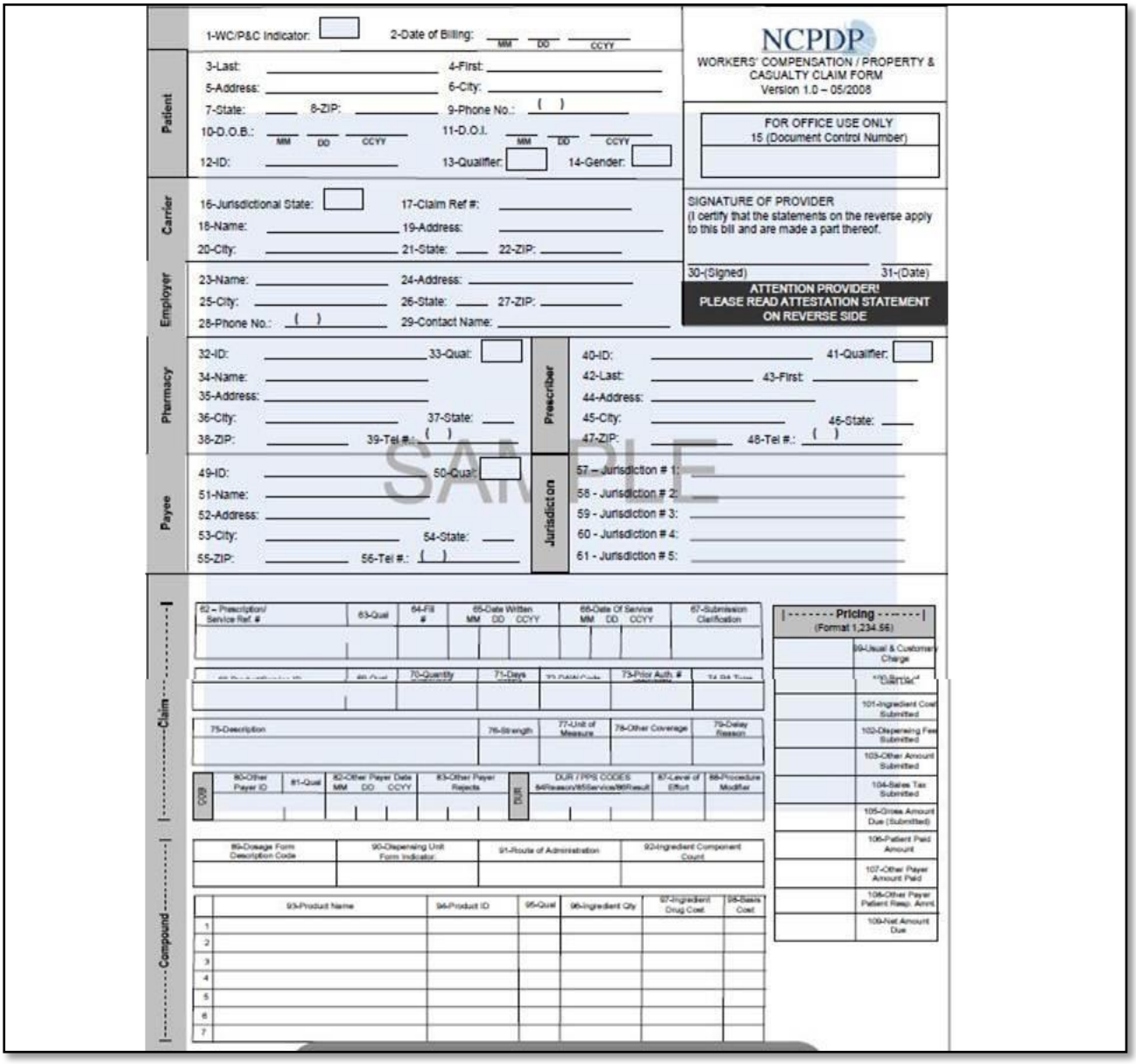
56. Address, City, State, Zip Code | 56A. Provider Specialty Code

57. Phone Number ( ) – | 58. Additional Provider ID

J400 (Same as ADA Dental Claim Form – J401, J402, J403, J404)

Source - http://vcgcb.ca.gov/docs/forms/providers/adaclaimform.pdf

- **NCPDP WC/PC UCF**



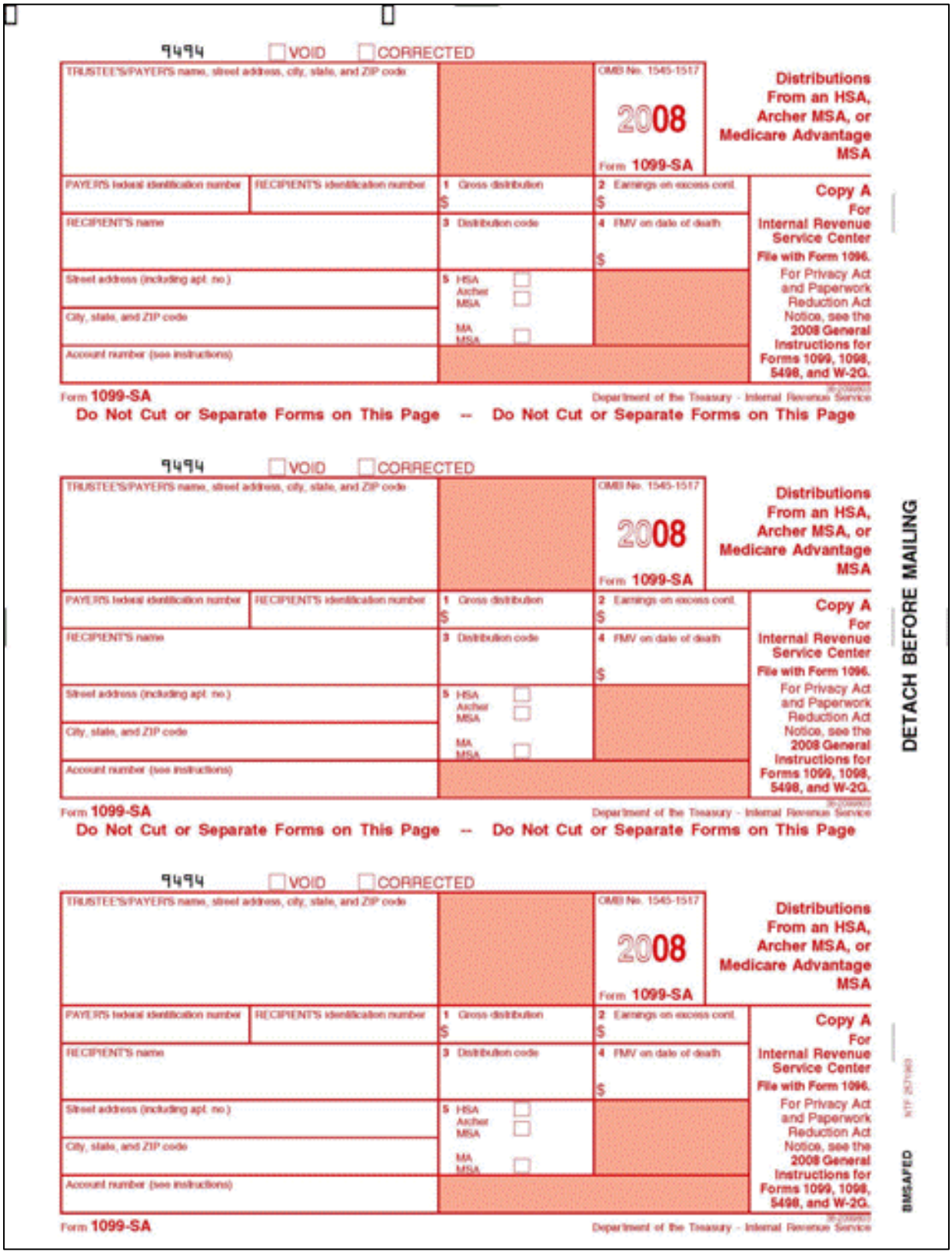
Source :-
http://www.dir.ca.gov/dwc/DWCPropRegs/Ebilling/Guide_CompanionGuide/MedicalBillinPaymentGuide1st15dayComment.pdf

- **Curent HIPPA Standard Transactions**

X12 Format	Use
(Accredited Standards Committee) ASC X12N/005010X222A1	Health Care Claim– Professional
ASC X12N/005010X223A2	Health Care Claim – Institutional
ASC X12N/005010X224A2	Health Care Claim – Dental
ASC X12N/005010X221A1	Health Care Claim – Remittance Advice
ASC X12N/005010X212	Health Care Claim – Status Request and Response
ASC X12N/005010X214	Bill Acknowledgment
ASC X12C/005010X231	To communicate acceptance or rejection of a functional group within an interchange (file)
ASC X12 TA1	To communicate the syntactical analysis of the interchange header and trailer.
ASC X12 270	Eligibility Inquiry – Physician practice query or request sent for eligibility and benefit query
ASC X12 271	Inquiry & Response – Health Insurer response to eligibility and benefit query
ASC X12 275	Claims attachment – not yet in effect
ASC X12 276	Claim status inquiry – Physician practice query on status of claim
ASC X12 277	Claim Status Response – Health Insurer response to claim status query
ASC X12 278	Referral authorization request and response – Physician practice request for review of health care services (typically a referral authorization) and the health insurer response (authorization or certification)
ASC X12 820	Health Insurance Premium Payment – Health plan premium payment remittance information that a plan sponsor, broker or other entity can use to respond to a bill from the health insurer
ASC X12 834	Beneficiary Enrollment – Electronic enrollment and disenrollment submitted to a health insurer typically by an insurance broker or a plan sponsor
ASC X12 835	Payment and remittance advice – The electronic remittance advice or explanation of benefits coming back from health insurer
ASC X12 837	Claim or Encounter – The electronic claim sent from the physician practice to health insurer

Source - http://www.cbs.state.or.us/wcd/ and American Medical Association

- **1099-SA Form**



9494 ☐ VOID ☐ CORRECTED

TRUSTEE'S/PAYER'S name, street address, city, state, and ZIP code

OMB No. 1545-1517

2008

Form 1099-SA

Distributions From an HSA, Archer MSA, or Medicare Advantage MSA

PAYER'S federal identification number | RECIPIENT'S identification number

1 Gross distribution $

2 Earnings on excess cont. $

RECIPIENT'S name

3 Distribution code

4 FMV on date of death $

Street address (including apt. no.)

City, state, and ZIP code

5 HSA ☐ Archer MSA ☐ MA MSA ☐

Account number (see instructions)

Copy A For Internal Revenue Service Center
File with Form 1096.
For Privacy Act and Paperwork Reduction Act Notice, see the **2008 General Instructions for Forms 1099, 1098, 5498, and W-2G.**

Form 1099-SA — Department of the Treasury - Internal Revenue Service

Do Not Cut or Separate Forms on This Page -- Do Not Cut or Separate Forms on This Page

9494 ☐ VOID ☐ CORRECTED

TRUSTEE'S/PAYER'S name, street address, city, state, and ZIP code

OMB No. 1545-1517

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Form 1099-SA — Department of the Treasury - Internal Revenue Service

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DETACH BEFORE MAILING

9494 ☐ VOID ☐ CORRECTED

TRUSTEE'S/PAYER'S name, street address, city, state, and ZIP code

OMB No. 1545-1517

2008

Form 1099-SA

Distributions From an HSA, Archer MSA, or Medicare Advantage MSA

PAYER'S federal identification number | RECIPIENT'S identification number

1 Gross distribution $

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Form 1099-SA — Department of the Treasury - Internal Revenue Service

BMSAFED

- **Form 5498-SA**

2727 ☐ VOID ☐ CORRECTED

TRUSTEE'S name, street address, city, state, and ZIP code

1 Employee or self-employed person's Archer MSA contributions made in 2008 and 2009 for 2008
$

2 Total contributions made in 2008
$

OMB No. 1545-1518

2008

Form 5498-SA

HSA, Archer MSA, or Medicare Advantage MSA Information

TRUSTEE'S federal identification number | PARTICIPANT'S social security number

3 Total HSA or Archer MSA contributions made in 2009 for 2008
$

PARTICIPANT'S name

4 Rollover contributions
$

5 Fair market value of HSA, Archer MSA, or MA MSA
$

Street address (including apt. no.)

City, state, and ZIP code

6 HSA ☐ Archer MSA ☐ MA MSA ☐

Account number (see instructions)

Copy A For Internal Revenue Service Center
File with Form 1096.

For Privacy Act and Paperwork Reduction Act Notice, see the 2008 General Instructions for Forms 1099, 1098, 5498, and W-2G.

Form 5498-SA — Department of the Treasury - Internal Revenue Service

Do Not Cut or Separate Forms on This Page -- Do Not Cut or Separate Forms on This Page

2727 ☐ VOID ☐ CORRECTED

TRUSTEE'S name, street address, city, state, and ZIP code

1 Employee or self-employed person's Archer MSA contributions made in 2008 and 2009 for 2008
$

2 Total contributions made in 2008
$

OMB No. 1545-1518

2008

Form 5498-SA

HSA, Archer MSA, or Medicare Advantage MSA Information

TRUSTEE'S federal identification number | PARTICIPANT'S social security number

3 Total HSA or Archer MSA contributions made in 2009 for 2008
$

PARTICIPANT'S name

4 Rollover contributions
$

5 Fair market value of HSA, Archer MSA, or MA MSA
$

Street address (including apt. no.)

City, state, and ZIP code

6 HSA ☐ Archer MSA ☐ MA MSA ☐

Account number (see instructions)

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Form 5498-SA — Department of the Treasury - Internal Revenue Service

Do Not Cut or Separate Forms on This Page -- Do Not Cut or Separate Forms on This Page

DETACH BEFORE MAILING

2727 ☐ VOID ☐ CORRECTED

TRUSTEE'S name, street address, city, state, and ZIP code

1 Employee or self-employed person's Archer MSA contributions made in 2008 and 2009 for 2008
$

2 Total contributions made in 2008
$

OMB No. 1545-1518

2008

Form 5498-SA

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TRUSTEE'S federal identification number | PARTICIPANT'S social security number

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PARTICIPANT'S name

4 Rollover contributions
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$

Street address (including apt. no.)

City, state, and ZIP code

6 HSA ☐ Archer MSA ☐ MA MSA ☐

Account number (see instructions)

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File with Form 1096.

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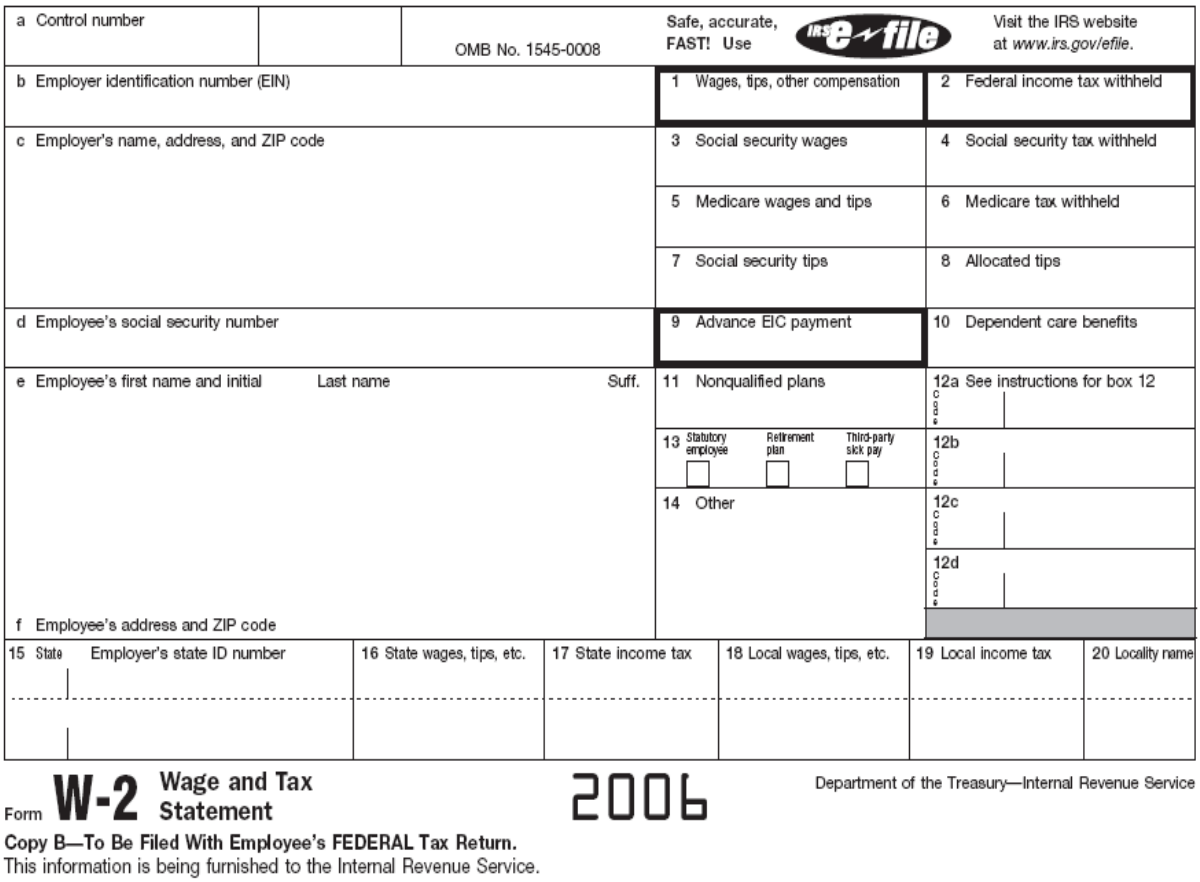
Form 5498-SA — Department of the Treasury - Internal Revenue Service

B98MSFD

- **Form W-2**



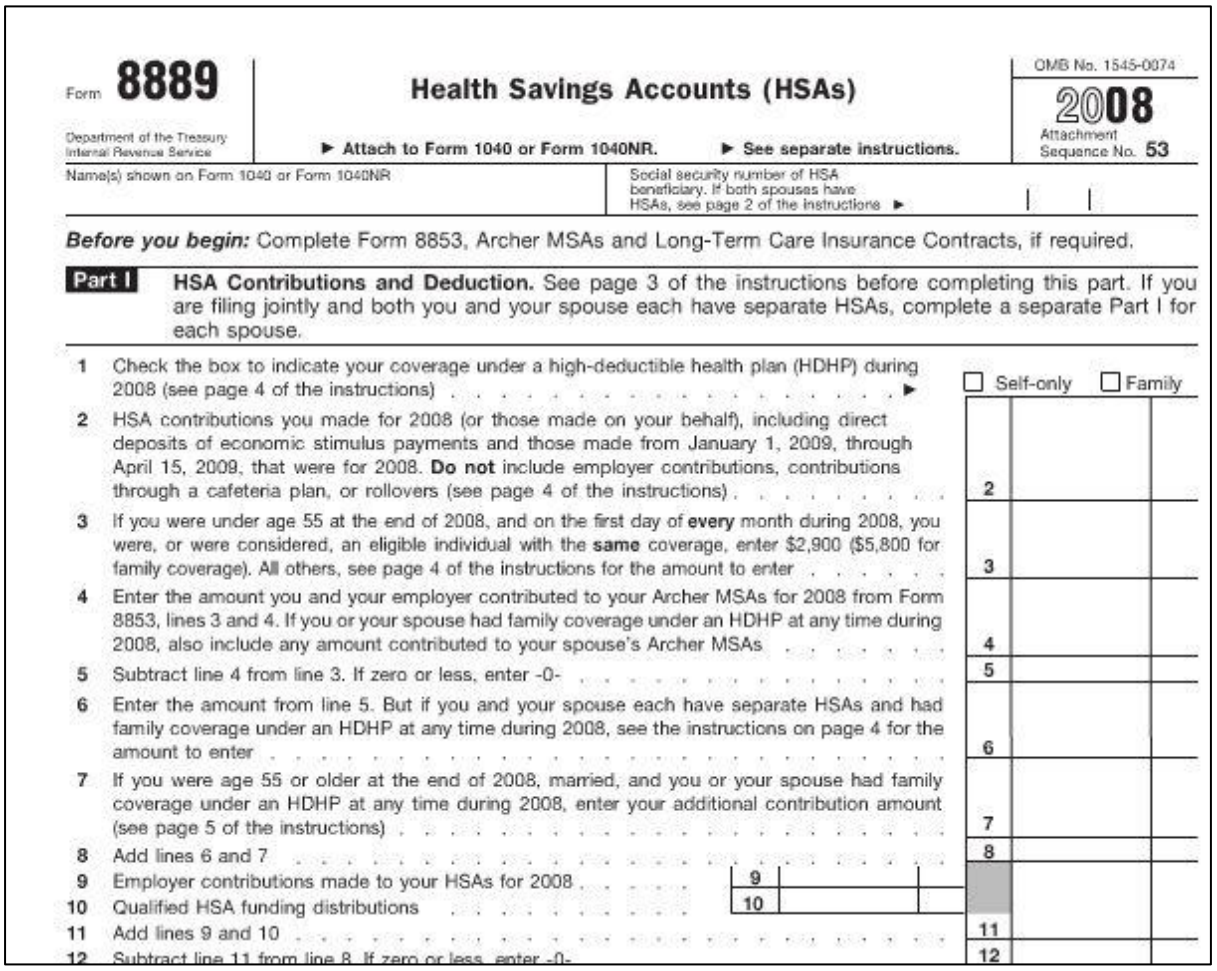
a Control number		OMB No. 1545-0008	Safe, accurate, FAST! Use IRS e-file	Visit the IRS website at www.irs.gov/efile.
b Employer identification number (EIN)			1 Wages, tips, other compensation	2 Federal income tax withheld
c Employer's name, address, and ZIP code			3 Social security wages	4 Social security tax withheld
			5 Medicare wages and tips	6 Medicare tax withheld
			7 Social security tips	8 Allocated tips
d Employee's social security number			9 Advance EIC payment	10 Dependent care benefits
e Employee's first name and initial	Last name	Suff.	11 Nonqualified plans	12a See instructions for box 12
			13 Statutory employee ☐ Retirement plan ☐ Third-party sick pay ☐	12b
			14 Other	12c
				12d
f Employee's address and ZIP code				

15 State	Employer's state ID number	16 State wages, tips, etc.	17 State income tax	18 Local wages, tips, etc.	19 Local income tax	20 Locality name

Form **W-2** Wage and Tax Statement 2006 Department of the Treasury—Internal Revenue Service

Copy B—To Be Filed With Employee's FEDERAL Tax Return.
This information is being furnished to the Internal Revenue Service.

- **Form 8889**



Form **8889**

Department of the Treasury
Internal Revenue Service

Health Savings Accounts (HSAs)

► Attach to Form 1040 or Form 1040NR. ► See separate instructions.

OMB No. 1545-0074

2008

Attachment Sequence No. **53**

Name(s) shown on Form 1040 or Form 1040NR

Social security number of HSA beneficiary. If both spouses have HSAs, see page 2 of the instructions ►

Before you begin: Complete Form 8853, Archer MSAs and Long-Term Care Insurance Contracts, if required.

Part I **HSA Contributions and Deduction.** See page 3 of the instructions before completing this part. If you are filing jointly and both you and your spouse each have separate HSAs, complete a separate Part I for each spouse.

1 Check the box to indicate your coverage under a high-deductible health plan (HDHP) during 2008 (see page 4 of the instructions) ► ☐ Self-only ☐ Family

2 HSA contributions you made for 2008 (or those made on your behalf), including direct deposits of economic stimulus payments and those made from January 1, 2009, through April 15, 2009, that were for 2008. **Do not** include employer contributions, contributions through a cafeteria plan, or rollovers (see page 4 of the instructions) . . . 2

3 If you were under age 55 at the end of 2008, and on the first day of **every** month during 2008, you were, or were considered, an eligible individual with the **same** coverage, enter $2,900 ($5,800 for family coverage). All others, see page 4 of the instructions for the amount to enter . . . 3

4 Enter the amount you and your employer contributed to your Archer MSAs for 2008 from Form 8853, lines 3 and 4. If you or your spouse had family coverage under an HDHP at any time during 2008, also include any amount contributed to your spouse's Archer MSAs . . . 4

5 Subtract line 4 from line 3. If zero or less, enter -0- . . . 5

6 Enter the amount from line 5. But if you and your spouse each have separate HSAs and had family coverage under an HDHP at any time during 2008, see the instructions on page 4 for the amount to enter . . . 6

7 If you were age 55 or older at the end of 2008, married, and you or your spouse had family coverage under an HDHP at any time during 2008, enter your additional contribution amount (see page 5 of the instructions) . . . 7

8 Add lines 6 and 7 . . . 8

9 Employer contributions made to your HSAs for 2008 . . . 9

10 Qualified HSA funding distributions . . . 10

11 Add lines 9 and 10 . . . 11

12 Subtract line 11 from line 8. If zero or less, enter -0- . . . 12

- **Form 1108**

PAYPRO ADMINISTRATORS

Claim Form
Fax to 951-656-9276
6 pages per claim max please
Or you can email claims & Form to claims@pagroup.us

Flexible Spending Account Claim Form Instructions

Please follow these instructions carefully—we receive many 'mystery' claims.

- Before faxing make sure your pages and cover sheet are placed in position with the proper side down or up.
- Please write clearly. We cannot pay a claim that is not legible.
- Include clear copies of your itemized receipts.
- You can go online to see if we've received your claim (we enter all claims within 48 hours of receipt).
- To avoid delays please complete all requested information.
- *REMEMBER, YOUR CLAIM MUST INCLUDE INFORMATION THAT INDICATES THE DATE THE SERVICES WERE PERFORMED, THE TYPE/ NATURE OF THE EXPENSE, THE PROVIDER INFORMATION, THE AMOUNT YOU ARE RESPONSIBLE FOR, AND THE NAME OF THE PERSON THE EXPENSE WAS INCURRED FOR. IT MUST INCLUDE THE NAME AND TAX ID# OF THE PROVIDER IF IT IS FOR DEPENDENT CARE EXPENSES.*

Please limit your fax to 6 pages, including the cover. Additional pages should have a new cover/claim form. We have found that many faxes that are sent with more than 6 pages have a tendency to jam or not finish receiving.

_____**# of Pages total, including Claim**
Please limit to 6 pages

_____ Your Name

_____ Your Telephone Number or email address (where we can reach you if we have a question or need to contact you)

_____ Your Employer Name

_____ Last 4 Digits of SSN or Employee ID

_____ Date

Statement of Fact:

I am submitting a claim under my employer sponsored reimbursement plan. I understand that the expense must be incurred in the current plan year, or subsequent extension if plan design allows; I understand that itemized receipts will be reviewed and must be legible; I agree that I will not seek reimbursement under any other plan for this expense; and I agree that I cannot use this expense as a deduction when filing my taxes. I further understand that funds that remain in the plan after the plan year ends (and subsequent plan year grace period) will be forfeited. This is known as the "use it or lose it" rule.

_____ Signature

Indicate amount claimed by category

$_____Health Care FSA

$_____Dependent Care FSA

$_____Other _____

6180 Quail Valley Court Riverside, CA 92507
800.427.4549 . 951.656.9273 Fax 951.656.9276
www.pagroup.us claims@pagroup.us

cff1108

- **Consumer Driven Healthcare Insurers and Enablers**

S.No.	Organization Name	Description
1	**bWell International, Inc. www.bwell-inc.com**	BWell International provides businesses and individuals with health education and planning tools, including the bWell-informed Health Plan Forecaster, a learning tool that allows consumers to evaluate health plan options over time based on individual health and risk factors. The Health Plan Forecaster and several component parts—the Health Risk Assessment and the Educational Presentation—can be purchased on a stand-alone basis or as an integrated tool set. In addition, bWell helps build consumerism in healthcare and wellness services through the company's bWell-planning coaching and consulting services
2	**Carol Corporation www.carol.com**	Carol Corporation helps providers produce quantifiably better care for their customers, supported by an ever-expanding set of plan- and payer-sponsored value-based reimbursement models. Carol helps organizations through a combination of consulting services and technology solutions. Carol.com is an online marketplace where consumers can shop, compare and purchase healthcare packages provided by a variety of large, midsize, and specialty medical facilities in their communities
3	**Definity Health (Division of UnitedHealth Group) www.definityhealth.com**	Definity Health creates and manages consumer-focused health strategies across UnitedHealth Group's businesses (including HSAs and HRAs). Definity also develops consumer activation programs and transparency tools that make quality and price information more available, supporting UnitedHealth Group's broader goal to transform the healthcare system into one that is market-driven and centered on the consumer
4	**Destiny Health www.destinyhealth.com**	Chicago-based Destiny Health is a health insurance company that allows its members to control their healthcare spending. The company's plan encourages active participation in healthcare and rewards the member for behavior changes necessary for a healthier lifestyle. Destiny Health's wellness-based strategy is modeled after its parent company, Discovery Holdings Ltd., an international life and health insurance company that has successfully enrolled more than 2 million members in its health plan since 1992. Combined, Destiny Health and Discovery are the largest

		providers of wellness-based healthcare plans in the world
5	**DiaTri** **www.diatri.ne**	DiaTri offers cost-containment solutions for the workers' compensation, group health, and liability industries. The company's flagship organization, MDM, is a national diagnostic imaging network and scheduling/referral service. MDM uses a network of nearly 4,000 credentialed facilities for quick access and efficient turnaround times. Scheduled services include MRI, CT, EMG, bone scans, arthrograms, and P.E.T. scans. DiaTri has two other divisions that provide ancillary services to the workers' compensation industry: the AAS division specializes in retrospective review of all non-PPO (out-of-network) medical bills, age of injury reports, and second-opinion diagnostic reads; the DBM division offers a national P.E.T. scanning network and group health services.
6	**eDocAmerica** **www.edocamerica.com**	EDocAmerica provides online access to medical services, including advice from board certified physicians, health assessments, information from licensed psychologists, weekly health tips delivered via e-mail, a searchable medical library, 24-hour registered nurse advice phone services, and a body mass index calculator. These services are provided on a per-employee, per-month fee basis by the company to employees of eDocAmerica's client companies
7	**Emmi Solutions, LLC** **www.emmisolutions.com**	Emmi Solutions (formerly Rightfield Solutions) is an expectation management and information company that produces multimedia, interactive, informational programs for the healthcare industry. The programs are marketed and sold under the name of Emmi (Expectation Management Medical Information). Each Emmi is a brief, interactive, multimedia program that improves the overall patient experience by giving patients a working understanding of their upcoming medical procedure, as well as its risks, benefi ts, and aftercare. These media "experiences" are offered by hospitals and surgeons to their patients via the Internet to help manage patient expectations, improve satisfaction levels, reduce the time spent on the informed consent process, and provide documentation critical to risk management
8	**ExperienceLab** **www.experiencelab.com**	ExperienceLab helps employers transition their workforce from traditional health plans (e.g. PPO, HMO, POS) to consumer-driven health plans. In 2008, the company introduced a marketing tool

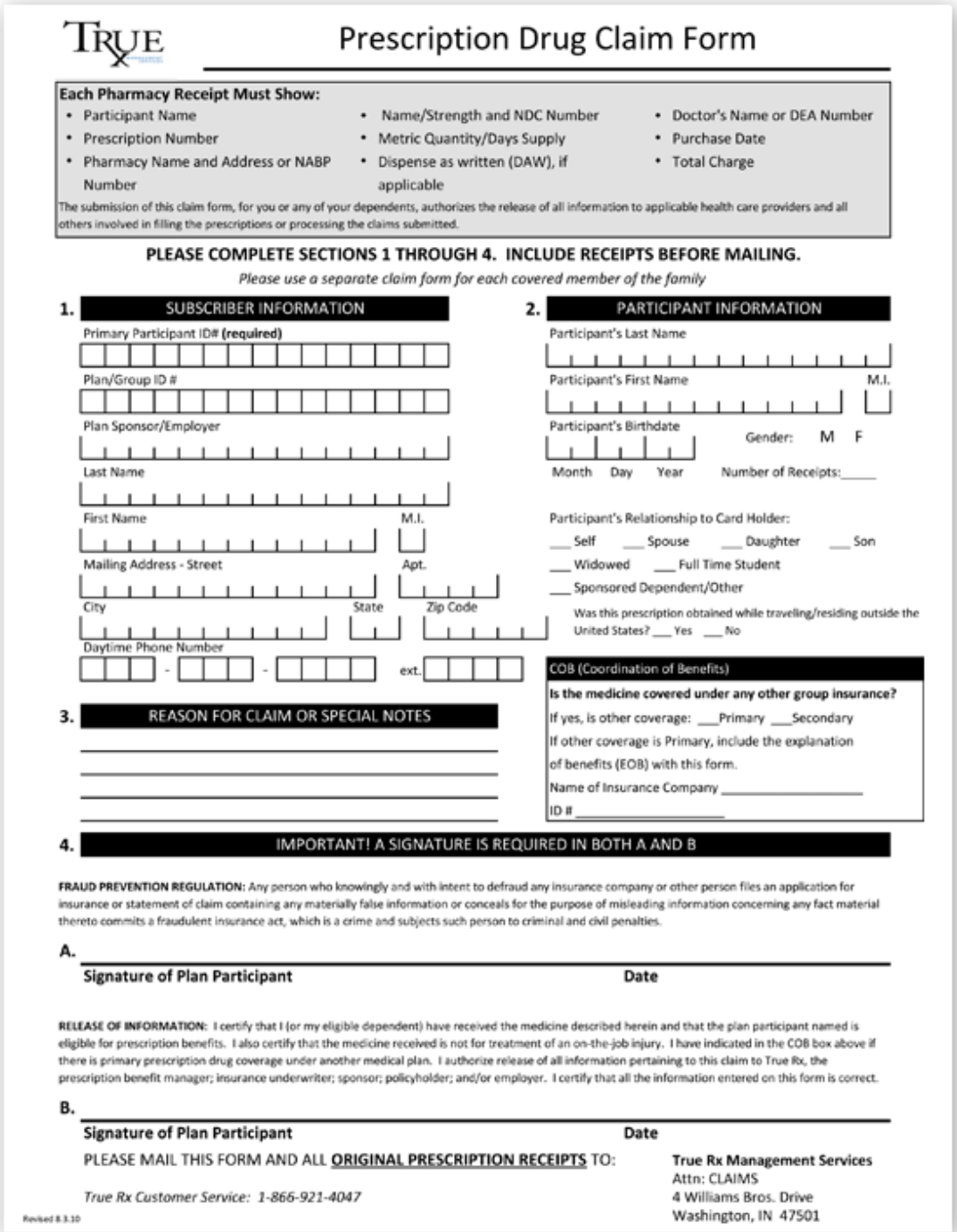
		based on a new attitudinal segmentation of 100 million employees. The product, called the CDH Diagnostic, surveys employees and helps employers plan and educate about consumer-driven and defined-contribution plans. The company's goal is to optimize the consumer-driven health plan execution process, including building awareness, adoption, and engagement, all at a lower cost per employee
9	**Fidelis SecureCare www.fidelissc.com**	Fidelis SecureCare is a managed care company that develops and administers health plans for qualified individuals with medically complex conditions. The company's Medicare Advantage Special Needs Plans offer comprehensive benefits, including Part D prescription drug coverage. The plans are currently offered in Michigan, North Carolina, and Texas
10	**HealthGrades, Inc. www.healthgrades.com**	Golden, Colorado-based HealthGrades is a healthcare quality ratings and services company, providing ratings and profiles of hospitals, nursing homes, and physicians to consumers, corporations, health plans and hospital executives. Formerly traded on the NASDAQ, the company was acquired in August 2010 by Vestar Capital Partners for $294 million
11	**HealthLeap www.healthleap.com**	HealthLeap is the developer of an online appointment scheduling tool that enables patients to schedule appointments in real time—24 hours a day, 7 days a week—with a physician. Physicians can also use the company's online tool to manage appointments via an online calendar that includes a drag-and-drop interface
12	**Integrated Healthcare, LLC www.integratedhci.com**	Integrated Healthcare is a leader in consumer-driven healthcare solutions for small and midmarket businesses. The company focuses on delivering a cost-effective healthcare solution for businesses of 50 to 2,000 employees—a market that has been overlooked by consumer-driven health plan providers in the past. Through partnerships with industry leaders, Integrated Healthcare is able to provide disease management and employee wellness services stressing employees' active participation in making informed health decisions.
13	**Lumenos, Inc. www.lumenos.com**	Lumenos is one of the country's leading providers of consumer-driven healthcare. The company's approach empowers consumers with health accounts (including HRAs and HSAs), information, services, and incentives to become better informed about their health and engage in

		health-promoting behaviors. The company's goal is to improve consumers' health outcomes and achieve long-term cost efficiency for employers. Lumenos's plans are available in all 50 states and are offered by many Fortune 500 companies. The company was acquired by WellPoint, Inc. in June 2005.
11	**MyHealthDIRECT www.myhealthdirect.com**	MyHealthDIRECT (MHD) provides a browser-based software solution that connects members and patients to health providers at the most appropriate level of care. The company's proprietary application links patients to provider appointments by viewing directly into over 95% of the most popular commercially available practice management systems to match the patient to the right provider, service, and insurance coverage.
12	**Novologix, Inc. www.novologix.net**	NovoLogix is a medical pharmacy benefit management company delivering a software-as-a service (SaaS) medical pharmacy information system called MedRx. NovoLogix provides tools to manage the pharmaceuticals covered under an insurer's medical benefit (often including biotech drugs, commonly used to treat diseases such as cancer, rheumatoid arthritis, and multiple sclerosis). According to the company, the MedRx SaaS technology and management model has consistently reduced these relatively unmanaged pharmaceutical costs
13	**One Call Medical, Inc. www.onecallmedical.com**	New Jersey-based One Call Medical is a specialized preferred provider organization, offering a nationwide MRI, CT, and EMG services for the workers' compensation, group health and auto insurance industries. Using proprietary technology, the company has developed a process that reduces the administrative tasks associated with the claims processing cycle. One Call's customers benefit through significant discounts on diagnostic imaging services and efficient scheduling of patients into the company's preferred provider network, resulting in a faster return-to-work turnaround time.
12	**OptumHealth Allies (Division of UnitedHealth Group) www.healthallies.com**	Glendale, California-based OptumHealth is a licensed discount medical plan organization, offering typical discounts of 10%-50% from a nationwide network of more than 500,000 participating practitioners and facilities—as well as dozens of online suppliers of health and wellness products. Whether as a complement to

		members' existing benefits or as an affordable alternative, the OptumHealth Allies discount program helps members reduce their healthcare spending and embrace a healthier lifestyle. The company has been part of UnitedHealth Group since 2003
13	**OutOfPocket.com** **www.outofpocket.com**	OutOfPocket.com is a social-networking portal designed to help consumer find the best value for routine healthcare services in their neighborhood. The site includes a directory of true prices for common services based on actual visits by individual consumers. The website is free and anyone can participate, including the insured and uninsured, by anonymously posting prices they paid for routine healthcare services (such as MRIs, mammograms, X-rays, CT scans, vaccinations, office visits, dental, and vision), along with their personal recommendations on the provider.
14	**Patient2Patient, LLC** **www.patient2patient.net**	New York City-based Patient2Patient is an independent, patient-focused healthcare company, directed by a diverse group of professionals who have lived with serious illnesses. According to the company, Patient2Patient is the first to develop a series of Patient WebGuides that enable patients and caregivers to effectively locate needed disease and condition information and resources on the Internet. The company's mission is to help patients and struggling with illness by providing them with critical medical information, resources, and practical tools.
15	**PayFlex** **www.payflex.com**	PayFlex is a leading benefi t administrator within the account-based health plan sector. Processing more than $1 billion annually in health plan claims, the company's HealthHub platform houses nearly 1 million participants and several million eligible lives. PayFlex's solution is designed to educate employees on healthcare issues, engage them in wellness through customized programs and incentives, and empower employees to make their own healthcare decisions.
16	**Phytel** **www.phytel.com**	Phytel provides physicians with technology to deliver timely, coordinated care to their patients. The company's state-of-the-art registry, which encompasses more than 15 million patients nationwide, uses evidence-based chronic and preventive care protocols to identify and notify patients due for service, while tracking compliance and measuring quality and financial

		results.
17	**Press Ganey** **www.pressganey.com**	For more than 25 years, Press Ganey has been an industry leader in healthcare performance improvement. The company works with more than 10,000 healthcare organizations nationwide, including 50% of all U.S. hospitals, to improve clinical and business outcomes. Press Ganey's measurement and improvement solutions are research-based and tested, and its surveys are the healthcare industry's most widely used approach to collecting stakeholder perspectives. Lastly, Press Ganey's online reporting tool gives clients 24-hour access to comprehensive data and Press Ganey's performance solutions.
18	**Vimo, Inc.** **www.vimo.com**	Vimo specializes in finding health plans for patients regardless of budget or health conditions—the company provides guidance to ensure that everyone can find the very best health insurance options. After understanding the patient's health insurance needs, the company's agents act as a personal shopper, scanning the marketplace for the best medical insurance plans at the lowest price. Vimo represents the nation's top insurance companies, including Aetna, Anthem BlueCross BlueShield, Humana, United Healthcare, and Assurant
19	**WageWorks, Inc.** **www.wageworks.com**	San Mateo, California-based WageWorks provides tax-advantaged health, wellness, child care, commuting, and education benefits. According to the company, its benefits programs and educational tools help save time and increase employees' knowledge and understanding of their family's healthcare and financial needs. More than 100 of America's Fortune 500 employers and millions of their benefits-eligible employees use WageWorks' programs

- **Prescription Claim Form**



TRUE Rx

Prescription Drug Claim Form

Each Pharmacy Receipt Must Show:

- Participant Name
- Prescription Number
- Pharmacy Name and Address or NABP Number
- Name/Strength and NDC Number
- Metric Quantity/Days Supply
- Dispense as written (DAW), if applicable
- Doctor's Name or DEA Number
- Purchase Date
- Total Charge

The submission of this claim form, for you or any of your dependents, authorizes the release of all information to applicable health care providers and all others involved in filling the prescriptions or processing the claims submitted.

PLEASE COMPLETE SECTIONS 1 THROUGH 4. INCLUDE RECEIPTS BEFORE MAILING.

Please use a separate claim form for each covered member of the family

1. SUBSCRIBER INFORMATION

Primary Participant ID# **(required)**

Plan/Group ID #

Plan Sponsor/Employer

Last Name

First Name M.I.

Mailing Address - Street Apt.

City State Zip Code

Daytime Phone Number - - ext.

2. PARTICIPANT INFORMATION

Participant's Last Name

Participant's First Name M.I.

Participant's Birthdate Gender: M F

Month Day Year Number of Receipts:____

Participant's Relationship to Card Holder:

___ Self ___ Spouse ___ Daughter ___ Son

___ Widowed ___ Full Time Student

___ Sponsored Dependent/Other

Was this prescription obtained while traveling/residing outside the United States? ___ Yes ___ No

COB (Coordination of Benefits)

Is the medicine covered under any other group insurance?

If yes, is other coverage: ___Primary ___Secondary

If other coverage is Primary, include the explanation of benefits (EOB) with this form.

Name of Insurance Company _____

ID # _____

3. REASON FOR CLAIM OR SPECIAL NOTES

4. IMPORTANT! A SIGNATURE IS REQUIRED IN BOTH A AND B

FRAUD PREVENTION REGULATION: Any person who knowingly and with intent to defraud any insurance company or other person files an application for insurance or statement of claim containing any materially false information or conceals for the purpose of misleading information concerning any fact material thereto commits a fraudulent insurance act, which is a crime and subjects such person to criminal and civil penalties.

A. _____

Signature of Plan Participant **Date**

RELEASE OF INFORMATION: I certify that I (or my eligible dependent) have received the medicine described herein and that the plan participant named is eligible for prescription benefits. I also certify that the medicine received is not for treatment of an on-the-job injury. I have indicated in the COB box above if there is primary prescription drug coverage under another medical plan. I authorize release of all information pertaining to this claim to True Rx, the prescription benefit manager; insurance underwriter; sponsor; policyholder; and/or employer. I certify that all the information entered on this form is correct.

B. _____

Signature of Plan Participant **Date**

PLEASE MAIL THIS FORM AND ALL **ORIGINAL PRESCRIPTION RECEIPTS** TO:

True Rx Management Services
Attn: CLAIMS
4 Williams Bros. Drive
Washington, IN 47501

True Rx Customer Service: 1-866-921-4047

Revised 8.3.10

Case Study

Abstract

The awareness level for health in the Indian population has improved a lot. The reason for the improvement is due to the BCC activities conducted through various modes of communication designed by the care providers. One such model is the android market which guides the population through mobile applications. Such mobile applications act as a bridge between the patient and the care provider due to which it is commonly termed as mobile health industry or m-health industry. With the penetration of smart phones in the Indian market, the volume of mobile application developers have increased in the market. With employers becoming conscious regarding the health of the employers and m-health being an interactive tool to improve health, a survey was conducted on the awareness and acceptance level of mobile health application amongst the IT professional in Bangalore.

Introduction

As the focus of the healthcare industry is shifting towards preventive care, lot of methods and mediums have been proposed by the healthcare leaders to imbibe the culture of preventive care in the population. One such method followed is through the use of mobile health. The concept of mobile health came into the market after the mobile application gained pace among the smart phone users. A lot of mobile applications exist in the market that can be used to monitor the vital signs of a human body, help a patient remind of his prescription compliance, help patient measure its BMI index, doctor's alert, calorie monitor etc. Lot of these mobile health applications are available freely but most of them are charged for downloading. Some entrepreneurs have seen this market as a lucrative market to step in as with the help of m-health the cost of treatment has been brought down for example the cost of a vintage retina scanning apparatus result somewhere in lakhs whereas a mobile attachable retina device has its cost in thousands and moreover it more precise as it can detect problems in the retina during stage I. In order to determine the market of m-health, a case study on the awareness and the acceptance level of the people working in Bangalore (Dell) was determined

Problem Statement

In spite of the mobile healthcare application market flooded with various applications, it has been noticed that the usage pattern of these applications by the consumers is not in right proportion. So in order to determine the usage pattern following are objectives on which the case study is based:-

- To study the awareness level of mobile health application by IT professionals in Bangalore
- To study the acceptance level of mobile health application by IT professionals in Bangalore

Review of Literature

1- MONTCLAIR, N.J., Aug. 9, 2012 /PRNewswire-iReach

A new nationwide study conducted by AhHa! Insights, the research division of Verasoni Worldwide, examined the top 150 downloaded mobile health applications (mHealth) among iPhone and Android users through March 31, 2012. With more than 46 percent of the American population now owning smartphones, more and more people are turning to mHealth to help manage, monitor and improve their health. Mobile healthcare applications make up an increasing share of the apps available in the Android and iOS app markets.
The results show that weight loss and exercise applications are more heavily downloaded by far than any others. The study examines the adoption of mHealth as a part of personal health management. It also provides further insight as to what health categories people may be interested in when using mHealth applications to manage their health and wellness.

Key findings include:

- Weight Loss and Exercise apps dominated the top 150 downloaded mHealth apps on both the iPhone and Android devices.
- Phone users are seven times more likely to pay for a mobile healthcare app than Android users.
- Medical reference applications were downloaded ten times more by Android consumers than by iPhone consumers.
- Weight Loss and Exercise comprised 60 percent of total downloads. When "Weight Loss" and "Exercise" were removed from consideration, the following are the top six categories, in order:

- Women's Health
- Sleep and Meditation
- Pregnancy
- Tools and Instruments
- Reference
- Emergency

- Top grossing applications for both Android and iPhone combined were Exercise, Weight Loss, Sleep & Meditation and Women's Health.

  "While mHealth is in its infancy, the potential of mHealth applications is well on its way. Though, no where in the top 150 applications for both iPhone and Android did we find significant downloads of connected medical and health applications such as blood pressure monitoring that delivers feedback to physicians offices, so it appears that the real potential of mHealth in terms of monitoring, diagnosing and providing real time results falls short here," said Abe Kasbo , CEO of Verasoni Worldwide. "What this study tells us is what people are downloading. We do not know if and how these mHealth apps are being used or if they are having the desired effect that both their publisher or user has in mind," continued Kasbo.

2- Cutting Edge Info M-health case study

Is Mobile Health Changing the Face of Pharma's Relationships with Its Targets?

The simple answer to this question is yes. Pharma has already produced a plethora of mobile and digital devices geared to both patient and physician perspectives. With the accessibility of these versatile apps, pharma's targets continue to demand more. While a few research organizations have reported a rapid rise in physicians' access to tablets, it's not about the technology inasmuch as it's about what the technology has to offer.

Just a year out from the so-called "year of the mobile," physicians want to see how to make technology go further in their specific practices. They want to learn how to access and use mobile apps. They want to be able to stream key opinion leader videos and have access to live one on one video technology. Ultimately, they want to take advanced of technology and make it work for them. Sales reps are the perfect source to provide this information.

A recent Medical Marketing & Media article indicates that iPads and other mobile devices have changed the dynamic between pharmaceutical sales representatives and physicians. Today, physicians are demanding more of their sales reps and it's clearly paying off. As

technology develops, physicians require concise information, delivered faster. Mobile devices offer this function.

Equipping sales reps with iPads proves beneficial for pharma and physicians alike. A recent report by Cutting Edge Information, "Pharmaceutical Mobile Health: Transforming Brand Marketing, Healthcare Communication and Patient Adherence," explains the benefits of iPads and other mobile health platforms. The report indicates that among surveyed companies, the physician-facing tablet platform represents the leading company-perceived generator of return on investment (ROI).

The rationale behind why companies view physician-facing applications so favorably is simple. Mobile applications are synonymous with broader access for pharma and physicians. Having access to iPads means physicians can better use health-related technology to interact with peers, patients and pharma companies. In return, iPads help pharma sales reps facilitate active dialogues with physicians concerning healthcare trends. This favorable interaction fosters the type of potential relationship envisioned by pharma.

According to Medical Marketing & Media, more than 15 of the top 20 companies already equip sales reps with iPads. Other companies are following suit. Indeed, Manhattan Research's ePharma Physician2012 study shows the prevalence of iPad-generated presentations, up from 30% in 2011 to 65% this year. And physicians are making it worth reps' time. Upon the conclusion of iPad-based sales presentations, 35% of doctors said that they'd be more likely to request a sample and an additional 29% stated they'd be more likely to prescribe the drug presented.

Increasing iPad presentations shows the functionality of technology in a professional setting. The tactic pushes the bounds of sales and physician interactions beyond brief interactions in hallways. Using iPad and other technology to present sales information empowers sales reps to discuss more than the brand and equips physicians with new points of access. Displaying new technology will build stronger future relationships and possibly open the door to new forms of physician-medical science liaison (MSL) interaction as well.

Data & Methods

- Type of study:

Descriptive /cross-sectional

- Study Population -

Working IT population in Bangalore

- Study Unit

Dell International Services, Bangalore

- Sample Design

Convenience sampling for selecting the respondents for the survey

- Variables
  - Age
  - Technology
  - Health seeking behavior
  - Acceptance
  - Awareness

- Tools and Techniques

Tool- Questionnaire for students and interview schedule for parents and teachers

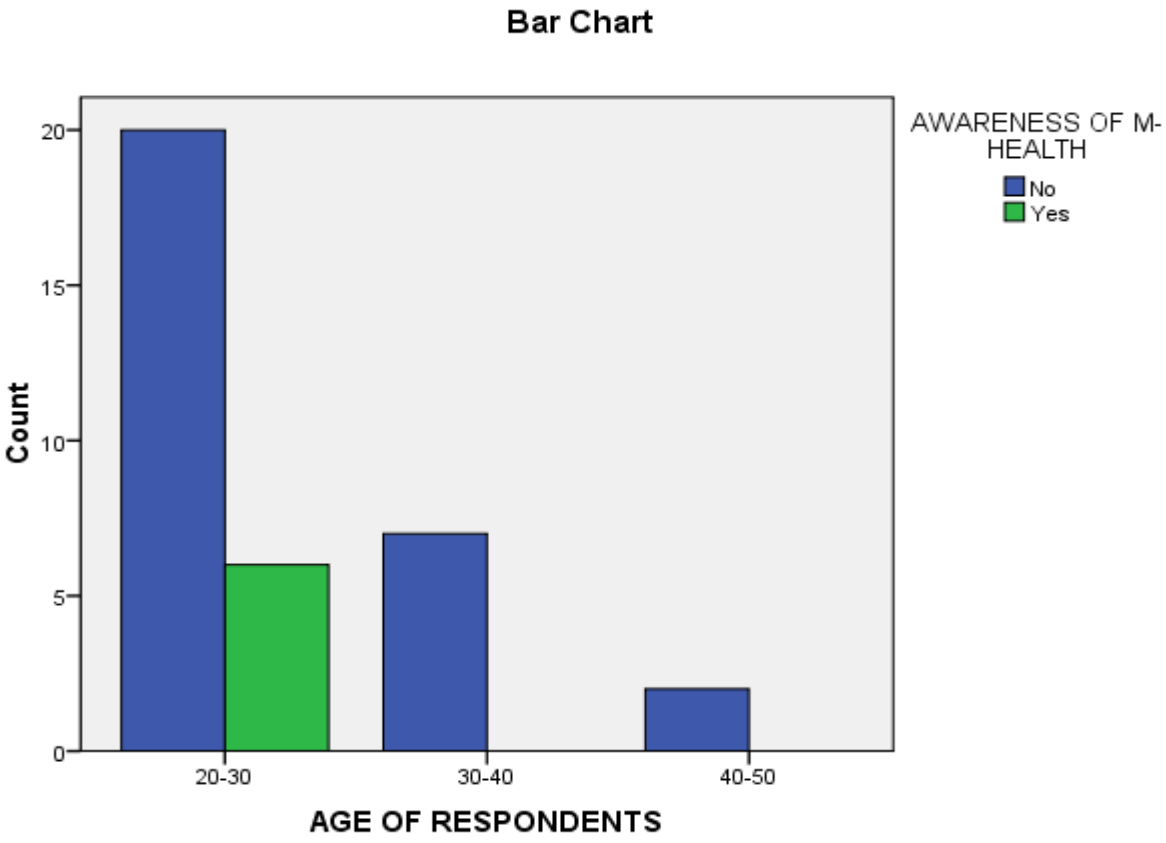
- Technique-

Uploaded via share-point and the questionnaire was filled online. The responses were extracted

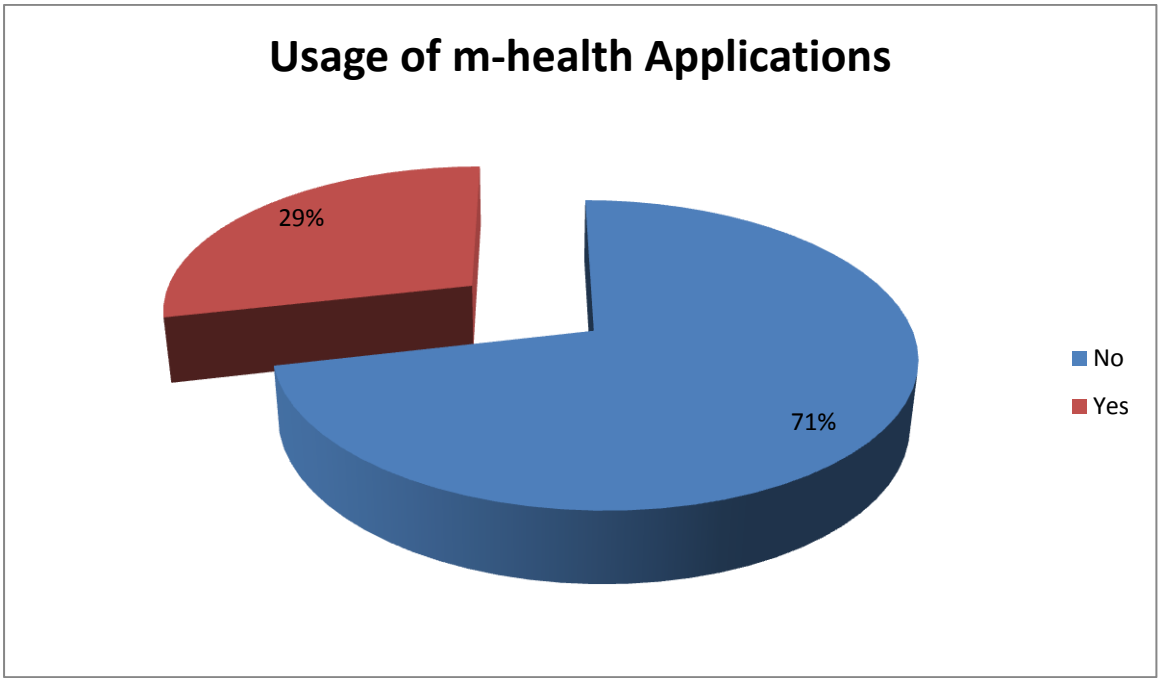
Study Findings and Analysis

Age of Respondents & Sample Size		
Age	N = Sample Size	% Respondents
20 -30 years	26	74
31-40 years	7	20
41-50 years	2	6
Total	35	100

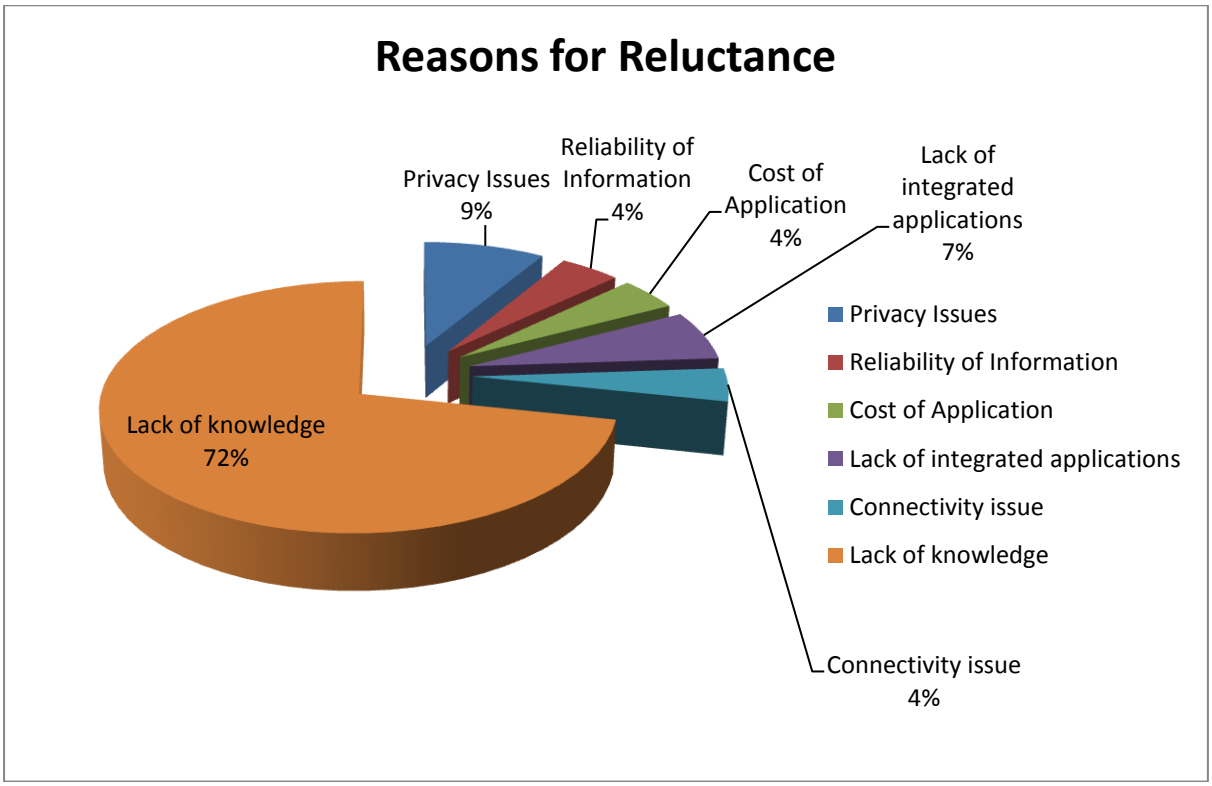
The maximum number of respondents fall in the age group of 20-30 years while the least fall in the category of 41-50 years



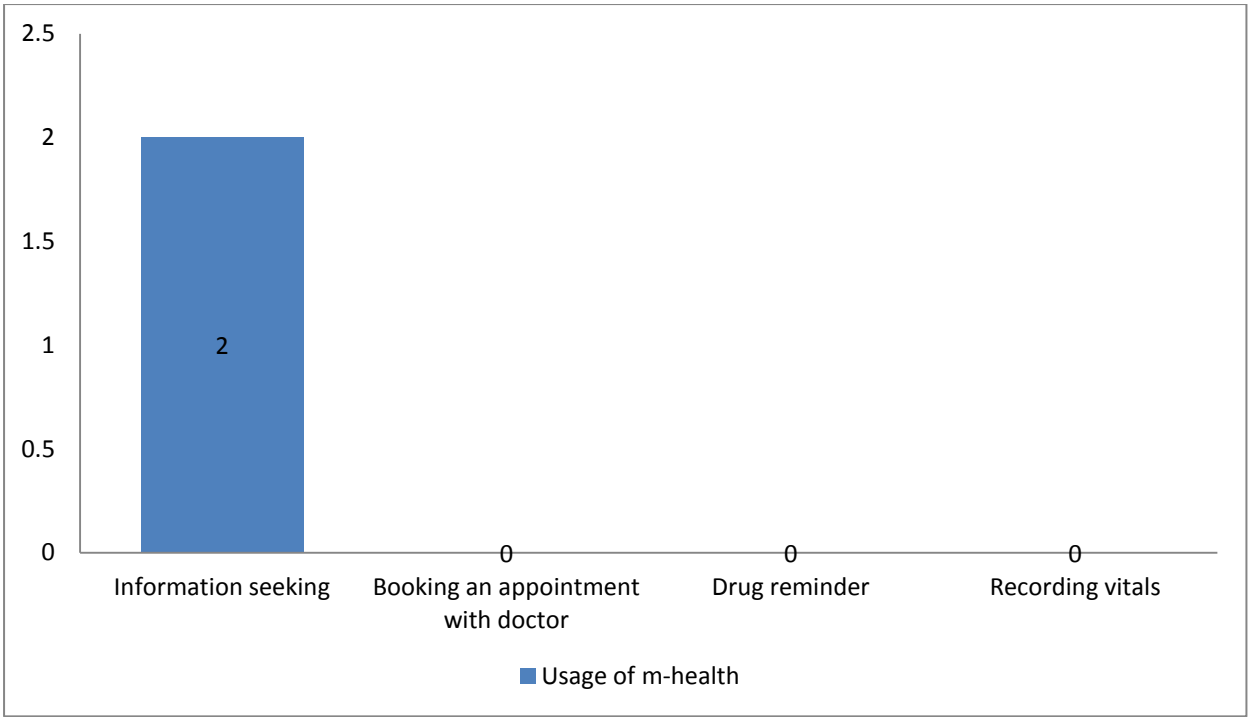
The graph show the awareness pattern of respondents for m-health according to the age groups they fall in.



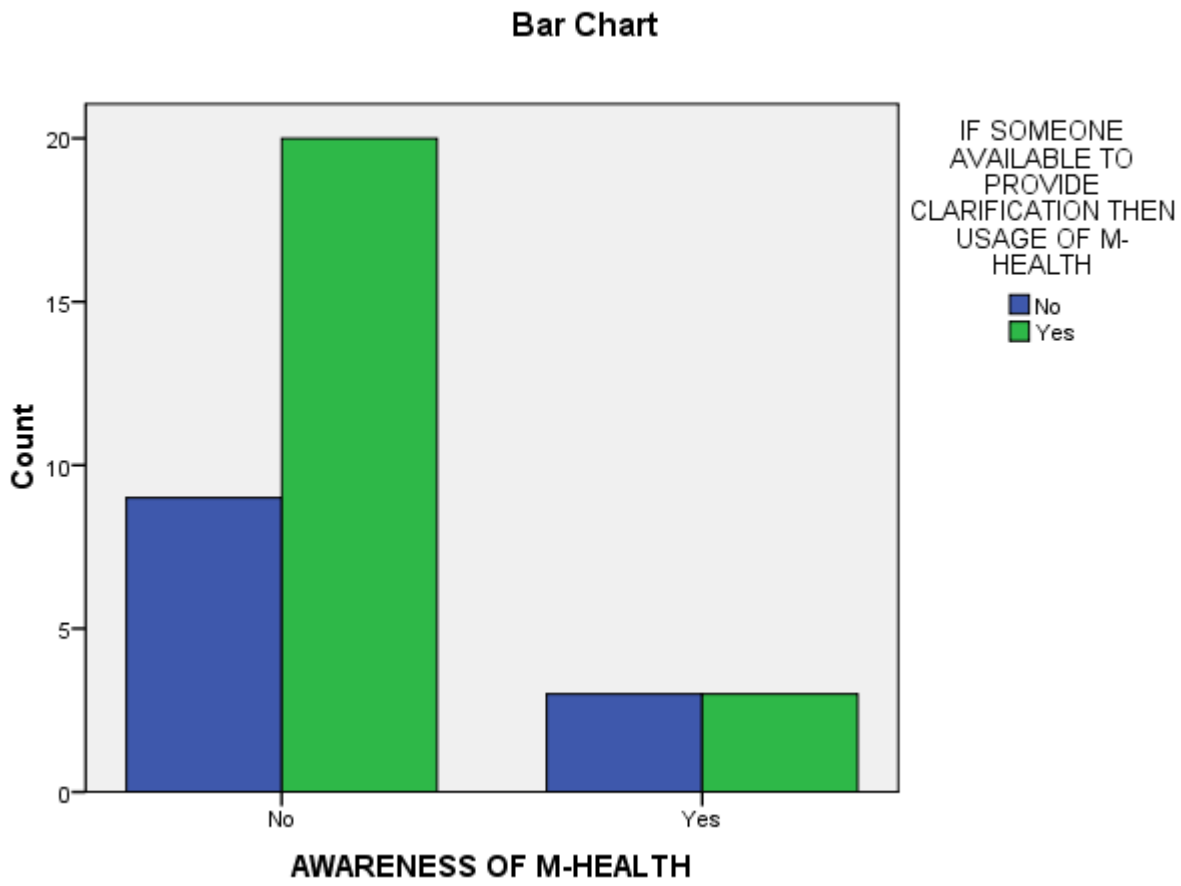
The graph shows the usage pattern of the respondents for m-health who are aware of the m-health applications



The pie chart representation shows the reasons for respondents not favouring the use of m-health



The graph represents the usage pattern of m-health amongst the respondents who actually use m-health applications



The graph shows the willingness of the respondents wanting to learn about m-health if someone is available to impart the knowledge about m-health. About 9 respondents who said that they were not aware of the concept of m-health, were willing to use m-health if someone is available to impart the knowledge about the subject to them

Discussion

From the above analysis the following points can be summarized:-

- Younger generation is more aware of the concept of m-health as compared to the older generation
- Further it has been seen that some of the respondents who had knowledge about m-health were not interested in using m-health technology and the reasons for the reluctance (including the respondents who did not have knowledge about the concept of m-health) are:-
    - Health data privacy issues (9%)
    - Reliability of available health information (4%)
    - Costly applications (4%)
    - Lack of integrated healthcare applications to solve the purpose (7%)
    - Connectivity Issue (No internet connection / Slow internet/ Cost of Internet connection) (4%)
    - Lack of knowledge (72%)
- Continuing with the above point, since 72% of the respondents were unaware of the concept of m-health, in case if someone was available to guide them with the concept of m-health, 36% of the 72% respondents were willing to use m-health application
- Apart from the ones not interested in using m-health technology, the ones who actually use m-health applications use mostly for information seeking

Recommendations

Depending on the analysis following are the recommendation that may be followed:-

- Since the prime most concern is the lack of knowledge, stakeholders like doctors and allied healthcare professionals should be involved in educating the people about the concept of m-health
- A regulatory committee to monitor the content available through m-health application should be there
- An integrated approach should be followed where the application developed and working in silos should communicate with each other so that the healthcare professional as well as the patient are encouraged to used m-health