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CLINICAL AUDIT OF OUTPATIENT SERVICES OF OTOLARYNGOLOGY DEPARTMENT AT A TERTIARY CARE CENTER IN WESTERN MAHARASHTRA

Otorhinolaryngology

Dr. Samir V Joshi Professor and Head, Dept. of Otorhinolaryngology Head & Neck Surgery, B.J Medical College, Pune.

Dr. Cherry Roy* Assistant Professor, Dept of Otorhinolaryngology Head and Neck Surgery, B.J Medical College, Pune. *Corresponding Author

KEYWORDS

INTRODUCTION

"Audit" is a Latin word which means "to hear". In English literature it means an official inspection of an organization's accounts, typically by an independent body[1].

A clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change[2]. The aim is to achieve quality improvement and improve outcomes for patients. It allows an institution to work toward improving quality of care by showing them their short- comings, allows them to improve. Any clinical audit has the following components like identification of problem, defining standard criteria, data collection, analysis, implementation of change and re-audit. Clinical audit is a part of continuous improvement process for a specific issue of health care. A clinical audit consists of a clinical audit cycle[2].

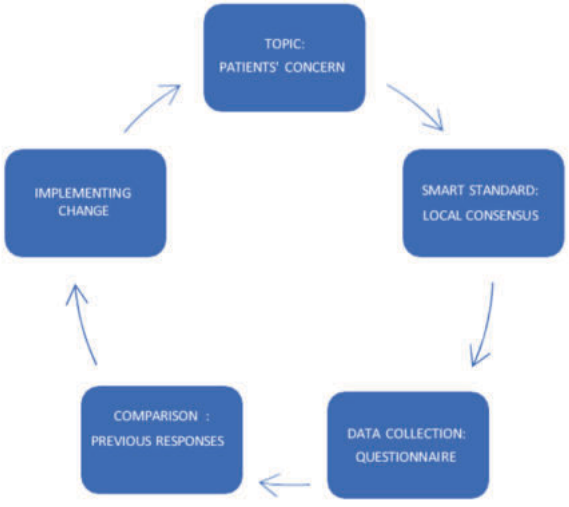

Fig.1 Clinical Audit Cycle.

The aim of any clinical audit is to improve patient care which may be achieved through different actions like – enhancing the work culture of clinicians, solving a problem, reducing variability in conduct, reducing gap between theoretical standard and actual scenario.

In 2015, the patients' concern regarding the ENT OPD were studied. A questionnaire was handed over to willing patients. The response received clearly stated some deficit in the OPD functioning. So, a systematic analysis was done by a task force. Inefficient procedures had to be identified and improved. Aim was to facilitate a smooth and optimum functioning of the OPD. These measures were then implemented and their practicability and integration in the daily routine was assessed.

AIM

The aim is to achieve quality improvement and improve outcomes for patients care in our outpatient department (OPD).

OBJECTIVES

- To provide access and convenience for patients seeking ENT OPD care.
- To improve Outpatient care.
- To burgeon the quality of empathy and respectfulness among doctors.
- To achieve good communication between doctor and patient.
- To optimize technical quality for patient care.

Audit Methodology: A task force consisting of 2 doctors, 1 nurse, 1 administrative person was formed. A questionnaire was adapted from St. Joseph's General Hospital Elliot Lake, Oral Health Centre of Western Australia, University of California and Royal College of surgeons in Ireland. The questionnaire was tailor made according to our hospital setup and was validated by a peer review group. Sample sizes of 397 patients were randomly selected using Solvin's formula[3], who were willing to participate over a period of 12 months i.e. 1 January 2015 to 31 December (2015).

Periodical meetings were held and the responses were scrutinized. The activities were categorised into 4 phases. Actual state analysis, analysis of cause, correcting measures, assessment of effect of implementation. Certain changes were made in the infrastructure, attitude and policies of the outpatient department (OPD) of Otolaryngology.

1) Actual state analysis

The responses of the questionnaire were noted down. A periodical meeting was held for one hour every month for a period of 2 years. After scrutinizing the responses some shortcomings in the OPD set up were pointed and improvements were recommended. The actual work of implementation started from 1 January 2016 onwards.

The questions were categorised into 5 categories .1) Access and convenience 2) Care provided 3) Respectfulness 4) Communication and 5) Technical Quality. Each category had 5 questions and the responses were noted as –agree, disagree or neutral. * (Annexure1)

2) Analysis of cause

The analysis of the cause was done in several meetings by the task force after the interpretation of the actual state analysis. Various brain storming sessions discussing the cause of the problem and ideas to rectify were discussed and noted down. This resulted in a pool of ideas for improvement and implementation.

3) Corrective Measures

Once the basis of recommendations of the task force, necessary changes in the infrastructure were made like installation of proper display of the OPD section and directions with sign board to make the OPD easily accessible a centralised token display system was put into place to avoid disarray, implementation of "Swachh Bharat mission" etc.

4) Examination of effectiveness

After implementation of the corrective measures, 397 random patients were again selected in 2019. They were handed over the same questionnaire and the results were interpreted. The results were noted as agree, disagree or neutral. The results of 2019 were compared with the results of 2015.

RESULTS

The results were compiled and tabulated.

The result of the earlier questionnaire, state analysis, analysis of cause, corrective measures and assessment of effective implementations were tabulated and compared.

1) Access And Convenience

From the questionnaire it was found that the ENT Outpatient department in 2015 was not easily accessible to patients, there were steps leading to the OPD which were not handicap accessible. For this problem a new OPD was planned, sign boards were placed in Marathi language and the OPD was made handicap accessible by granting access to elevators. The graph of 2015 clearly showed that only 30 % of the patients agreed that the OPD was accessible. This was partly because the OPD did not have proper directions, there was no elevator[5] and there were no proper sign boards in local language[6] (It may please be noted it was not a regular place for ENT OPD). After taking corrective measures, in 2019, the graph clearly shows 70 % agreement in accessing the OPD.

Fig.2 Swachh Bharat Abhiyan.

The "Swachh Bharat Abhiyan" was launched in 2014 by Government of India. Under this mission, all the doctors and paramedical staff participated whole heartedly in this mission[4]. The result have clearly shown that agreement of patients about the overall cleanliness has improved from 40% in 2015 to 80%in 2019. There was single window system one each for male and female in 2015. It caused lot of chaos and overcrowding. A multi window system was implemented, with separate counter for pregnant women, senior citizens and health care workers. This change helped to reduce the crowding at registration counters which is evident from the graph reducing from 80% in 2015 to 30% in 2019.

Fig.3 Photograph Of A Cabin In New OPD Complex. 8 February 2018

1) Access And Convenience

Table 1

Sr. no	Actual state ofanalysis (2015)	Analysis of cause	Corrective measures	Examination of Effectiveness
1.	OPD was not easily accessible	Make shift OPD due to renovation	Plan for new OPD complex	New OPD complex commissioned
2.	The OPD was not handicap accessible	No provision of Elevator	Provision for Elevator	The Elevator is handicap accessible
3.	There was no cleanliness	Construction at multiple sites	Swatch Bharat Mission implemented	Inspection done 6 monthly by Sanitation Inspector, RMO, Superintendent.
4.	There were no sign boards	Temporary sign boards	Sign boards in Marathi language	Multiple sign boards at different locations with Abbreviations like A: General OPD B: Endoscopy and Minor Procedures C: for Cancer OPD D: Audiometry and BERA services E: Specialty clinics
5.	Registration counter was overcrowded	Single registration counter	Multiple registration counters	Different registration counter for senior citizen, women, health care professionals

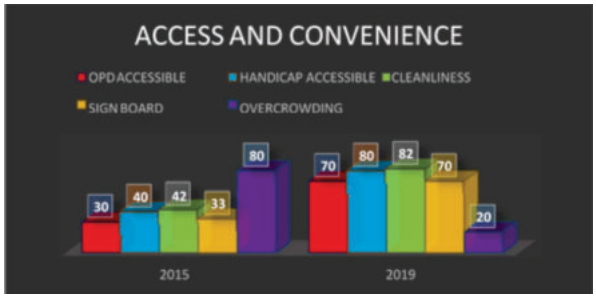

Fig.1: Access And Convenience

2) Care Provided

The data collected in 2015 clearly pointed out the short comings in the level of health care received. Only 18% patients agreed that the average waiting time was acceptable. This was partly due to an un-organised OPD set up and scheduling done by untrained staff. To rectify this a token display system was installed. The Central token display system receives inputs from 6 counters. 4 for doctors, 1 for audiologist and one for speciality OPD. This system helps in easy flow of patients. It can be seen from the responses received that 77% agree that waiting time was acceptable.

It was seen that language was a major barrier in communicating with the patients for Resident doctors coming from out of the State. Some doctors could not understand the complaints of the patients. Some patients with hearing loss could not understand the procedure of examination. In 2015, 20% patients said that their doctors did not listen to them attentively. To rectify this, intern doctors conversant in Marathi language were specifically appointed to assist these Resident Doctors. This then reflected in the responses received in 2019 where 80% patients agreed that the doctors listened attentively. Same goes for examination, because of language barrier, the examination could not be explained to the patients, also there was limited working space for examination in 2015. 30% agreed that they could not understand what the doctors instructions and so they could not cooperate for examination. After taking help of colleagues or paramedical staff, the language barrier was removed. Dedicated work station was planned and installed for Indirect Laryngoscopy, Video laryngoscopy, Diagnostic Nasal Endoscopy, Minor procedures[7] etc. New advanced equipment like high resolution video otoscopes was purchased to better explain the otological findings, which form bulk of the OPD patients.

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Fig 2. Work Station, Token Display System And Video Otoscope

This resulted in 88% agreement of the patients regarding the examination procedure of the patients. Specific problems like vertigo, allergy, Cochlear Implants, Cancer require a detailed history and a battery of examinations. This was not possible with routine ENT patients. So a dedicated speciality OPD[7] was started. This OPD timings were 2-4 pm after theroutine ENT OPD was over. This helped in giving sufficient time to the patients with specific symptoms. It is evident from the graph which showed that earlier (2015) only 22% patients agreed that the doctor gave sufficient time while in 2019 it was 92%.

Regarding the risk associated with various procedures and side effects, earlier only major operative patients were considered for explanation and a written consent signed from the patient. Now all procedures like ear syringing, sac syringing, suction clearance, indirect laryngoscopy are done on the work station after explaining the risks and benefits. An emergency tray is also kept handy. Relatives are allowed inside the examination room for moral support. This has helped in increasing the trust score from 20% to 80%.

2) Care Provided

Sr. no	Actual state of analysis 2015	Analysis of cause	Corrective measures	Examination of Effectiveness
1	Waiting time was long	Limited space	Dedicated space for OPD, Token display system	All OPD Patients examination, procedure and supervision done by senior faculty.
2	The doctor did not listen to problems attentively	Language barrier	Help of interpreter/ intern/ colleague who understands local language.	
3	The doctor could not explain the procedure and examination was unsatisfactory.	Language barrier. Limited space, unattended patients.	Dedicated work station for minor procedures, Diagnostic Nasal Endoscopy, Video Direct Laryngoscopy, Video Otoscopy etc.	
4	The doctor explained your illness but could not give you sufficient time regarding specific symptoms (vertigo, allergy)		Display showing Dedicated speciality clinic Vertigo, Allergy, Cancer, CI.	
5	Were you informed about the risk associated with the procedure and possible side effects of medication? (Answer No for many)	Only in surgical patients written consent taken	Procedure risk explained, relatives allowed inside the procedure room in OPD	

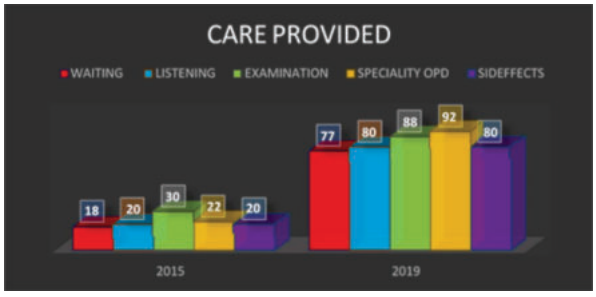

Fig 2. Care Provided

3) Respectfulness

Respectfulness is a subjective term. It is a way of treating or thinking about something or someone. Clinical psychologist Carl Rogers advocated for approaching patients by respecting them as individuals and not expecting them to behave differently to earn this respect[8]. Addressing the patient with his/ her name with a suitable prefix not only creates a rapport but also creates credence between the doctor and a patient. Dignity means the right to be valued. Both dignity and respect are often used as synonyms. We do not want the routine examination to turn into a Rogerian psychotherapy session. But we need to inculcate certain morals values in the doctors for which dedicated value education lectures were organised by the Department Head. And this brought a significant change in the attitude and behaviour of the doctors.

It is evident from the graphs of 2015 where respectfulness was below 40% and in 2019 it was above 80%. In terms of privacy while examination, due to lack of infrastructure, only 31% agreed that their privacy was respected while in 2019, a dedicated space for examination was planned which raised the score to 89%. Over all friendliness and courtesy in face of immense work pressure was a distant reality. But with increase in number of postgraduate resident doctors and recruitment of additional staff released the work load. It was seen in the graph where only 20% received friendly and courteous behaviour in 2015 while in 2019 this was 93%.

3) Table Showing The Audit Findings About Respectfulness.

Sr.no	Actual state of analysis 2015 (Findings as in initial survey)	Analysis of cause	Corrective measures	Examination of Effectiveness
1	Addressing by name only 32%	Addressed only the symptoms	Sensitization of doctors	Supervision done by senior faculty, monthly reviewed.
2	Doctor showing dignity and respect 41%	Over burden	Moral Values inculcated in doctors	
3	Nurse showed dignity and respect 20%	Overburden	Sensitization of nursing staff	

4	Privacy respected 31%	Limited space	Dedicated space	
5	Friendliness and courtesy 20%	Overburden and stress	PG seats increased from 4 to 6, 3 new service resident doctors recruited, personal pentors allotted to each Postgraduate Resident doctor.	

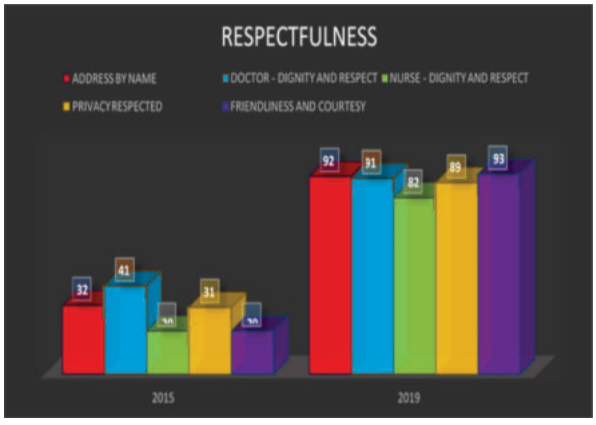

Fig. 3

4) Communication

A simple act of transferring information is called communication. Communicating the right information is mandatory in medicine[9]. Certain barriers include language, hard to hear, inability to understand or the patient is unattended. 2015 graph showed that only 21% patients were explained (their symptoms, the medications) in their language. To rule out this, help of intern doctor proved to be an ice breaker and brought smooth communication between the resident doctor and the patient as seen in 2019 at 70%.

Most of the patients do not carry previous reports or any surgical discharge sheet or any allergy card. At times it becomes difficult for the treating doctor to check all documents with no relevance. It's better to document it on the paper about the medical, surgical, allergy and family history on the OPD case sheet itself. This proves as legal document for medico-legal case. Compulsory inclusion of such criteria was done in the OPD case sheets. This was visible in the comparative graphs of 2015 where below 50% agreed they were asked about their past history while in 2019 more than 70% agreed, they were asked about their past history.

Regarding the inclusion of patient in decision about the treatment and compliance on the part of the treatment will ensure complete cure. In a non -compliant patient there are high chances of recurrence and relapse of the underlying disease. So, to avoid redundancy of the treatment it is important that the patient or the attendant is included in the decision about the treatment and follow-up care. The treating doctors were briefed about the problem and it showed results where the patients' involvement was 33% in 2015 while it came to 83% in 2019.

Table 4. Communication

Sr.no	Actual state of analysis 2015 (Findings as in initial survey)		Analysis of cause	Corrective measures	Examination of Effectiveness
1	Explanation in language lacking cases	patient's in few	Language barrier for a few Resident Doctors	Dedicated intern doctor with proficiency in Marathi	Monthly review by Committee
2	Medical inadequate	history	No format	standard	Compulsory format of OPD examination including medical, surgical, allergy, family history	Critical appraisal of all residents every 6 monthly
3	Surgical inadequate	history	No format	Standard		
4	Allergy history inadequate		No format	standard		
5	Patients involvement in decision and follow up care inadequate		Overburden, less time given to patients		Patient and attendant explained and all instructions written	

Fig.4. Communication

5) Technical Quality

Major chunk of the OPD timing was consumed by patients who come for certificates. In 2015, it was a walk-in procedure where audiometry was done and the certificate was issued. It led to lot of chaos and mismanagement. UDID scheme under the Department of Empowerment of Persons with Disability brought transparency, efficiency and direct benefit to the person with disability.

It is evident that earlier only 30% patients agreed that there was no delay in getting disability certificate while in 2019 this figure was 88%. Learning disability and physical fitness certificates required a valid audiometry. Each audiometry takes around 20 minutes. It was not possible on a single audiometer. Hence to reduce the work load, 2 new audiometers and 2 audiologists were recruited. A full-fledged audiometry section with facilities like impedance audiometry, oto-acoustic emissions infant screening for childhood deafness, two new BERA machines, was commissioned. The graphs show that in 2015 only 33 percent agreed that there was no delay in receiving a Learning Disability or Physical fitness, while in 2019 it came up to 94%.

Various Government schemes have been launched by State and Central Government for benefit of the patients. Very few patients are informed about them. Today all possible patients are enrolled under government schemes so that they are benefitted. 2015 statistics show that only 21% patients took benefit of the scheme as they were not aware and we did not try enough. But in 2019 the paperwork is much simplified and 97% of eligible patients agreedto have been benefitted under Assistance to Disabled persons for purchasing /fitting of aids/ appliances (ADIP), Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY) schemes[10].

Specific symptoms like vertigo, allergy, cancer, deafness since birth require dedicated specialist and require more time for routine examination and counselling. It was for this purpose that “Shwaas” allergy clinic, “Santulaan” vertigo clinic, “Shravan –shruti” Cochlear implant clinic was started in the afternoon hours from 2-4 pm on week days. Display of specialty clinics[7] and their eligible population has been made in prominent places in OPD. It showed good response and 86% patients agreed to have been benefitted by it in 2019 as compared to 28%in 2015. Taking into consideration all the above-mentioned corrective measures, the overall quality of patient care improved

significantly.


Fig .5 Online Portal For Disability. Fig. 6 Government Schemes

Fig. 7 Audiology Service

Fig. 8 Speciality OPD

Sr.no	Actual state of analysis 2015 (as per initial survey)	Analysis of cause	Corrective measures	Examination of effectiveness
1	Delay for getting Disability Certificate.	Walk in patients	Online procedure	All certificates issued in office hours.
2	Delay in issuing Learning Disability and Physical Fitness certificates	Waiting list for audiometry	3 audiometers and 3 audiologists recruited	Audiology records audited 6 monthly.
3	Government Schemes not availed in large numbers (many did not have ration card essential for schemes at initial visit)	No prior information to general patients	Display of all Govt. schemes at prominent places	All possible patients enrolled and records maintained
4	Specialty OPD not functioning	No provision for specialty OPD	Speciality OPD 2-4 pm on Week days	Speciality OPD records maintained and audited 6 monthlies.
5	Overall health care and competency of treating doctor was perceived as less satisfactory	Overburden, limited space, limited infrastructure	Dedicated space and infrastructure, Critical appraisal of doctors.	New construction executed accordingly. 6 monthly progress report for all doctors.

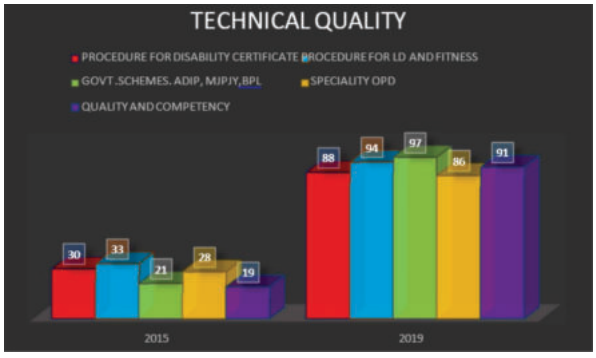

Fig.5 Technical Quality

Historical Aspects

Clinical audit is a review of all the activities of patients care by medical and paramedical staff. However, it fails to take into account the resource management. So ideally it should be called "patient care audit" which includes a review of all the activities within the health care system which directly affects patient care[12].

History: Around 1792-1750 BC. King Hammurabi gave capital punishment for poor performance of clinicians. Florence Nightingale was one of the initial persons who pioneered the work of clinical audit. She assessed the effect of cleanliness and its implementation which brought down the hospital mortality during the Crimean war of 1853[11]. The first clinical auditor was Ernest Codman of Boston, who monitored post-surgery patients in 1912.

There are different types of clinical audits. Standard based audit: a cycle of defining standards, collecting data, measuring it against standards and implementation of change. Adverse occurrence screening: used in matters of special concern. Peer review: individual cases discussed by peers to ascertain whether adequate care was given. Patient Survey: obtained by feedback of patients about the care received[13]. An audit can also be classified as/ Internal audit carried out within an institution or department or External audit: carried out by outsourced professionals[11]. Frostick et.al. have described different types of audit like Structural audit: Available resources within the capacity of the hospital, its operation, management, training of staff, technological training and upgradation and administration of these resources. Process audit: assessment of the efficiency of overall patient care, from the time of admission till the time of discharge. Outcome audit: it is mostly concerned about the patient expectation, the doctor's expectations and community's expectation.

Copeland et.al. have described as 1) Prospective and 2) Retrospective audit[10]. An audit was also classified as 1) Local clinical and 2) Non local clinical by the Academy of Royal colleges [11]. Every clinical audit must go through the following stages[10]. Stage 1- identify topic or problem to be audited; stage 2- define criteria; stage 3- data collection; stage 4 – comparison of data and stage 4- implementation of change.

Summary And Future Directions

In our study the topic was regarding the patients care at the outpatient section of otorhinolaryngology. The Otorhinolaryngology department was established in 1953 at Byramjee Jeejeebhoy medical college and Sassoon general Hospital. It was headed by Dr. W. D Atre. The department was well established in term of technology and infrastructure. Technical updating was done as and when needed. In 2010 under the leadership of the author with support from the Dean, department underwent radical upgradation. The department underwent renovation and a new well planned OPD complex was inaugurated in 2018. Under the Corporate Social Responsibility Schemes[13], funds were generated and utilised for purchase of various new equipment.

To review this situation, an audit was planned in 2015. The data collected in 2015 showed some areas that need dire improvement. Correcting measures: The task force formed, after analysing the situation recommended certain changes. After implementation of change, an assessment of implementation was done and compared again by the same questionnaire in 2019. Although a clinical audit is defined as a review of patient care by the medical and the paramedical staff, resource management becomes an integral part of a clinical audit. Many clinicians object to the resource management part. "Resources are needed if audit is to be successful and worthwhile. The critical resource is an attitude of mind"[12]. To bring any change in clinical practice, resources are needed and any change of resource will bring about a change in clinical practice. They are not separate entities but they complement each other. It must be born in mind that each patient deserves an efficient and cost-effective care. An audit is not a research paper which is based on a hypothesis and uses experimental material. It is the assessment of quality of care provided and its comparison with the best practice [12]. Once we have implemented the changes, a re-audit must be planned. This ensures that the acceptable quality of care is sustained.

Future Expectations For A Review In 2022.

The scope for a clinical audit is infinite and the field of ENT is metamorphosing at a colossal pace. In an ENT OPD setup, the patients come with a plethora of symptoms. So, in an ever-evolving speciality,

timely audit will help to keep abeam the recent advances and immaculate patient care.

CONCLUSION

Our Clinical audit of Outpatient service of Otolaryngology Department achieved improvement in patient care although lot needs to be done in future.

Presentations

Presented in Department review meeting and Meeting with Association of Otolaryngologists of India (AOI) Pune branch Office Bearers for seeking a donation of Rs 4 million for Dissection labs where AOI members will also be allowed to participate.

Acknowledgements

1. Dr Ajay Chandanwale, Dean for expediting the construction of new OPD complex and giving us the freedom of design and planning of services.

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