LATEX EXAMINATION GLOVES

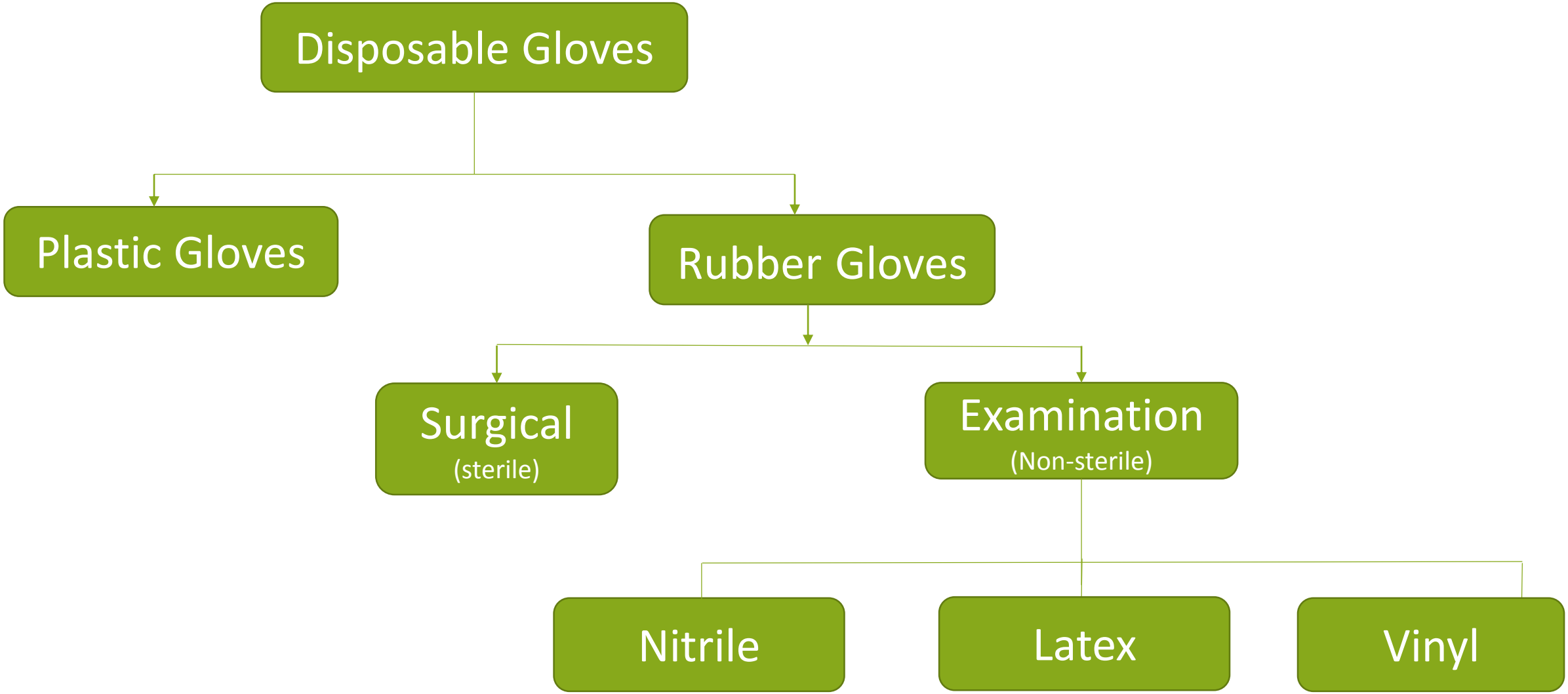
DATA ANALYSIS

PREFACE

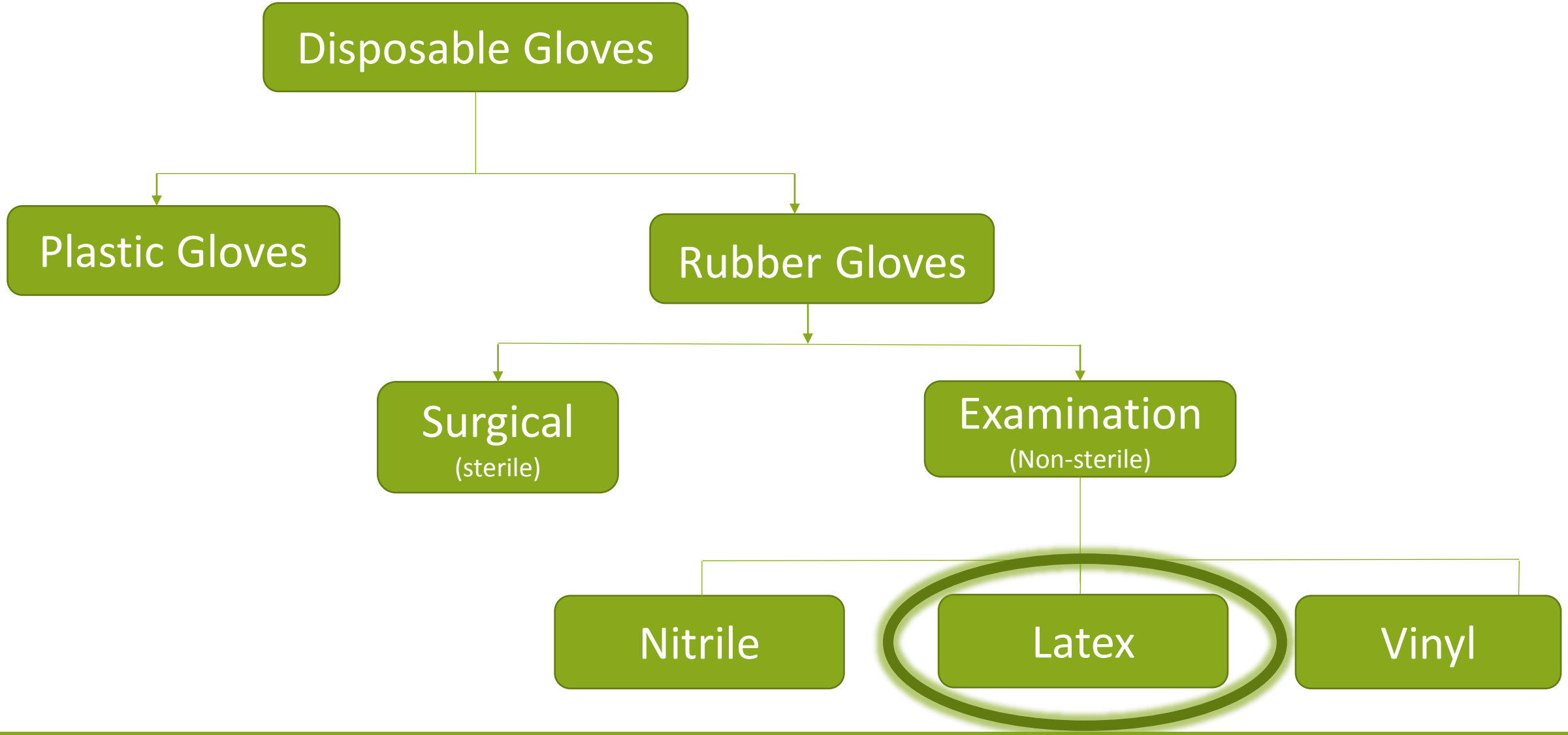
- The presentation aims at analysis of the data of a company named **Safe Life** which is a local company in city Ahmedabad.
- The main focus is on the demand of examination gloves.
- It also contains different analysis on the basis of economic theories.

PRODUCT DESCRIPTION

TYPES OF GLOVES



TYPES OF GLOVES



DIFFERENCE BETWEEN EXAMINATION AND SURGICAL GLOVES

- Generally, surgical gloves are used by surgeons for operation which lasts for many hours.
- Whereas the examination gloves are used by doctors and paramedical staff which they use to examine people or giving injections etc.
- The quality of examination gloves is less than the quality of surgical gloves, as they are wore for shorter period of time.
- Examination gloves can’t be used by surgeons as it causes rashes and burning sensation on the skin if wore for a longer period of time.

USAGE OF EXAMINATION GLOVES

- Examination Gloves are one of the most basic, but also most critical tools used in hospitals
- Latex Examination gloves are widely recommended by doctors and perioperative paramedical staff of the hospitals to prevent transmission of blood-borne infections.
- In the pharmaceutical industry, usage of gloves works both ways, protecting the worker from chemical hazards and products from contamination.
- Gloves prevent contamination of dentist's hand when touching oral tissues or instruments and pieces of equipment soiled with patient blood and saliva.

INFORMATION ABOUT THE COMPANY

SAFE LIFE: LATEX MEDICAL EXAMINATION GLOVES

- Safe life is a company which supplies medical instruments and necessities in Ahmedabad.

- Some of the products they supply are gloves, masks, surgeon cap, syringe, Nebuliser machine , glucometer, Blood pressure instruments, Cotton roll, crap bandages, knee cap and various orthopaedic products, Breathing and respiration equipment and OT(Operating theatre) equipment.

GENERAL INFORMATION ABOUT RUBBER PRODUCTION

- Examination gloves are one type of rubber gloves.
- Thus, the main item needed in production of gloves is rubber.
- Thus, change in the price of rubber affects directly to the price of the gloves.
- India ranks 4^{th} in the total production of rubber in the world.
- From the total production of rubber about 3.13% is only used as latex foam.
- About 50% of the total rubber produced is consumed by tyre industry according to Rubber board of India.

FLOW OF THE PRESENTATION

- **General Theory:**

  Firstly there will be Topic-wise explanation and definition of Economic Theory related to topic.

- **Product Data Analysis:**

  Then we shall see how effective the theory fits to our product according to the data.

- **Inferences and Reasons:**

  If the theory misfits to our product than what are possible reasons for that and if it does follow general trends than what are the reasons for that.

ANALYSIS OF GLOVES MARKET IN AHMEDABAD

DEMAND ANALYSIS

DEMAND THEORY

- **Demand:** It describes a consumer's wants, desire and willingness to pay for specific goods or service at a given price.
- The demand theory states that with the increase in price of any product, demand of that product decreases and vice versa. Thus, price of the product and quantity demanded are inversely proportional to each other provided all other factors remains constant.

$$\textbf{Price} \propto \frac{\mathbf{1}}{\boldsymbol{Quantity\ demanded}}$$

- This is because when the price of any product goes low, more consumers will tend to buy it as it gets at cheaper rate than before and thus the willingness to buy that product increases and so the demand too increase.

ANALYSIS OF DEMAND CURVE FOR GLOVES

ANALYSIS OF DEMAND OF THE PRODUCT

❑ **Data for demand curve**

Year	Quantity demanded	Price per 100 pcs.
2011	1050000	160
2012	1080000	155
2013	1110000	150
2014	1135500	145
2015	1166100	140

ANALYSIS

- The Demand Theory states that as the price of the gloves decreases the quantity demanded increases.
- On observing our product's demand curve, we come to know that demand of gloves increase with decrease in the price. Thus, **Demand curve of our product follows same characteristics Demand theory of Economics.**
- The reason for the above statement can be, as the price of gloves decreases, the users i.e. hospitals and vendors tends to keep gloves in stock so that if the price increased in near future they could have the glove with them at cheaper rate.

WHY THERE IS DECREASE IN THE PRICE OF GLOVES?

- With our amazement, the price of the gloves are most affected by automobile industry. This is because as the mining and infrastructure decreases, the transportation decreases which result in the decrease of the usage of tyres and tubes which are made of rubber and thus the demand of rubber decreases. Due to which the price of rubber goes down and thus price of gloves also decreases.

Reduction in the consumption of tyres and tubes → Reduction in the consumption of rubber → Reduction in the price of rubber(as demand decreases) → Reduction in the price of gloves(as demand decreases)

Table 6. Composition of NR based industries in India-2010-11

Product	NR	SR	RR	Total
Automotive tyres and tubes	54.57	58.79	23.50	53.46
Cycle tyres and tubes	11.36	7.97	28.88	11.75
Camel black	4.97	4.94	6.17	5.04
Footwear products	8.05	15.05	8.96	9.74
Belts and hoses	5.29	4.47	7.06	5.22
Latex foam	4.47	0.00	0.00	3.13
Cables and wires	0.19	0.77	1.26	0.40
Battery boxes	0.21	1.05	13.34	1.29
Dipped goods	4.48	0.00	0.00	3.13
Others	6.41	6.97	10.85	6.84
Total	100	100	100	100

Source: Indian Rubber Statistics, 2011

- From above demand curve and our data we come to know that PRICE decreases and the Quantity demanded increases.
- **But up to what extent does the price affect our demand?**
- **What is the responsiveness of PRICE on demand?**
- To find answers to all the above question, we need an another tool called Elasticity.

ELASTICITY

ELASTICITY

- The degree to which a demand or supply curve reacts to a change in price is the curve‘s elasticity.
- Elasticity of demand is given by

$$\frac{\%\ \textbf{change in quantity demanded}}{\%\ \textbf{change in price}}$$

- Elasticity varies among products because some products may be more essential to the consumer.
- Products that are necessities are more insensitive to price changes because consumers would continue buying these products despite price increases.

- Examination gloves tend to be things that are more of a necessity to the consumer
- So we can say that it’s inelastic product because demand and supply is not driven by the price

Year	Price per 100 pcs.	Quantity demanded
2011	160	1050000
2012	155	1080000
2013	150	1110000
2014	145	1135500
2015	140	1166100

Year	% difference in Price	% change in demand
2011-12	-3.12	17.64
2012-13	-3.12	19.04
2013-14	-3.12	24
2014-15	-3.12	29.03

ELASTICITY

- Examination gloves prevent transmission of blood-borne infections and contamination of doctors' hand when touching wounds or instruments and pieces of equipment soiled with patient blood.
- So, Examination gloves tend to be a necessity to the consumer.
- There is no substitute for this gloves.
- So we can say that it’s **inelastic** product because demand and supply is not driven by the price

- Also when we analyse different data we come up with the factors affecting demand.
- The factors affecting demand are listed in next slide.
- This factors will be justified when we carry on Quantification of Quantity demanded for gloves.

FACTORS AFFECTING DEMAND

- Season
- Increase in number of hospitals and clinic
- Sudden disease spread in the city
- Increase in health care expenditure
- Accelerating awareness of hygiene
- Competitors

- We know that Quantity demanded of gloves increases every year.
- But we don’t know that by how much percentage it changes.
- Or what are impact of factors that affect demand.
- So to figure it out we do Quantification of Quantity demanded.

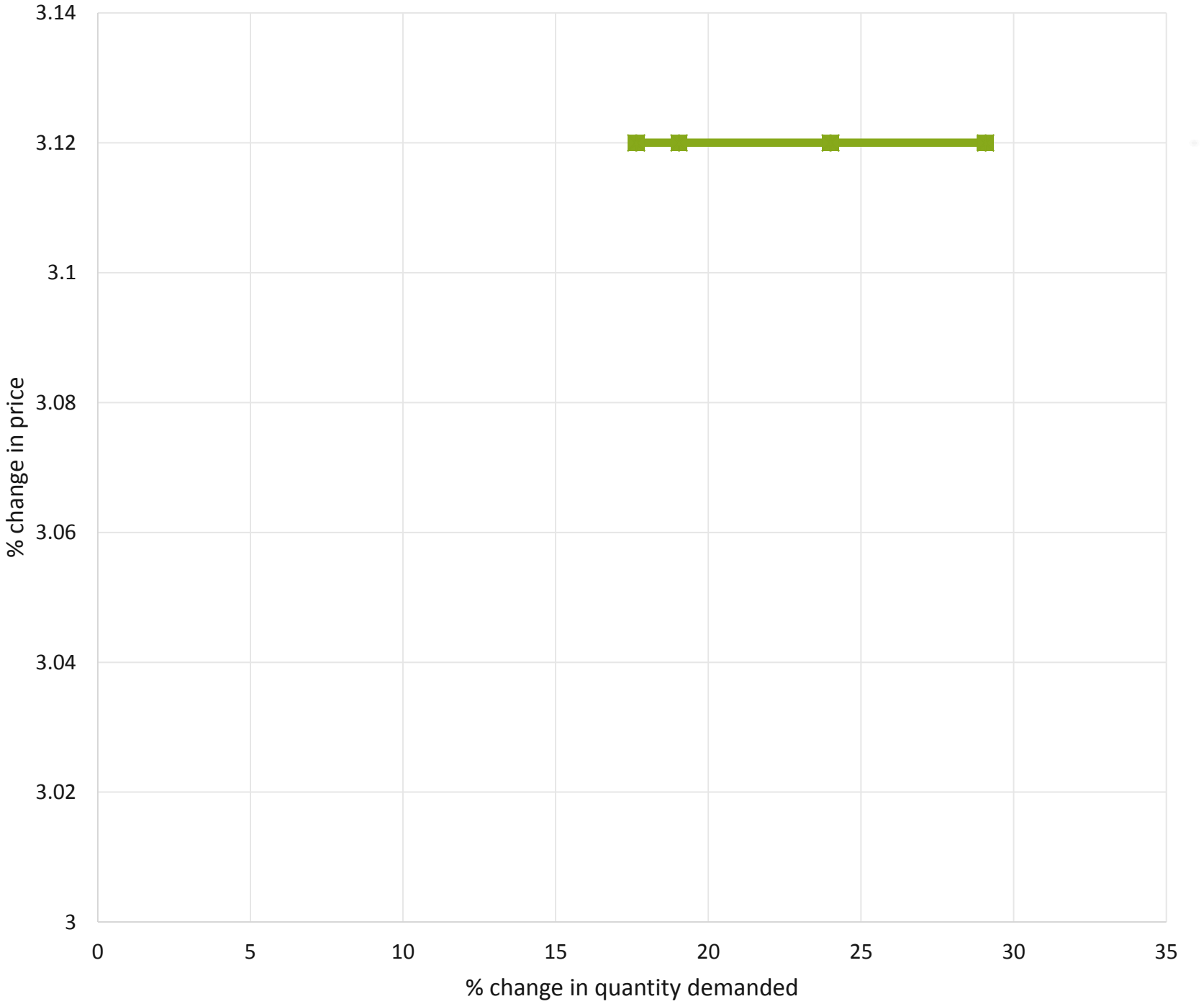
Year	Quantity demanded	Price per 100 pcs.
2011	1050000	160
2012	1080000	155
2013	1110000	150
2014	1135500	145
2015	1166100	140

QUANTIFICATION OF DEMAND

QUANTIFICATION OF DEMAND

- Now, We shall see the effect of price on the demand.
- Here one important thing to note is that the percentage difference in the price remains constant.
- The percentage difference is negative that means that every year there is decrease in the price of the gloves.
- Below is the data for percentage difference in price and percentage change in demand for corresponding years.

Year	% difference in Price	% change in demand
2011-12	-3.12	17.64
2012-13	-3.12	19.04
2013-14	-3.12	24
2014-15	-3.12	29.03



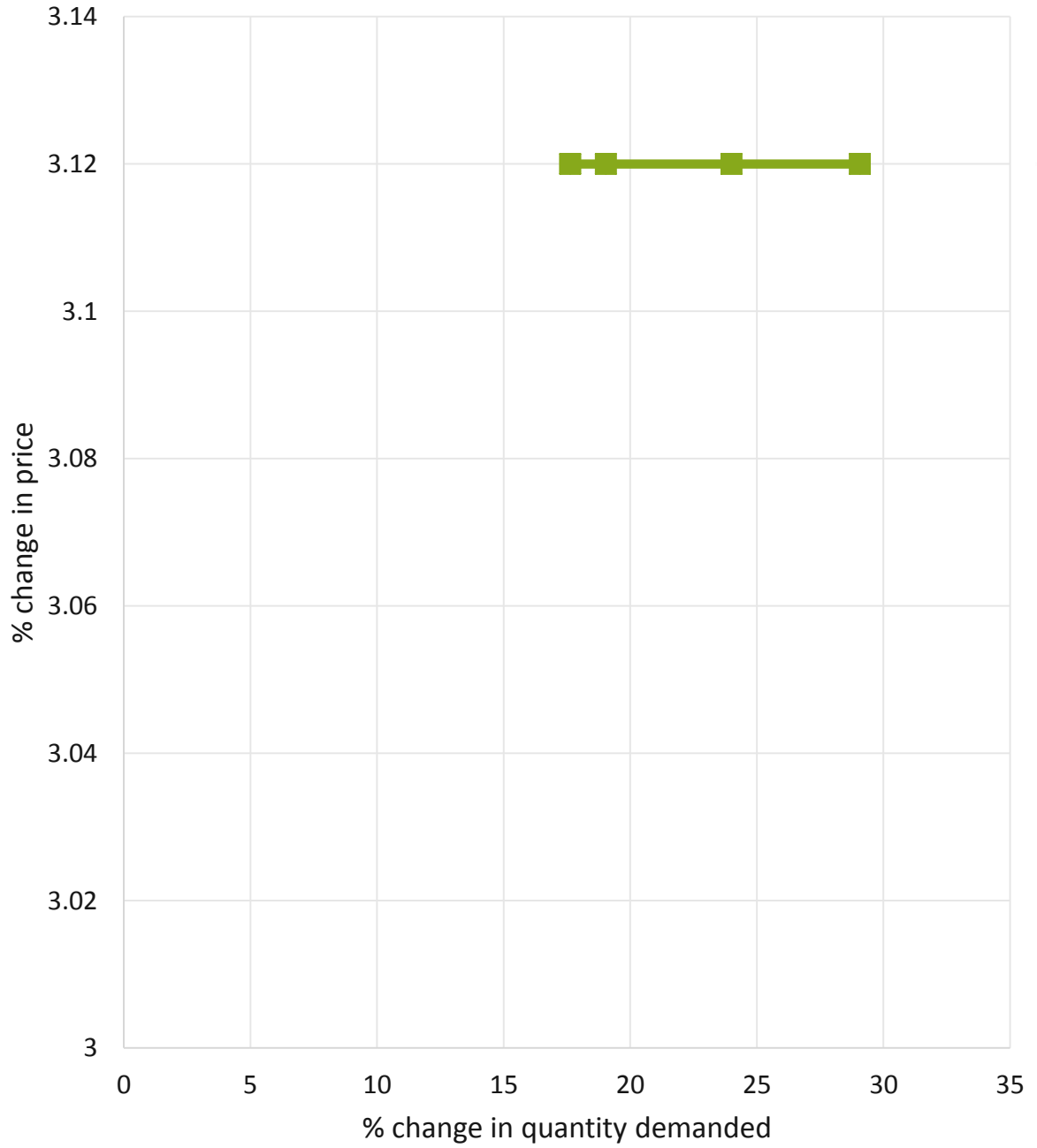
QUANTIFICATION OF DEMAND

- **Data for analysing %change Demand with %change in price**

Year	% change in Price	% change in demand
2011-12	-3.12	17.64
2012-13	-3.12	19.04
2013-14	-3.12	24
2014-15	-3.12	29.03

INFERENCE AND REASONS

- Here from the graph we infer that the price doesn't have much effect on the demand of the product.
- This is because as we know that gloves are necessity good and now a days due to the increasing awareness about health and hygiene, doctors and paramedical staff have to use the gloves.



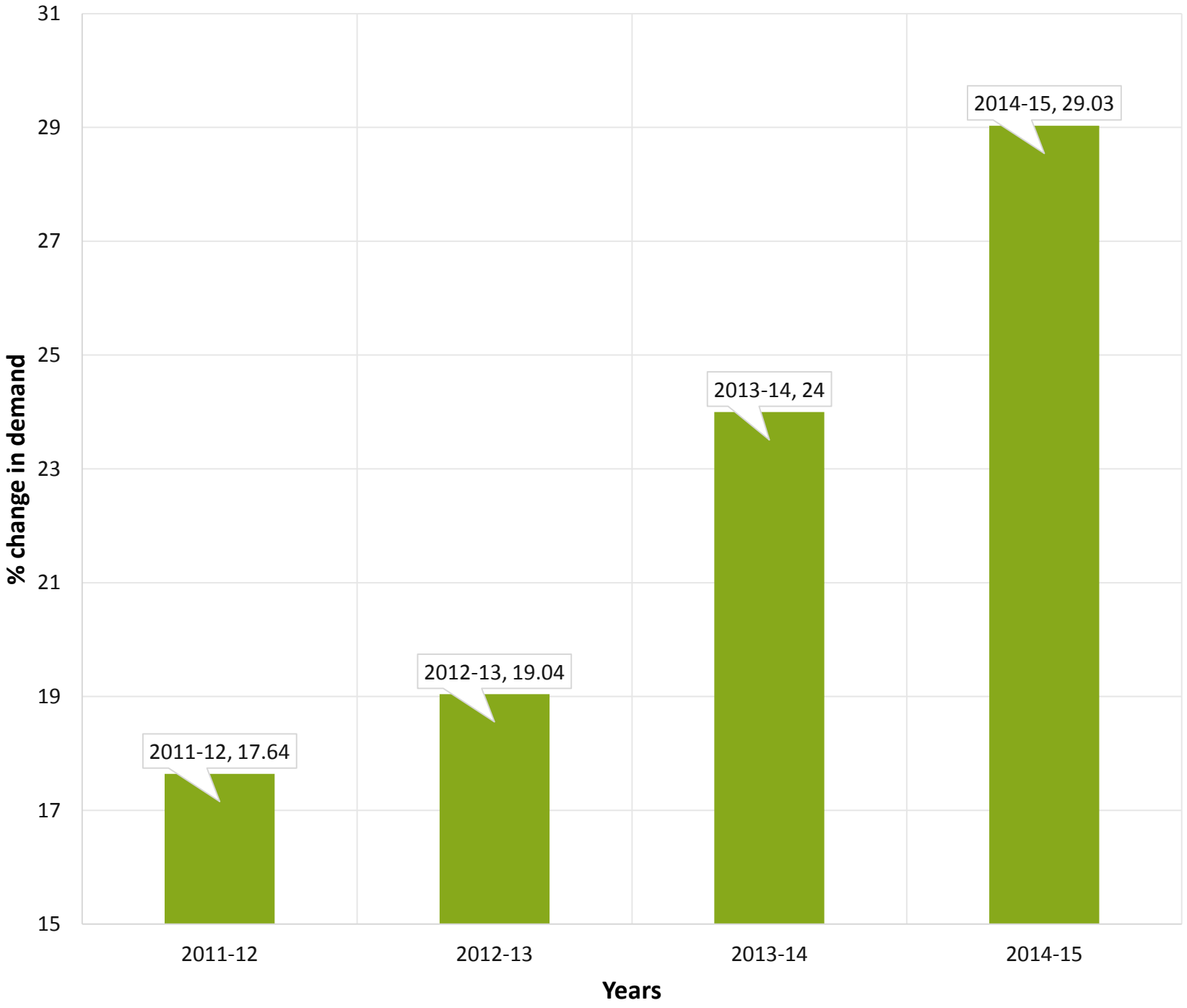
- From the above analysis of Quantification on the basis of price, we weren't able to infer much about the factors that affect demand.
- So, in order to analyse it more we carry on our analysis of quantification on the basis of change in number of hospitals and demand.

QUANTIFICATION OF DEMAND

- With the increase in number of hospitals, definitely the demand should increase. Let us see that whether it happens or not.
- To understand at what rate the demand increase with the increase in number of hospitals we need to plot graph of percentage change in hospitals vs. percentage change in demand.
- So on the basis of below data of number of hospitals and demand every year we carry on our further analysis.

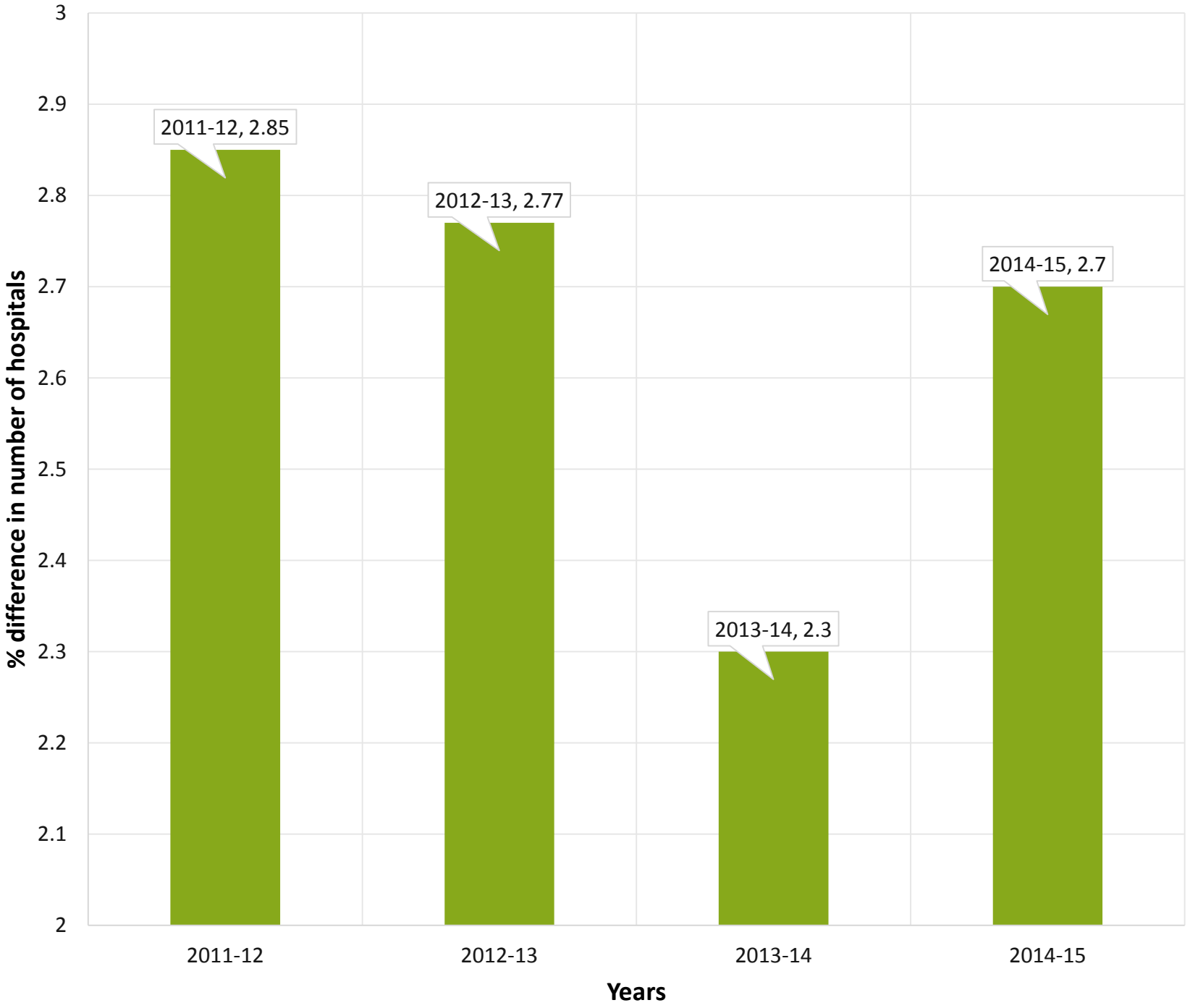
Year	% difference in number of hospitals	% change in demand
2011-12	2.85	17.64
2012-13	2.77	19.04
2013-14	2.30	24
2014-15	2.70	29.03

QUANTIFICATION OF DEMANDED



- **Data for analysing % change in Demand with change in no. of hospitals**

Year	% change in demand
2011-12	17.64
2012-13	19.04
2013-14	24
2014-15	29.03



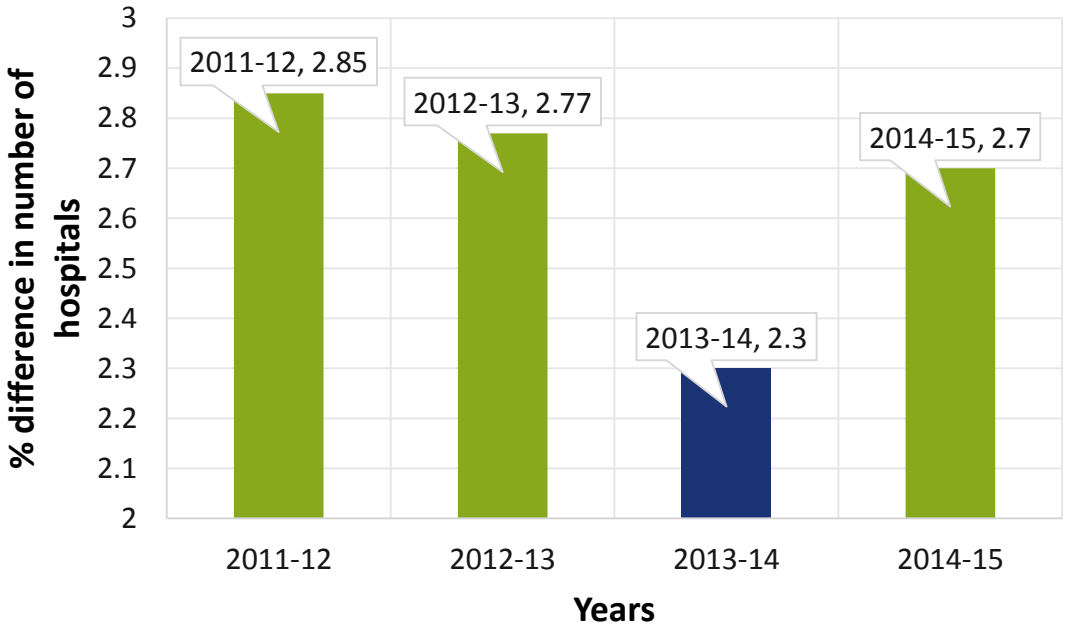
QUANTIFICATION OF DEMANDED

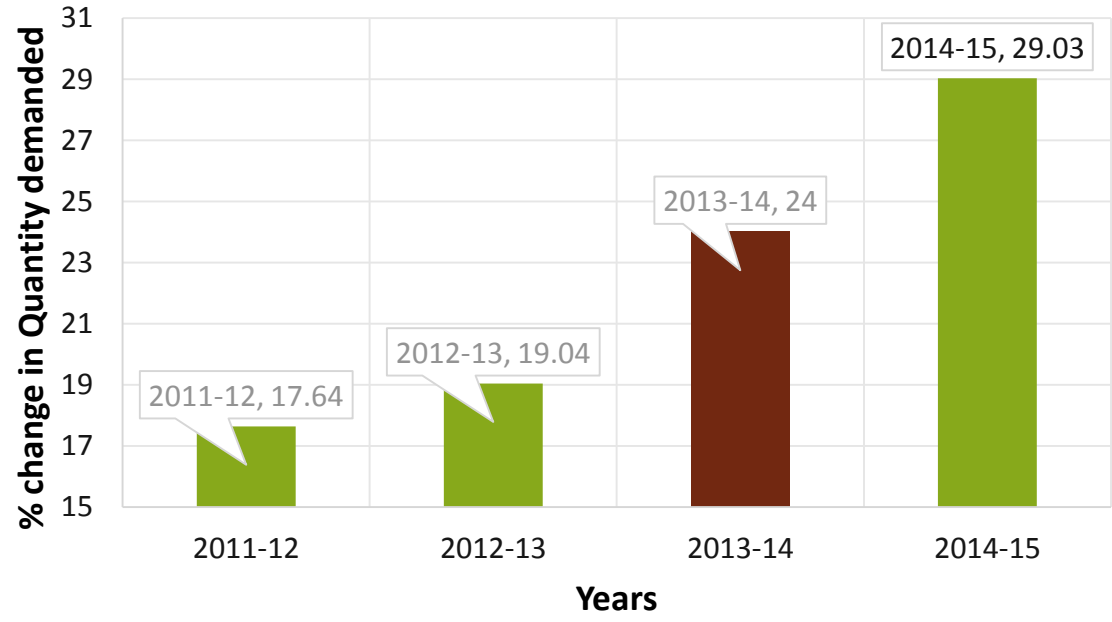
- Data for analysing % change in Demand with change in no. of hospitals

Year	% difference in number of hospitals
2011-12	2.85
2012-13	2.77
2013-14	2.30
2014-15	2.70

INFERENCE

- In figure 2 on the right which is of % change in number of hospitals, we see that there is drastic decrease in the year 2013-14 (shaded with dark blue).
- But in the same year the % change in demand (shaded with dark brown) increases.
- Though there is decrease in % change in number of hospitals but % change in demand increases.





REASONS

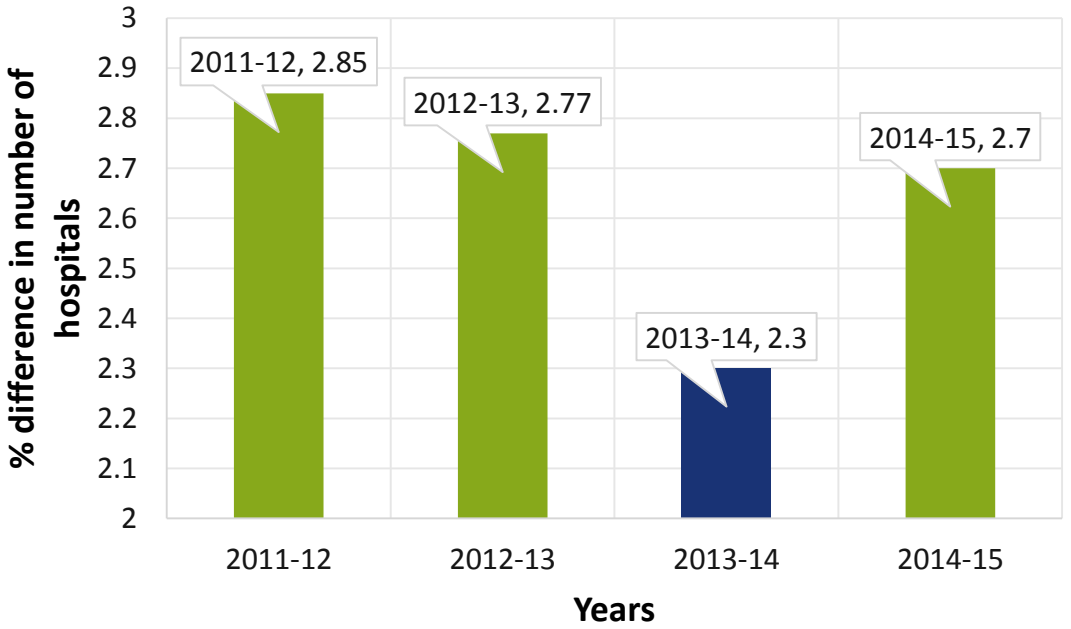
- The reasons are as follows:

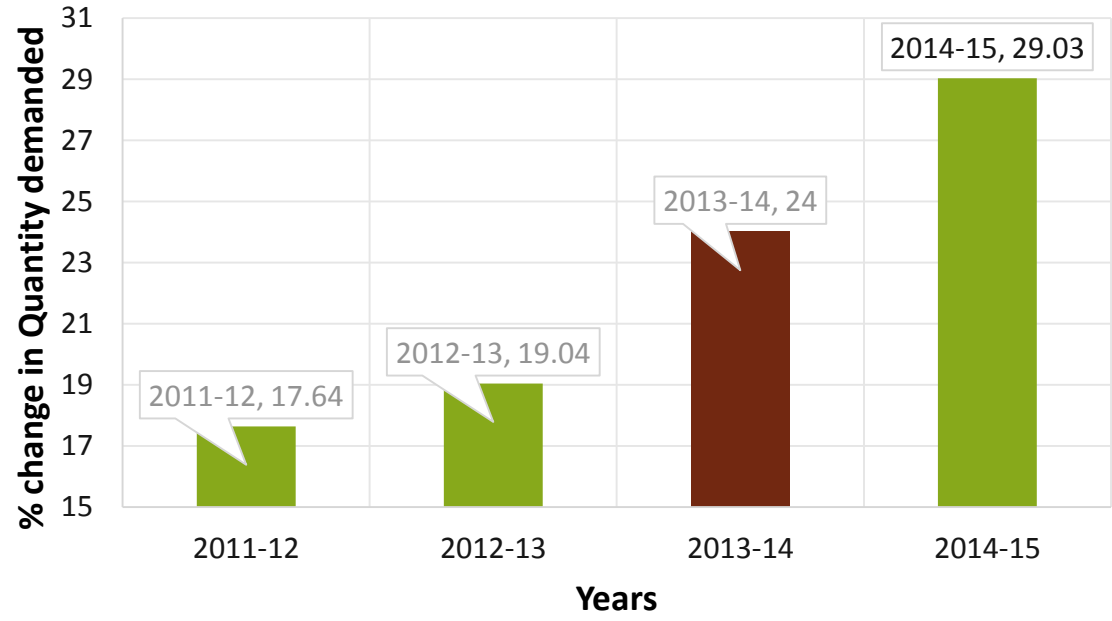
I. In 2013, disease named swine flu prevailed. Due to which people affected by disease increased. Doctors and paramedical staff also used gloves frequently to avoid infections. So, the demand increased.

II. Also, due to swine flu, the demand of masks increased and due to which the company focused more on masks than on gloves.

III. The number % change in hospitals decreased because as the demand increased, the company was not able to cop up with the demand and thus the gloves sold to number of hospitals became less.

- Thus, we can say that sudden disease spread in the city affects demand.





GUJARAT TOPS IN INDIA WITH 149 SWINE FLU DEATHS IN 2013

SMITHA R | Tue, 26 Mar 2013-09:03am , dna

There is a reason why swine flu statistics are being treated as state secret. Gujarat has recorded the highest number of swine flu deaths in the country in 2013 and has the second highest number of cases as well.

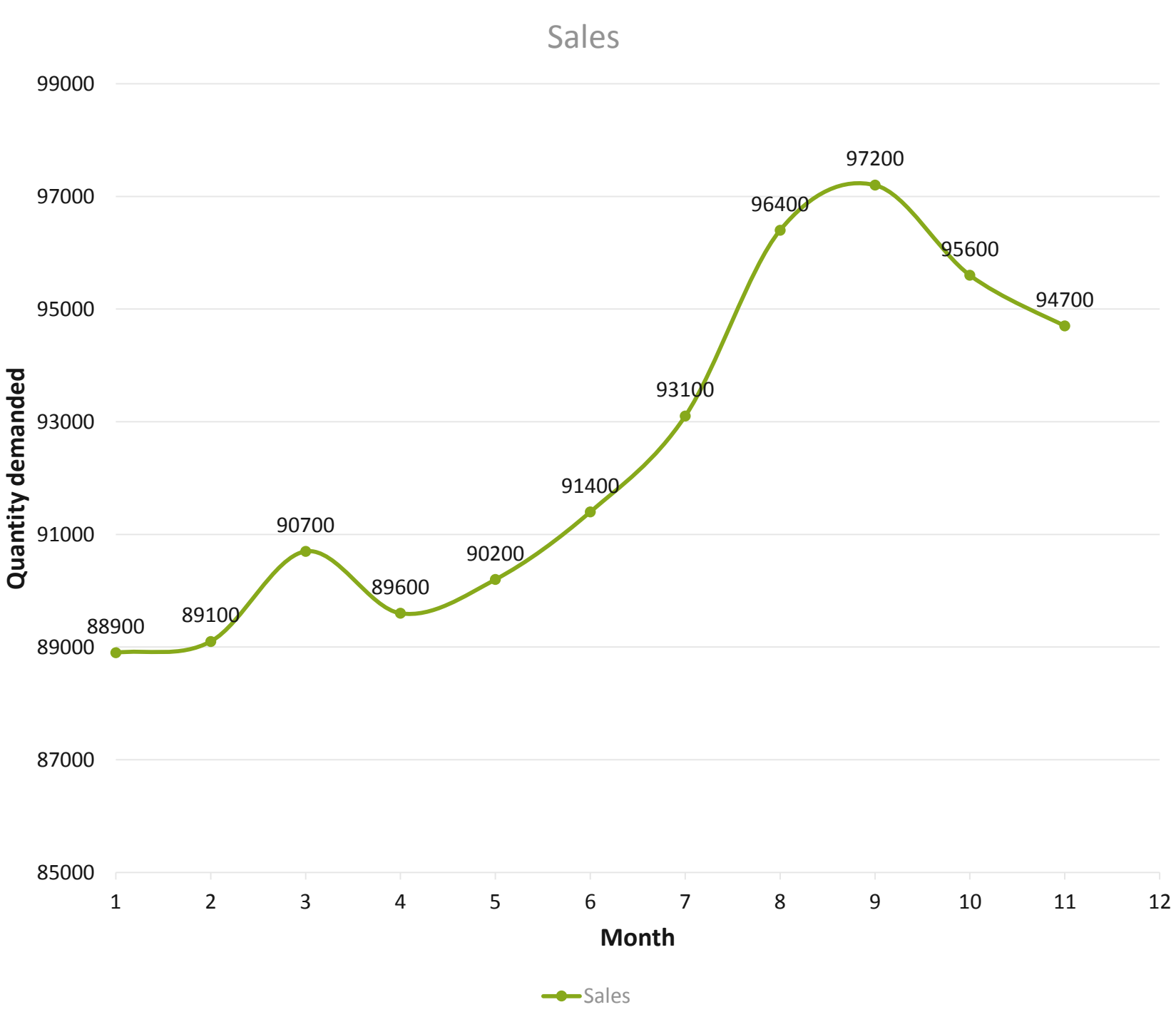
- Now, we analyse the demand of gloves per month.
- We do this because from this we will come to know about more of the reasons which affect our demand of the product.

QUANTIFICATION OF MONTHLY DEMAND

- Now, We do the Quantification of demand month wise.
- The given data on the right is the data of demand per month.
- To effectively notice the changes in the demand per month we shall plot graph of the Quantity demanded per month.

❑ **Data of Quantity demanded per month**

Month	Quantity demanded
January	88900
February	89100
March	90700
April	89600
May	90200
June	91400
July	93100
August	96400
September	97200
October	95600
November	94700
December	93100



QUANTIFICATION OF DEMANDED

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June	91400
July	93100
August	96400
September	97200
October	95600
November	94700
December	93100

INFERENCE AND REASONS

- The most of the demand prevails in the shaded region which are August, September, October.
- The reason for this is the factor season.
- During this time the monsoon season prevailed and due to which the number of people falling ill are more than any other season, which gives rise to usage of more gloves by doctors and paramedical staff.
- This ultimately gives rise to demand of gloves.
- Thus, we can say that season affects demand.

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THANK YOU