China ICU Ventilator Market

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ICU Ventilators

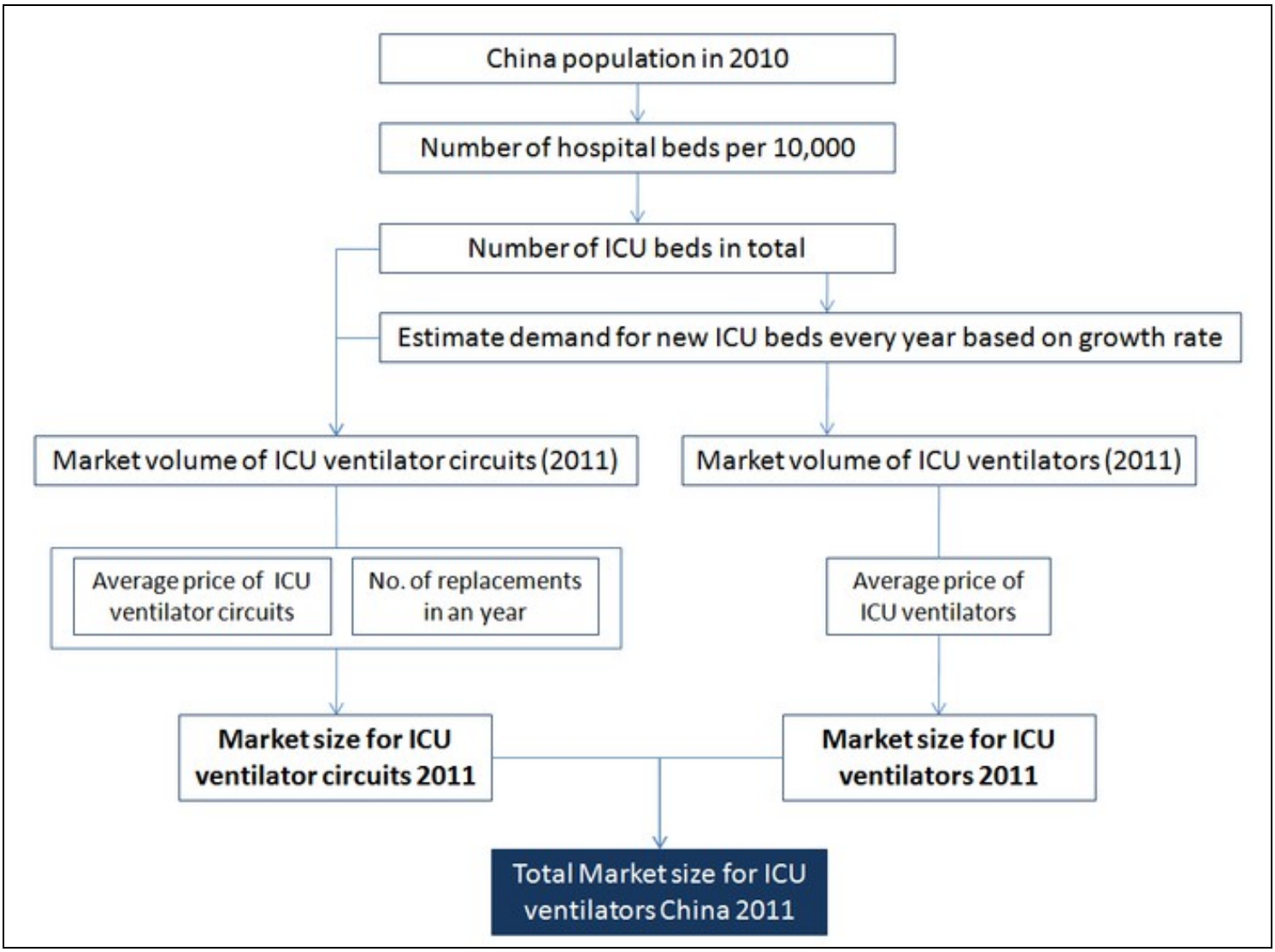
Intensive-care Unit (ICU) ventilators offer a wide range of breathing patterns, pressure controls, alarms and sensors. They use compressed oxygen and other gases stored in cylinders, ambient air or a mixture of both. Breathing circuits for these ventilators are double-limbed and can be quite complex. These ventilators are made for bedside use in the intensive-care units of hospitals. The key data provided by the device include:

- Airway pressure (analog bar graph & numerical)
- Total breath rate
- Inspiratory to expiratory time ratio
- Exhaled tidal volume
- Exhaled minute volume
- Peak flow
- Inspiratory time

Market Assessment Model

The market data for ICU ventilators in China is not readily available in public domain. There are paid reports published by various market research firms in which the data is either modeled using indicators or collected through primary research methods.

To arrive at the market size of ICU Ventilators in China for 2011, we have used the following methodology. We have considered only adult ICU Ventilators in this study.



Assumptions: Each ICU bed will be equipped with one ventilator.

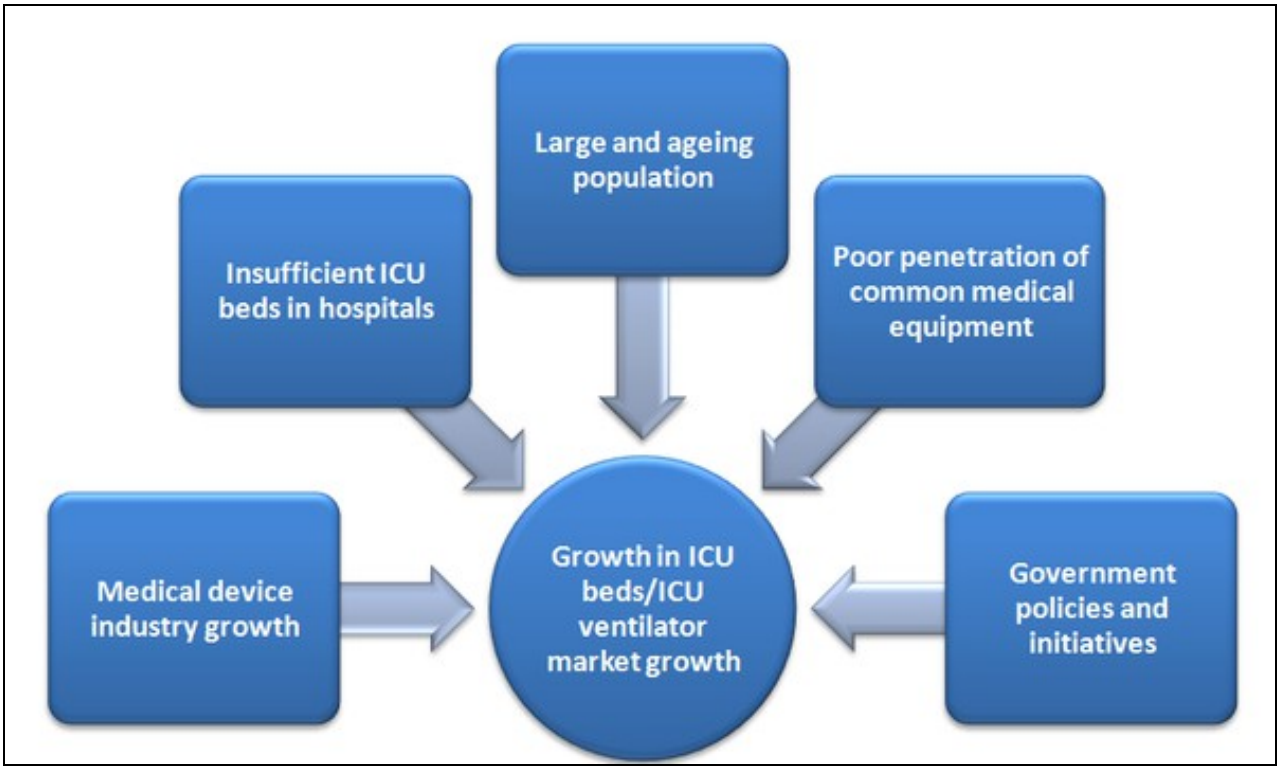
Number of ICU Beds

According to 2010 census, the total population of China is estimated as 1,339,724,852. The number of hospital beds in China as per WHOSIS is 22 per 10,000 population. A research paper on critical care medicine in mainland China which analyzed many papers including the one from China Critical Care Clinical Trial Group (CCCCTG) estimated the % of ICU beds as total number of hospital beds as 1.8%.

China Population, 2010	1,339,724,852
Hospital Beds per 10,000 in China	22
Number of hospital beds	2,947,395
ICU beds as % of total hospital beds	1.8%
Number of ICU beds in China, 2010	**53,053**

Estimate of yearly growth in ICU Beds

China has taken proactive measures to control the population growth and hence it would not be a relevant indicator for growth in ICU beds. There are several factors to be considered in estimating the growth rate of ICU beds in China.



- **Large and ageing population:** By 2025, the number of people in China aged above 65 years is estimated to reach 198 million. *Source: US Census Bureau, International Database, July 2003*
- **Medical device industry growth:** China medical device market has grown at a CAGR of 13.6% during 2003-2008 from $9 billion to $17 billion. *Source: Datamonitor Report* ; The market for Chinese medical devices in 2011 is estimated to be $23.2 billion and has grown at a CAGR of 11.1% during 2006-2011 period. *Source: Espicom Business Intelligence*
- **Insufficient ICU beds in hospitals** & **Poor penetration of medical equipment:** The % of ICU beds in the total hospital beds in China is only 1.8% as compared to 9% in US. It is hard to find an ICU unit in primary level hospitals in China. Only 23.2% of the secondary level hospitals have ICU units. In tertiary level, ICU units are present in 52.5% centers. *Source:* Critical Care News

Country	No. of hospital beds per 10,000	No. of ICU beds as % of total hospital beds
China	22	1.8%
USA	31	9.0%
France	73	2.5%
UK	39	1.2%
Canada	34	3.4%
Germany	83	4.1%
Netherlands	84	2.8%

Source: WHOSIS,PubMed Paper

- **Government policies and initiatives:** China put forward plans in 2010 for US$124 billion to be invested in the healthcare reform programme over a three year period until 2012. Hospitals benefit from these reforms leading to faster equipment replacement and and also generating new demand for medical devices. *Source*: *7Economy*, *Globalsurance*

Based on the above factors the yearly growth rate in number of ICU beds is estimated to be 11.15%.

Pricing and Replacements

- The average price of an ICU ventilator in China is estimated as $ 12,500. In US, the price is between $15,000 - $ 25,000. *Source: Kalorama Information Report on World Market for Mechanical ventilators*
- The average price of a disposable ICU ventilator circuit in China is estimates as $ 2.5. The price of a disposable ventilator circuit in US is between $4-$5 and that of a reusable circuit is $40-$50. *Source: Kalorama Information Report on World Market for Mechanical ventilators*
- The number of replacements of disposable circuits in a single year (2011) is estimated to be 80

Market Size Calculation

- The market for ICU Ventilators in China for 2011 is estimated to be $76 Million
- The market for ICU Ventilator Circuits is about $ 12 Million
- Total ICU Ventilators Market is approximately $ 88 Million in China for 2011

Number of ICU beds in China, 2010	53,053
Yearly growth rate of ICU beds	11.5%
Number of new ICU beds for 2011	6101
Market volume for ICU Ventilators, 2011	6101
Price of ICU Ventilator	$12,500
Market size of ICU Ventilators, 2011	**$76,263,837**

Total number of ICU Ventilators, 2011	59,154
Price of ICU Ventilator Circuit	$2.5
Number of replacements in a year, 2011	80
Average cost of Circuits in a year, 2011	$200
Market size of ICU Ventilator Circuits, 2011	**$11,830,842**

Total market for ICU Ventilators China, 2011	**$88,094,679**

Media:Data Sheet.xls

Methodology Validation

The Indian ICU Ventilator market (adult) for the year 2009 was valued at $ 39 Million with volume sales of 1,605 units. Source: Expert Inteviews of Leading Players by Medicalbuyer

The figures using our methodology are coming to $ 40 Million with volume sales of 1,674 for the year 2009. This proves the accuracy of our methodology.

Population India, 2008	1,147,995,904
Hospital Beds per 10,000	9
Number of hospital beds	1,033,196
ICU beds as % of total hospital beds	1.35%
Number of ICU beds, 2008	13,948
Yearly growth rate of ICU beds	12.0%
Number of new ICU beds for 2009	1674
Market volume for ICU Ventilators, 2009	**1674**
Price of ICU Ventilator	$24,230
Market size of ICU Ventilators, 2009	**$40,555,642**