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Pharmaceutical marketing best practices to acquire market share through profitable Patient Adherence programs

Definitions, tactics, barriers, ways to improve, measuring ROI and real market best practices

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ABSTRACT

Declining patient compliance for ethical pharmaceutical brands that are available only with a valid prescription is a major challenge for the global healthcare community. Reduced compliance will affect health outcomes negatively. Consequently, there is an expected increase in health costs for both healthcare systems and authorities. With many blockbuster patents going to expire, manufacturing pipelines getting limited, and payers becoming increasingly cost-constrained, closing the market gap is essential for pharmaceutical companies to protect their economy of scale, protecting their bottom line while shifting from a product-centrism to patient-centrism organizations. The majority of pharmaceutical industry executives, pharmacies, and payers explain low levels of adherence by citing factors such as low awareness level of the disease, lack of complete range of treatment, poor memory, low cognitive level, educational, cultural, and emotional factors, these factors belong to patients. Other factors, such as treatment pathways or side effects. In other industries, it is said that retaining an existing customer is more beneficial than acquiring a new one. Pharmaceutical companies need to start quantifying what they are considering for each percentage point of noncompliance and reorganize the root causes to define the problem better. This will need careful consideration of how they play in the market. Pharmaceutical companies are working to overcome barriers to the success of patient adherence programs, designing marketing programs to shift patient beliefs toward good adherence. Furthermore, tactics should be implemented to improve patient adherence and measure the return on investment of these programs to maintain profitability.

Keywords: marketing programs, compliance, patient engagement, return on investment.

1-Introduction

1.1. Definition of terms

Adherence: compliance, persistence and concordance

‘Compliance’ is the measure of to what extent a patient complies with a prescribed medication, or prophylaxis protocol. So, if a patient fills a 30-day prescription but uses it for more than 60 days, they are 50% compliant. It refers to the percentage of medication doses taken by a patient while prescribed. It also refers to using medication as prescribed correctly (1). Persistence is the extent to which a patient continues treatment consistently over a period of time, this includes prescription medications and prescription refills. Adherence is defined as taking treatment as prescribed (compliance) and for the prescribed time (persistence). Adherence involves a more collaborative relationship between patient and clinician and greater respect for the patient's role in their own treatment [1].

Regarding the term Concordance, in the mid-1990s, the UK Department of Health and the Royal Pharmaceutical Society of Great Britain launched a joint project to understand why patients were not taking their medications and to develop solutions to the problem. As a result of this collaboration, a report and model have been generated named ‘’from Compliance-to-concordance’’; this report has played a crucial role in the development of the concept of ‘concordance’. Concordance includes the idea that physician and patient are equal and encourage patients to make informed decisions. The relationship between doctor and patient should be a collaborative one in which time is spent explaining the disease, answering questions, and exploring what the patient understands about the disease. Also, the different treatment options available to the patient must be explained in a way that the patient can understand. According to this model named ‘’from compliance-to-concordance’’, there are arising needs to open communication that strengthen prescribing and medication decisions, for more understanding of this model, the differentiation between two terms is crucial, the main difference between compliance and concordance is that the former typically focuses on the behavior of one person, the patient, while the latter requires the participation of at least two people [2].

A real-life patient case could show the merit of adopting this model and also raises some critical questions needing further investigation; for instance, in diabetes, providing patients with

tools, such as blood glucose meters, to adjust treatment for optimal blood sugar control, such self-treatment gives responsibility and choices to patients while increasing their knowledge and awareness of the disease.

However, there are potential problems with model fitting, like what would be the physician's ethical and legal position if the patient made an informed decision not to take the medication as directed. Not taking diabetes medications properly can lead to uncontrolled diabetes, long-term diabetes complications, coma, or even death. Additionally, appropriateness depends on the patient being the decision maker. However, some patients may expect their doctor to tell them what to do; these problem areas need to be explored further [2].

1.2. Rates of adherence with certain conditions in the United States:

Asymptomatic and chronic patients have the highest rates of non-adherence; for example;

Patients with schizophrenia, depression, HIV, hypertension, and diabetes are the most non-adherent segment; the problem outspreads to oral chemotherapy drugs, which one would not expect to encounter patient compliance problems given the severity of the disease. In this case, up to 40% of cancer patients do not comply with treatment. Among patients with schizophrenia, 50% do not comply with treatment due to intellectual disorders. Depression due to mental health and HIV problems due to lack of motivation to start treatment with expensive drugs. In hypertensive patients, they believe they can improve their condition by changing their lifestyle, diet, and quitting smoking. Diabetics are frustrated when they discover they are suffering from an incurable chronic disease, and then they try alternative medicine treatments. Patients with acute illness, i.e., infection and injuries, have a higher adherence rate than patients with chronic illness [3].

1.3. Impact and cost of non-compliance:

Impact on patients:

Non-adherence to medication regimens is arguably the most debilitating barrier to patient health. According to one estimate, up to 275,000 patients die each year worldwide due to treatment non-adherence [4].

Impact on doctors:

Due to non-adherence, doctors may perceive the treatment as ineffective, negatively affecting the patient's chances of recovery as well as pushing toward customer churn and payers' non-

reimbursement, as they increasingly place emphasis on patient outcomes based on real evidence rather than trial results [4].

Impact on the health system:

Low adherence rate leads to under-performing health outcomes and elevated healthcare costs for healthcare systems and authorities [5]. Research conducted by the New England Healthcare Institute (NEHI) in 2009 estimated that, in the US, the overall cost of low adherence rate, measured in otherwise avoidable medical spending, is close to $310 billion yearly, representing about 14% of total healthcare expenditures. The UK's National Institute for Clinical Excellence (NICE) created guidelines for patient adherence in which it estimated that around £4 billion of medicines supplied on prescription through the NHS are not used appropriately [6].

Impact on revenue, brand value and industry:

Poor Adherence also poses a major barrier to growth in the pharmaceutical sector, costing the global pharmaceutical industry more than $1 billion a year. Estimates of pharmaceutical industry revenue loss due to non-compliance in the United States range from $188 billion (2011) to $250 - $290 billion (2019), a loss equivalent to approximately 50 to 60% of total drug sales every year in the United States. The economic impact is even more pronounced if we consider the impact of non-adherence in relation to bottom-line outcomes. After including costs associated with treatment failure, new medical problems, doctor visits, hospitalizations, and new medication costs, a study published in 2016 estimated that the total cost associated with sub-optimal medication use in the United States, including noncompliance, ranged between $495 billion and $673 billion. Since total annual drug sales in the United States represent approximately 48% of total global sales, the global impact of such sub-optimal drug use exceeds $1 trillion per year [5].

2. Methods of measuring Adherence, Barriers, Ways to improve, Measuring Return on investment, and best practices:

2.1. Methods of measuring adherence:

2.1.1. Direct method:

-Clinical lab testing

2.1.2. Indirect method

- Patient survey & Diaries and interviews
-Doctors follow up visits
- Pill counters
- Pharmacy rate of refill

- MEMS ™ (Medication event monitoring system)
- Weight of topical preparation

2.1.1. Direct method:

Clinical testing is effective to assess the patient's current clinical status and their level of compliance with prescribed medications by performing clinical laboratory studies to measure target metabolites, minerals, and hormones which can confirm whether this patient is adhering to current treatment regimens [7].

Drawbacks:

• Time consuming and very expensive if done frequently.

• White coat compliance often occurs when the patient only takes the medication before the test to achieve the best clinical outcome [7].

2.1.2. Indirect method:

-Patient surveys, diaries and interviews:

Patients are given a questionnaire and asked about how easy it is to follow their current treatment regimen, or they hand out diaries to patients to recount their daily treatment experiences [7].

Patient Diary Sheet
Date:

Physician basic information:
-Name: -Department: -Professional title:

Patient Profile:

-Name: -Age: - new/old

-Health Habit: -Medical History: -Imbursement status

Disease Condition:

- Stage of the disease: High –Median –Low

-Main symptoms:

-Main Complications: - Diagnosis:

Prescription Details:

-Medications prescribed, dosage and duration:

-Drug switched or discontinue:

(Reasons to discontinue)

-Operation undergone:

Figure 1: Contents of patient diary sheet.

- Doctor's follow-up Visits: To evaluate the patient's clinical progress, but sometimes patients who do not comply are often consulted by a doctor [7].

- Pill counters: But it will never be known whether the patient took the medication at the right time and with the right frequency [8].

- Pharmacy rate of refill: This has the same problem as the above method [8].

-MEMS™ (Medication event monitoring system): This is technology placed in a medicine bottle cap or a sensor placed in an inhaler. When the bottle cap is removed or the inhaler is activated, a signal is sent to the monitoring base. It is considered the most precise control tool but is very expensive [9].

- Weight of topical preparation: the weight of topical medication remaining in the tube is considered as a measure of compliance [10].

2.2. Barriers to the success of patient's adherence programs:

Patient's adherence programs are facing many obstacles, these obstacles are usually creating many barriers to the feasibility of any patient's adherence programs, and these can be broken down into six categories as addressed by stakeholders of healthcare community; namely patient related factors, healthcare system &provider related factors, therapy related factors, condition related factors, cost related factors and socio-economic related factors. Overcoming each of these categories will enhance the progress of any patient's adherence program, although, defining the root causes of non-adherence is to certain extent not easy to achieve, because adherence success or failure is multifactorial, some of these factors are under the control of patient while others might be outside of patient circle of influence [11].

Patient-related factors

- Poor patient memory.
- Poor cognitive ability of the patient.
- Low level of education and health illiteracy.
- Emotional and cultural factor.

- Sometimes it is hard for new patient who discovered that he/she became a chronic patient to admit he has a problem.

Healthcare system& providers- related factors

- Some physicians involuntarily giving instructions to their patients in an unacceptable way.
- Overuse of medical jargons by physicians.
- Gender, cultural and racial differences between patient and physician.
- Deficient supply chain.

Therapy-related factors

- Low efficacy.
- Very long treatment durations needed to start observing the clinical progress.
- Low safety profile.
- Lack of administrating convenience.
- Many dose frequencies.

Condition-related factors

- Level of disability (physical, psychological, social and vocational).
- Rate of progression and severity of the disease.
- Availability of successful treatments.

Cost-related factors

- Very expensive medications.
- Lack of health insurance and copayment.

Socio-economic factors

- Demographics like age, race and sex of patient.
- Income level.
- Lack of effective social support network.
- Cultures and beliefs about illness or treatment [12].

Kaiser Permanente – B-SMART adherence Program:

In order to systematically identify and target patients who are not adhering to prescribed treatments, Kaiser Permanente has developed a framework. This comprehensive strategy uses

relationship mapping, triage, and adherence tools and reminders before, during, and after any patient-physician interaction to help patients use their drugs more effectively.

The B-SMART process includes patient engagement in decision making, medication regimen simplification, medication education, self-management training, ongoing reinforcement and motivation, and building build positive relationships.

Identifying barriers and assess readiness for change:

Obstacles were evaluated from different frames (patient-related, drug-related, clinician-related) through "Yes"/"No" questions. In addition, the readiness assessment rule is used to evaluate whether the patient is ready to accept the disease and/or use the prescribed medication as part of his or her overall health care plan [13].

Table 1: Different types of adherence barriers

Patient-related barriers	Medication-related barriers	Clinician-related barriers
Poor memory	Complex medication regimens	Poor relationship with physician
Lack of awareness about treatment and its use	Side effects or adverse effects from the medication	Miscommunication with physician
Socio-cultural and health beliefs about the medication	Poly-pharmacy	Socio-cultural and health beliefs-gap between physician and patient
Denial or uncertainty regarding conditions	DOT(Days of therapy)	Lack of follow-up and ongoing positive reinforcement from physician
Level of income. Low health literacy. Low social support.		

The B-SMART framework (barriers, solutions, drivers, compliance tools, relationships, and triage) is described below [13].

Table 2: Nine challenges to adherence and solutions for each

Challenges	Solutions
Poor memory- "I forgot to take my medication"	• Drug organizers and reminders, including electronic calendars. • Linking medication regimen to daily routines. • Pharmacy-generated written prescription information. • Flyers and posters. • Follow-up management in one to two weeks.
Lack of knowledge - "I don't know why I have to take this medication"	• Briefing patient to help him/her understand the benefits of the medication. • Pharmacy-generated written prescription information. • Flyers and posters. • Teaching and training. • Follow-up management in one to two weeks.
Side effects or adverse events- "I had a stomach pain when I took the medication"	• Pharmacy-generated written prescription information. • Briefing about side effect management. • Follow-up management in one to two weeks.
Complex medication regimens - "I am taking too many medications and I cannot remember how to take them"	• Adherence tools; e.g., pill boxes and reminder calls. • Combination medications to simplify regimens, for example, Caduet [atorvastatin (Lipitor) and Amlodipine (Norvasc)]. • Frequency of dose modification. • Help patients make associations, linking medication use with daily routines. • Follow-up management in one to two weeks.
Denial of conditions- "I am not really sick"	• Explore readiness to accept the disease condition. • Train about the disease condition and health problems to help patient understand the benefits of the medication. • Follow-up management in one to two weeks.
Cultural or religious biases- "I do not believe in taking this medication	• Listen with empathy. • Explore & understand patient beliefs. • Acknowledge difference in beliefs between clinician and patient.

	• Recommend treatment. • Negotiate an agreement. • Provide sessions to understand the benefits of the medication. • Follow-up management in one to two weeks.
Lack of financial support - "This medicine is too expensive"	• Prescribing drugs with affordable prices rather than expensive brands. • Discount programs. • Medical financial Aid. • Pharmaceutical company programs.
Depression	• Identify symptoms. • Assess effectiveness of psychological and/or medication treatments. • Follow-up management in one to two weeks.
Poor health literacy	• Provide educational programs to help patient understand the benefits of the medication. • Provide interpreter services for non-English speakers. • Provide patient medication information. • Avoid use of medical jargons and acronyms. • Speak slowly. • Provide information in reasonable sequences. • Use Flyers and posters. • Use the "Show me" method to check for comprehension.

2.3. Measuring ROI of the patient program

Return on investment (ROI) is a performance measure used to evaluate the efficiency or profitability of an investment (Marketing program) or compare the efficiency of a number of different investments. ROI tries to directly measure the amount of return on a particular investment, relative to the investment's cost [14].

Benefits of using ROI:

1. It helps in modifying tactical plans and improve execution of marketing programs.
2. It helps to conduct ''what if analysis'' to optimize resource allocation.
3. It helps to take data based rationalized decisions leads to greater confidence in planning decision .

4. It provides a structured approach to evaluate the sales generated and costs incurred by each activity**.**
5. It hhighlights which activities and metrics should be measured/tracked during the coming year and making marketing trade off **.**
6. It helps to understand what we should "Do More, Do Less, or Do differently" [14]**.**

The ROI of an Activity is the Total Incremental Sales Generated by the Activity Divided by its cost

$$ROI = \frac{\text{Total incremental sales generated by activity}}{\text{Cost of activity}} = \frac{\text{Total patients gained} \times \text{Patient value}}{\text{Cost of activity}}$$

ROI < 1 Activity does not break even

ROI = 1 Activity breaks even

ROI > 1 Activity has a positive ROI

Figure 2: Calculating ROI of marketing activity.

In order to successfully calculate the return on investment, three questions must be answered

How to calculate patient value?

How to calculate the total cost of activity or the program?

How to calculate the incremental sales generated by the program or activity?[14].

Calculating patient value:

Different types of patient values over time [14]

- Patient value over the entire therapy period
  - How much revenue a new patient generates over the entire therapy period
  - Not time dependent (depends on patient , product and disease)
  - Used to calculate the overall ROI of an activity
- Patient value captured in a single planning year
  - How much revenue a new patient generates in the planning year

- Depends on when patients are captured in the year, driven by product seasonality, timing of marketing programmes, seasonality, months when patient start treatment and average treatment length.. etc.
- A patient starting in February is worth more in the planning year than a patient starting in November***.***

- Maximum annual revene per patient
  - How much revenue a patient generates if on treatment for one year
  - If the overall therapy period is less than one year, then the maximum revenue is capped at the revenue from the therapy period

How to calculate patient value?

Calculate New Patient Value Patient Value Over the Entire Therapy

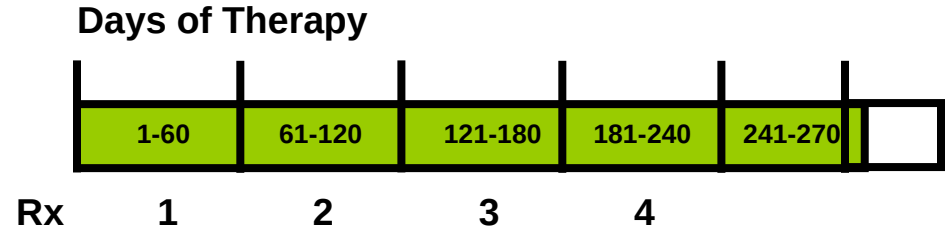

Figure 3: DOT (days of therapy).

Example

- An average patient is on therapy for 270 days
- There are 60 days between Rxs
- Revenue per Rx is £10
- Wrongly, we can calculate Patient value = 270/60 x £10 = £45
- Between days 1 and 240, the average patient buys and uses 4 Rxs for £10 each, so a total of £40 revenue
- On day 241, the average patient pays £10 for a new Rx
- The average patient has to pay for a full Rx but only uses half of the last Rx
- So, patient value = 5 x £10 = £50

How to calculate the total cost of activity or the program?

Total program cost = fixed costs associated with the program including distribution, mailing, advertising + variable cost of the program /physician

How to calculate the incremental sales generated by the program or activity?

The incremental sales generated by the program

= Number of incremental patients gained in the program × revenue value of incremental patient

How to calculate revenue value of incremental patient?

Estimated by calculating patient value as in the previous page.

How to calculate Number of incremental patients gained in the program?

Number of incremental patients gained in the program

=Number of physicians participating in the program× (number of patients continuing therapy/physician+ Number of additional new patients treated with the drug during the program) [15].

How to calculate number of patients continuing therapy/physician

Number of patients continuing therapy/physician

= Average number of patients enrolled/physician in the program× Average % of patients who continue treatment till the end of the program [15].

How to calculate total number of patients enrolled in the program

Total number of patients enrolled in the program

= number of physicians participating in the study × average number of patients enrolled/physician in the program [15].

2.4. Marketing programs best practices to boost patient adherence:

Chantix from Pfizer GETQUIT® Patient Management Program:

This step-by-step approach, which is intended to assist smokers in preparing for a life without smoking, is free of charge when a prescription for Pfizer Chantix is obtained.

Program arrangement:

• Free phone and internet assistance.

• Unrestricted access to trainers who can respond to inquiries and provide guidance to patients who desire to smoke.

• New perspectives on quitting smoking: subjects and exercises created to educate patients on what to do in situations where temptation strikes.

• A tracking tool to calculate days without tobacco use and money saved by not purchasing cigarettes.

• Inspire patients to take part in the online program and post about their accomplishments there [16].

Novartis - Blood Pressure Success Zone Patient Management Program: To assist patients in monitoring their blood pressure and tracking blood pressure improvement, Novartis developed Blood Pressure Success Zone (BPSZ), a patient education and compliance program. While offering them support in the form of educational materials, nutrition plans, and exercise regimens, enhancing their general well-being. Enrollment in BPSZ is recommended for patients undergoing treatment for hypertension by Novartis in order to oversee their drug regimen and lifestyle modifications.

Joining BPSZ offers the following incentives:

• Members can buy a blood pressure monitor to track progress at home.

• Patients receive a membership card with a $10 discount coupon for their next prescription. Novartis will reimburse up to $40 of the device's cost to each patient.

• A cutting-edge goal-tracking tool that assists patients in setting objectives with their medical provider and monitoring their success regarding blood pressure, weight, exercise routines, and prescription regimens.

• Nutritious and healthful recipes - an online compilation of dishes.

• Easy strategies for incorporating exercise into your regular schedule.

• Motivate patients to engage, communicate, and post about their accomplishments on the internet [17].

AstraZeneca – Symbicort® Online Adherence Program:

For its medication SYMBICORT®, AstraZeneca has developed an engaging web application that helps patients remember to take their prescribed amount of asthma medication. SYMBICORT® eases asthma symptoms, lessens lung inflammation, and maintains open airways. The program's primary functions included creating a product website, offering comprehensive pharmaceutical information, monitoring asthma symptoms, evaluating asthma condition, and assisting patients in comprehending how the drug will manage their asthma. Patients who show their SYMBICORT savings card receive a free initial prescription. A membership program associated with a direct-to-consumer marketing is also offered.

A novel program called "Measures for Success" was introduced by the corporation, inviting patients to register and submit requests for documentation online. For the first 11 refills, AstraZeneca will pay up to $75, and patients will receive an additional $25. Symbicort starter kits and compliance emails or texts are sent to patients to help them remember their doctor appointments and dose schedules. After six months of the program, 10% of the participants still need the compliance program documents out of the over 20,000 who have requested information about Symbicort. AstraZeneca encouraged patients to upload narrative videos to YouTube in February 2009 by launching a branded YouTube channel and website (myasthmastory.com). These videos are evaluated by a panel of specialists and comments are not permitted. Due to AstraZeneca's adept creation of a cohesive and captivating brand experience, there has been a sharp rise in sales revenue after launch from 50 Million dollars to 250 million dollars [18].

Merck-Cigna – Pay-for-Results Program:

Merck has entered into a contract with Cigna, an insurance provider that bases the price of the diabetic medications Januvia and Janumet on patient outcomes. Patients who follow the recommended treatment regimen will receive a price reduction from Merck. Patients who can show that their blood sugar is under control will be eligible for deeper reductions, which would enable Cigna to provide registered patients with lower co-pays. Even if patients got well while taking other medications, Merck promised to pay Cigna back. Both medications have been given preferred status by Cigna on its insurance formulary, which means that co-pays are usually $20 to $25 less than those of other name-brand medications without this preference. Cigna will introduce a number of initiatives to assist patients in enhancing medication adherence, such as calling patients to find out why they aren't taking their prescriptions. It is anticipated that by increasing medication compliance and lowering glucose levels, this will enhance patient outcomes. According to Cigna, its medication adherence programs have assisted diabetics in lowering their expenditure on diabetes-related costs by 24% and, for those who meet their blood sugar targets, reducing their ER and other hospital visits by 50%. According to Cigna's most recent data, blood sugar levels improved by an average of more than 5% among 165,000 members who were taking two oral diabetic medications. During this time, participants also saw a 4.5% rise in blood sugar lab testing visits. Finally, among Januvia and Janumet users, medical compliance increased overall and reached 87 % [19].

Sanofi – Actonel® Pay-For-Outcome Program:

With the exception of Japan, Sanofi and P&G have agreements to develop and market Actonel® globally as part of the Alliance for Better Bone Health. They have an arrangement with Health Alliance Medical Plans, an insurer in the United States, whereby they will pay medical costs for non-vertebral fractures in women who had taken osteoporosis medications for six out of most recent nine months.

Actonel® has been clinically shown to stop bone deterioration and strengthen bones to avoid fractures. Actonel®, the foundation of Health Alliance's Factor Protection Program, has demonstrated efficacy in preliminary trials. Based on the number of non-vertebral fractures in Actonel® patients that satisfied payment eligibility requirements, the reimbursement rate for the first nine months of the pilot program was 79% less than the maximum amount stipulated in the contract. The rate of non-vertebral fractures matched the findings of the Actonel® clinical trials [20].

Shire – Fosrenol "On Track" Patient Adherence Program:

In April 2010, the FOSRENOL "On Track" Program by Shire was recognized as the Best Integrated Campaign at the 5th Annual Strategic Patient Adherence Awards. In order to aid Medicare Part D beneficiaries, this service comprises card payment compliance, a patient assistance program, and connections with outside licensing organizations. One of the challenges faced by the medicine used to treat renal problems is that its effectiveness drops very quickly (by 80% in the first four months of treatment). Cost concerns associated with dialysis therapy and patients' perceptions of their health because their condition is asymptomatic and they might not be aware of it are the primary causes of non-compliance. When their phosphorus levels are low and they are unable to inform their medical providers.

Patients can obtain thorough guidance on insurance verification, grievances, claims, co-pay assistance, and other financial resources at Shire's third-party help center. Additionally, they will send five letters including comprehensive information about what to eat, how to use staff assistance and dialysis effectively, and how to communicate with medical specialists. The program gives patients the educational resources they need to have in-depth discussions with their physicians about the problems they are having and the significance of showing up for every dialysis appointment. For low-income or uninsured patients, Shire provides simple enrollment and patient assistance programs. Additionally, they put patients in touch with renal dietitians,

nephrology nurses, and nephrology technicians so they can learn more about their disease, the course of their treatment, and their progress.

In order to keep tabs on the program, Shire counts the number of prescriptions that are sent through the patient assistance program and examines prescription-level data [21].

3. Conclusion

Most of patients have a low number of annual days of therapy for chronic diseases. Increased patient adherence is one of Physicians' milestones. Increasing stay-on-therapy (SOT) needs participation of all stakeholders, Patients, Physicians and Pharmacists in addition to Pharmaceutical Companies support plus family (suitable dosage form, simplest dosage regimen in order to increase the adherence to the treatment) .There is a need to add new tools to support patients to increase stay-on-therapy SOT (Disease Awareness, Calling, Mails, Discounts, Patients Card Programs) .Stay-on-therapy will affect patient quality of life and increase Patients' Physician loyalty in addition to company sales from chronic diseases therapy .

Some principles can help pharmaceutical companies transform to better address patient adherence:

<u>Encouraging patient adherence as a growth tool for more market share:</u>

Setting up clear objective with quantified KPIs against time. Calculations are needed to allocate efforts between new patient acquisition and patient retention appropriately.

<u>Consider adherence early – during the drug development process:</u>

Addressing brand issues like dose convenience, suitable dosage form, safety profile and severity of the disease.

I.E. Novartis pharmaceutical has developed Rivastigmine (Exelon) as Transdermal patches applied on the skin once daily instead of twice daily pills usual dose of other medications from the same therapeutic class ,this will be more convenient for dementia and AD Patients who are already suffering from short term memory losses.

<u>Understanding patient churns and their root causes:</u>

Studying patient behavior and reasons that make him/her comply with the current therapy through deep studying of unmet needs.

I.E. Novartis pharmaceutical has developed (ACLASTA) Zoledronic Acid 5 mg

Indicated for the Prevention of postmenopausal osteoporosis and Treatment of Paget's disease of bone. Zoledronic acid is an intravenous bisphosphonate. It is given as a **once-yearly** infusion for osteoporosis in patients aged 70 years of age or older with a bone mineral density T-score of –2.5 or less and in established osteoporosis with any fracture due to minimal trauma. Many patients may prefer zoledronic acid to oral therapy for dosing convenience.

Collaborating across stakeholder groups:

Choosing the best experienced champions to execute with will to win spirit but avoid sales dealers. Train your team and make a plan for every option and unexpected ''the red''

.Avoid mirrored line, lack of accountability and internal wars.

Maximizing patient touch points:

Choosing the best approaches and channels that make company easily win.

Ensuring investments focus on the profitable patients: Measure ROI, it is not non-profit organization.

Enriching patient experience:

Analyzing competition and avoid me too trial, always differentiate yourself.

Expect competitor's tough reactions and be ready for counterattack. Never violate governmental code of conduct and conflict of interest.

Creating a feedback and iteration for improvement:

Sharing best practices on a regular basis. Designing clear incentive scheme based on how many patients are acquired and retained till the end. Creating special awards for top notch performers and weed off poor performers. Using good P-R department to leverage image and handling rumors.

Spreading disease awareness & educating patients:

Example: How to make hypertensive patient more compliant?

$$\sum\downarrow \text{Cardiovascular Risk} = (\downarrow \text{BP} + \text{Cardiovascular Protection}) \times \uparrow \text{Compliance}$$

Figure 4. **Tackling the CV risk formula**.

- Make patients aware of their BP Goals.
- Educate patients about the importance of an effective BP Control, providing a superior effectiveness of your Products.

- Assure HTN treatment will be seen by patients as a daily and routine-based activity, that will result in a healthier life

If the patient had developed a fear from the consequences of not taking the medication as prescribed, and if the patient concern about the drug side effect or dependence has disappeared, and if the patients started to believe that the medicine is necessary for the improvement of their condition, it will make difference how they feel. All of the above conditions can be achieved through letting the patient understand the condition properly, understand the medications, and understand that any potential risk are acceptable in order to control their dangerous conditions.

- **Conflict of Interest**

All authors declare that they have no competing interests.

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