

Various Methods, Procedures and Tools for Improvement of Quality and Standards in Medical Sciences and Neurosciences

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Abstract

Quality in medical sciences and neurosciences is demand of the day. Any visiting patient want the assurance of good quality and standards of service before vouching for the service. Quality and standards are continuous processes. One has to learn from past deficiencies which is founds on different medical audits and then device new system or methods or processes to overcome the deficiency. Various methods to keep abreast the continued improvement in quality is described.

Keywords: Quality Tools; Quality Improvement, Quality Standards; Flow Charts; Cause and Effect Diagram (Fish Bone/Ishikawa Charts); Parito-charts (80:20 charts); Check-sheet; Control Charts; Histogram; Scattered Diagram; Brain Storming

Introduction

Various methods, process, procedures and Tools of quality improvement

Various Processes is required in earlier stage to access achievement of various audits [1,2].

In the earliest stage of quality improvement several steps are taken. Using a number of different quality tools for assessment. Eight such quality tools can be used to find better identify and improve their processes in a organization or institutions [3,4]. These tools for the finding or identify and improve the quality are.

Eight quality tools:

- Use of Flow charts.
- Cause and effect diagram (Fish bone/Ishikawa charts).
- Parito- charts (80:20 charts).

- Check- sheet.
- Control charts.
- Histogram.
- Scattered diagram.
- Brain Storming.

After world war two Japanese adopted 'quality' as the philosophy for economic recovery [5,6]. They sought seven tools to accomplish the economic recovery [7,8].

Each one is described in detail now.

Flow chart

Flow chart gives visual illustration of the sequence of the operations needed to complete task. Every process is put to, till finish the job.

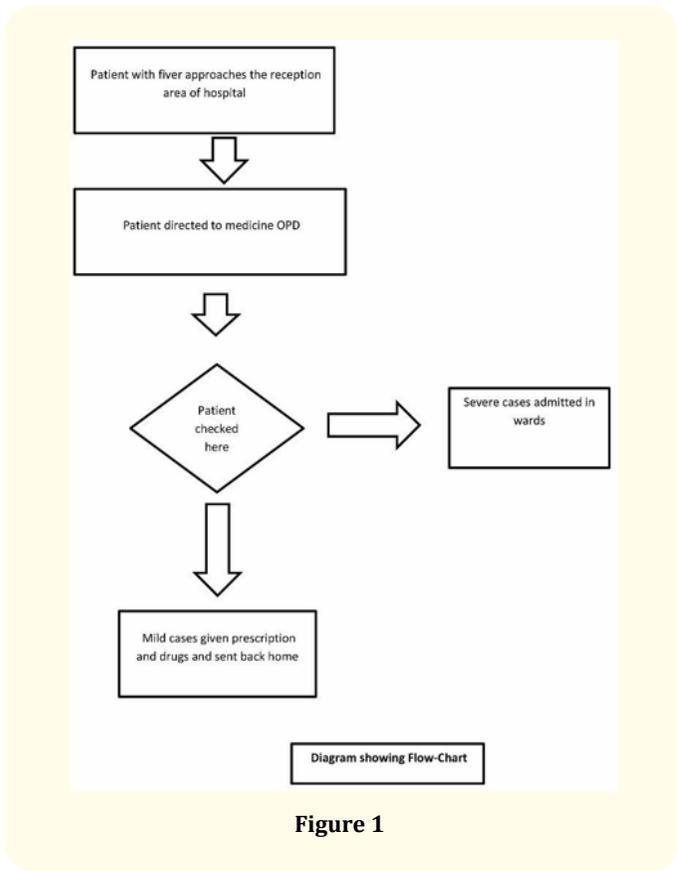


Figure 1

Parito-charts (80:20 charts)

- Parieto charts is used to priorities the problems (P for P), to decide what problems should be addressed.
- It was devised by Vilfred Parieto in 1906 in Italy.
- No organization will have enough resource to handle every problem so they should priorities them. That is the “important few and trivial many”.
- So, to priorities the problem finds out its causes and try to correct them first and then proceed on.

Check-sheet

Check sheet will allow user to collect data directly from process and put them as tables which makes it easy, systematic and organized manner which shows the history and pattern of variation.

At the beginning, in change of process, this tool is used to recognize the problems and collect the data easily.

There could be:

- Defective item check sheet.
- Defective location check sheet.
- Defective cause check sheet.
- Check-up confirmation check sheet.

Control charts

- The Control charts was developed in mid-1920 by Walter Shewhart of Bell Labs.
- Control charts are used to make sure that the process is in control.
- It is also used to monitor and control the process variations on a continuous basis.it also allows the user to take proper corrective actions to eliminate the sources of variations.
- This tool has become a main contributor to the quality improvement process.

Histogram

Histogram is the tool used for summarizing analyzing and displaying the data. It gives the user a graphical representation of the amount of variation found in the set of data. Histogram shows a visual summary of data, which will be simple to understand. This tool is used when the data given is of various verities and is difficult to understand.

Cause and effect diagram (Fish bone/Ishikawa charts)

- Cause and effect diagram also known as fishbone diagram helps to obtain more information about process and its output. It will help to find out root cause.
- In 1943 Kaoru Ishikawa developed the cause and effect diagram at the University of Tokyo.
- This diagram has two sides on right side is the list of effect which lists the problem or the quality concern. On left side is the cause side, it list the primary cause of the problems.

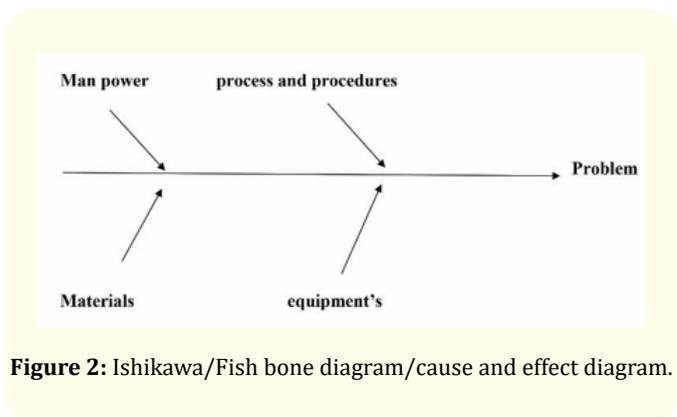


Figure 2: Ishikawa/Fish bone diagram/cause and effect diagram.

Histogram could be of five types:

- Bell shaped.
- Double peak type.
- Plateau distribution.
- Comb type distribution.
- Skewed Distribution.

Scattered diagram

Scattered diagram is used to recognize the correlation which might exist between the quality characteristic and the factor which might be driving it. A scattered diagram is the nonmathematical or graphical approach for recognizing relationship between the performance measure and the factors which might be driving it. The scattered diagram is used when there is assumed variation of two item, connected in some way.

Brain storming

In this connected people with process, discuss together, the pros and cons and finally reach a conclusion and solution to the problem. Finally, brain storming is done with all stakeholder to find out reasons of problem and various ways to deal the problems and thereby improve quality of service.

Results

These services were found efficient way of improving the standards and quality of services provided by the institutions.

Discussion

Using medical audits we find the deficiency in the service or the process.

Now these methods are used to find the cause of fault or deficiency. One the deficiency is identified the same is corrected and again tested for results till it gives correct result of service to the satisfaction of patient, organisations or institutions [9].

Conclusion

These tools are efficient at improving the quality of service by the institutions and there by satisfying the clients and the patients.

Declaration

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