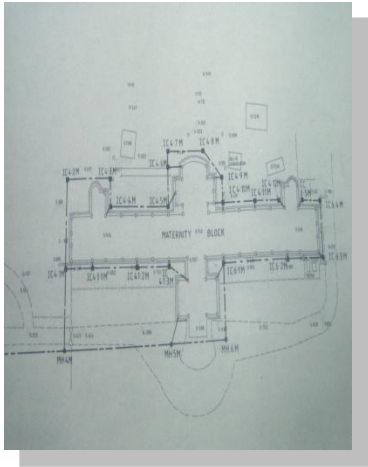




OUTLINE



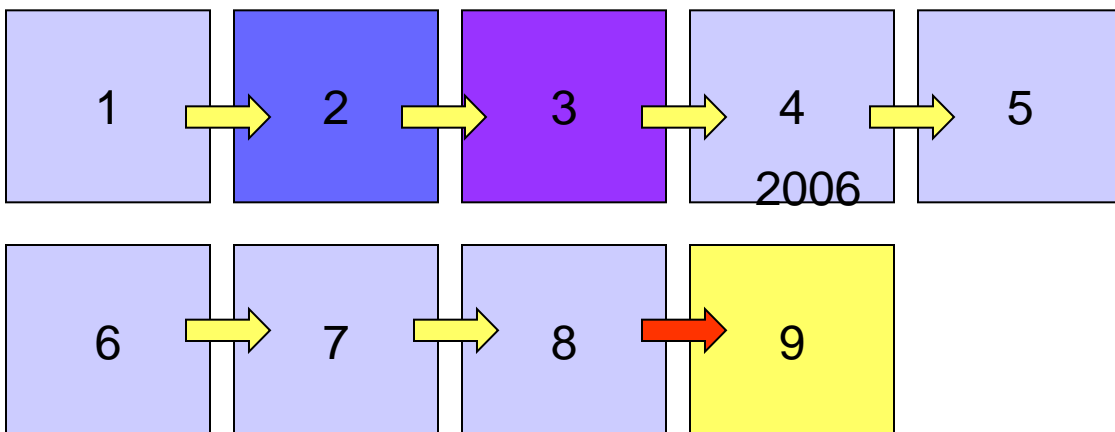
- **Introduction**
- **Methodology of Approach & Its Significance**
- **Scope and Limitation**
- **Background & Issue**
- **Understanding Maternity and its relationship to Healthcare Facility**
- **Case studies & Findings**
- **Summary and recommendations**



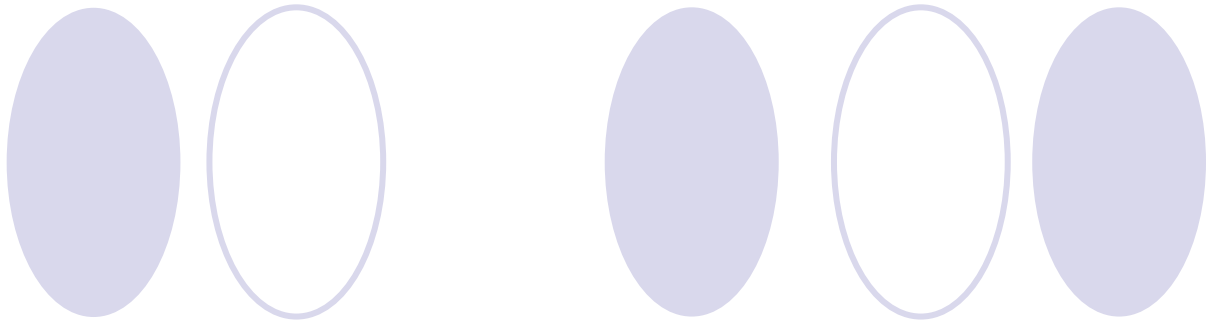
Introduction

- The planning and design of public healthcare facilities in Malaysia depend very much on the objectives and priorities as laid down in the perpetual **5 year Malaysian Plan** planning strategies since independence.

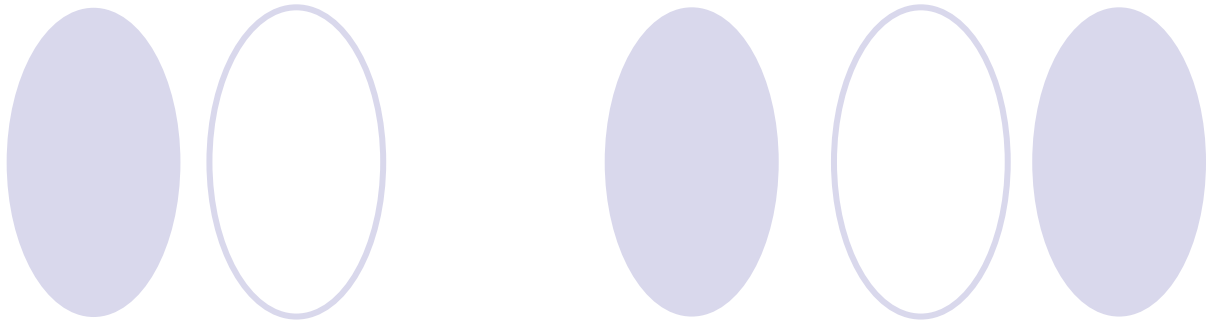
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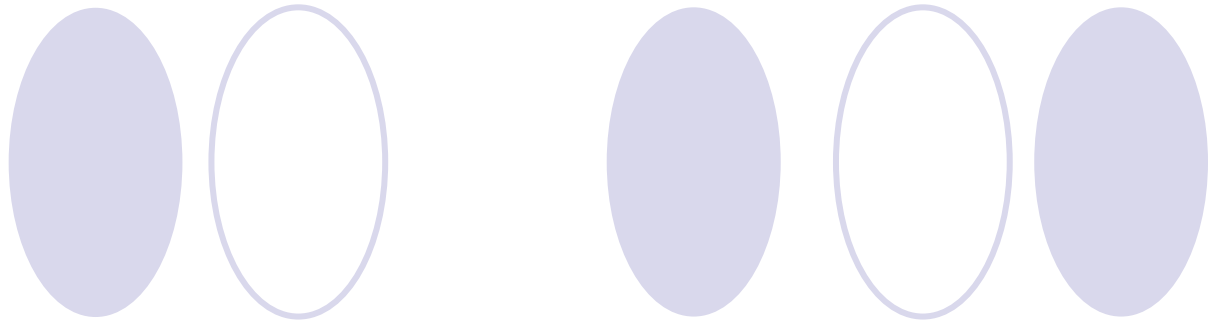
Towards the provision of
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- Malaysia, as a member country of the World Health Organisation (WHO), gauged its progress on international indicators where Malaysia falls within the thriving economies of developing world.
 - Malaysia – Western Pacific Region

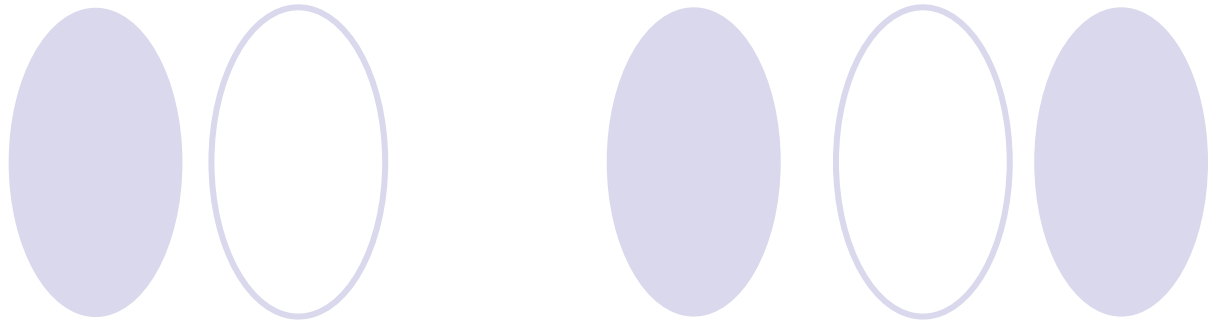


- Among the health indicators that indicates the well being of a nation are the
 - Annual Population Growth Rate,
 - Perinatal Mortality Rate,
 - Maternal Mortality Ratio (MMR) and
 - Infant Mortality Rate (IMR),



WHO-Maternal & New Born Health (2001)

- Malaysian maternal population attending maternal health services
 - Antenatal Care 90% (480 /1000s)
 - Deliveries in Healthcare 90% (480 /1000s)
 - Skilled Attendant at delivery 98% (520 /1000s)



- Maternal & Child Health (MCH) or Family Health Development has been the consistent agenda throughout the Malaysian Plans - *services and physical infrastructure*
- WHO launches the World Health Report 2005 - 7th April 2005, covering extensively on maternal and child health care. [whr2005_en.pdf](#)

Methodology of Approach & Its Significance

Through Qualitative Method :

- Literature Review on Maternity Care from WHO, MoH, and NHS , as well as available specific and generic project briefs, as-built / tendered drawings for the secondary data
- Observation survey and interviews using questionnaire checklist for primary data

- Analysis were done base on spaces provided in the facility to the level of care assigned and noting any significant differences that planners and designers could provide the flexibility..in order to provide better care environment for the users.
- The study is aimed towards providing better approach in the procurement method (especially in the planning and design) of healthcare facility projects with emphasis to maternity care-for the mothers of the next generation

Scope and Limitation

- Focus on public healthcare facilities only
- The study do not cover in depth the spectrum of maternity care in all levels of care i.e. from primary to secondary to tertiary, but merely mentioning them in perspective of care
- The study focuses on the Labour & Delivery Unit (LDU) within the secondary care cum tertiary care (i.e. in hospital set up) and its significance between those with specialist and those without specialist in its spaces provision and functions.

Background & Issue

- WHO world reports 2005:

“ Malaysia also has a long-standing tradition of professional midwifery – since 1923. Maternal mortality was reduced from more than 500 per 100 000 births in the early 1950s to around 250 in 1960. The country then gradually improved survival of mothers and newborns further by introducing a maternal and child health programme. A district health care system was introduced and midwifery care was stepped up through a network of "low-risk delivery centres", backed up by high-quality referral care, all with close and intensive quality assurance and on the initiative of the public sector authorities. This brought maternal mortality to below 100 per 100 000 by around 1975, and then to below 50 per 100 000 by the 1980s’.



The issue

- Despite the favourable WHO report (2005) MoH 2002 report states that among the 10 causes of hospitalisation in Malaysia,
 - normal delivery accounts to 17.70%
 - and Complication of Pregnancy with 11.49% of the total discharges.

Although emphasis were made to educate the population to utilise the decentralised community birthing facilities (ABC) even to the rural areas, due to several reasons including fear of complications, **mothers in most states prefer to attend hospital delivery.**

The issue...in hospitals

- But....although no studies were done locally in Malaysia on women(patients) in their current traditional hospital environment..similar studies were done in US, UK and Europe which discloses the followings:
 - ...hospitals are physically planned and designed to meet technical and functional needs of medicine; hospital staff are concerns with efficient performance,management, staff turnover; and planners (& designers) were concern with precedents and standards of provision...with patients were not given due focus...in a patient-focused facility...

Peter Cher (1996)

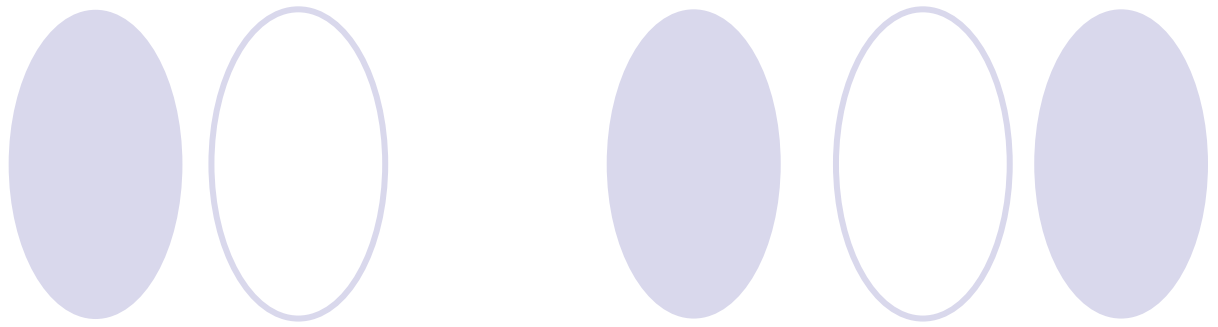


The issue in ...LDUs

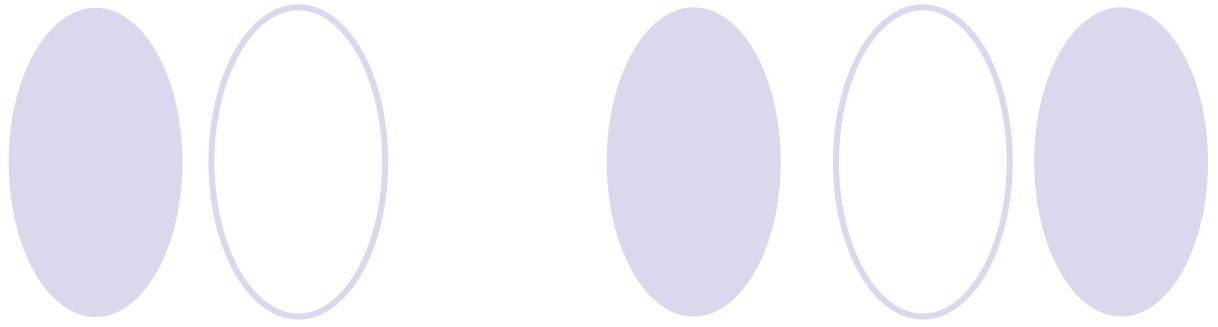
- AJ 18.12.2003
 - Among the qualities of traditional LDUs affecting mothers were
 - ..lack of nearby toilets
 - ..fear of being overheard
 - ..no privacy
 - ..restricted movement
 - ..uncomfortable beds
- Basically...not “women-friendly”

The issue..in hospitals labour rooms

- “...The labour rooms in most Malaysian hospitals and maternity units are air-conditioned. Such a cool environment is comfortable for the staff and mothers-in-labour. However, this is one of the common factors that resulted to hypothermia cases in Malaysian newborns. ...



- With better understanding of the importance of good teamwork in perinatal care, the perinatal community in Malaysia should work closer together during the planning of new perinatal units.
- In common working areas such as the labour rooms, input should be obtained from all personnel involved to enable the building of better working environment and facilities for the care of the mother-in- labour, the newborn infants and the accompanying fathers.



- The people are the most important asset of our nation. The provision of optimal perinatal and neonatal care will help ensure that the majority of the future Malaysian citizens are healthy and intelligent right from the early period of life ..”

N Y Boo, FRCP. (2002).
*THE CURRENT PRACTICE OF
NEONATOLOGY IN MALAYSIA*. MMA

Understanding Maternity and its relationship to Healthcare Facilities

WHO on Role of Maternity Care

“Promoting healthy behaviours and increasing knowledge about pregnancy and pregnancy-related complications among women, families and communities are essential to the health and well-being of pregnant women.

- The immediate causes of pregnancy-related complications, ill health and death are inadequate care of the mother during pregnancy and delivery.....

Role of Maternity Care

- The health of pregnant women can be improved through effective antenatal care, which also increases a mother's chances of giving birth to a healthy baby.
- While any woman can develop complications during pregnancy and delivery, many such complications can be prevented or treated before they become life-threatening emergencies, and all can be managed by appropriately trained and equipped health care providers. Interventions that are beneficial to mothers help babies too.

Health care facilities

- Health care facilities often constitute the most visible part of a health care delivery unit and are often designated by the same names such as health posts, health centres, or hospitals. (WHO (1985))



Kuantan hospital



Dispensary,
Fraser's Hill



Rural health clinic



health care facility

- The term, health care facility, means a building, or group of buildings, with the basic installations and equipment...is a combination of resources (including personnel) designed to fulfil certain functions relating to people's health. The emphasis is on health care delivery. (WHO (1985))



health care facility

- The Ministry of Health Malaysia in their Health Facility Planning and Development report (1986)(14), page 11, states that Medical, health and dental services are delivered by a network of facilities of increasing complexities and sizes. Basic health care is being provided through midwife clinics or rural/community clinics (*klinik desa*), rural dispensaries, health centres and urban polyclinics. Patients requiring more complex investigations or treatment are referred to a district or general hospital.



maternity

- Merriam-Webster's Online Thesaurus of Encyclopaedia Britannica (2005) quote that “Maternity” (as a noun), is a hospital facility designed for care of women before and after childbirth and for the care of newborn babies.



Maternity services

- In the MoH Malaysia health care, maternity services are part of the well-women healthcare services where 'patients' are monitored and assisted as a preventive, promotive and if need be, curative and rehabilitative measures.
- Maternity facilities covers the physical facilities according to the level of care i.e. from the
 - Primary Care
 - Secondary care
 - Tertiary Care

Routine Antenatal visits
Primary Care Level (Promotive and Preventive)

Rural Health Clinic (*Klinik Desa*); Health Clinic /Community Clinic (*Klinik Kesihatan / Komuniti*);

Routine Antenatal visits

Secondary Care Level (Curative and Rehabilitative)

Birthing Centres/ Alternative Birthing Centres-as alternative to home delivery; Low Risk Birthing Centre of a Hospital Cottage Hospital (*Hospital Desa*)(-<50 beds); District Hospital with (>250 beds)

Perinatal, Labour and Post Partum / Post Natal care

and without specialist (<110 beds) ,

Perinatal, Labour and Post Partum / Post Natal care

Secondary/Tertiary Level

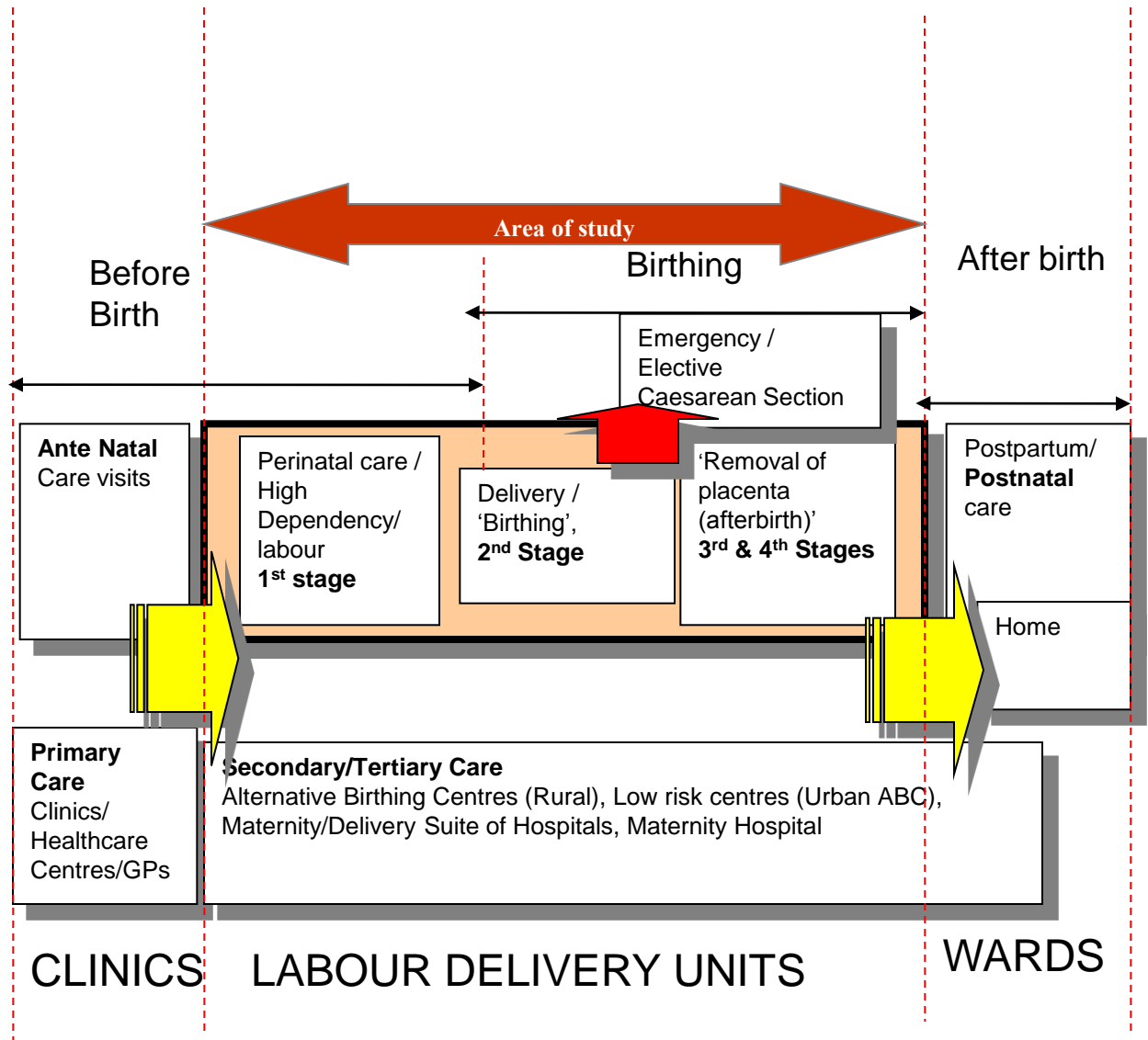
General, State and Regional Hospitals (500-1000 beds)

Teaching Hospital, Women and Child Hospitals, Maternity Hospitals

Understanding the Maternity Healthcare Process for Pregnant Women

- When a woman is in a state of maternity or pregnancy, she is required to undergo the health check process before and after childbirth.
- The facility designed should therefore be able to accommodate these processes at the different stages of pregnancy and appropriate health care provision.

Understanding the Maternity Healthcare Process for Pregnant Women



MoH Policies on LDUs in hospital

excerpts (O&G1990)

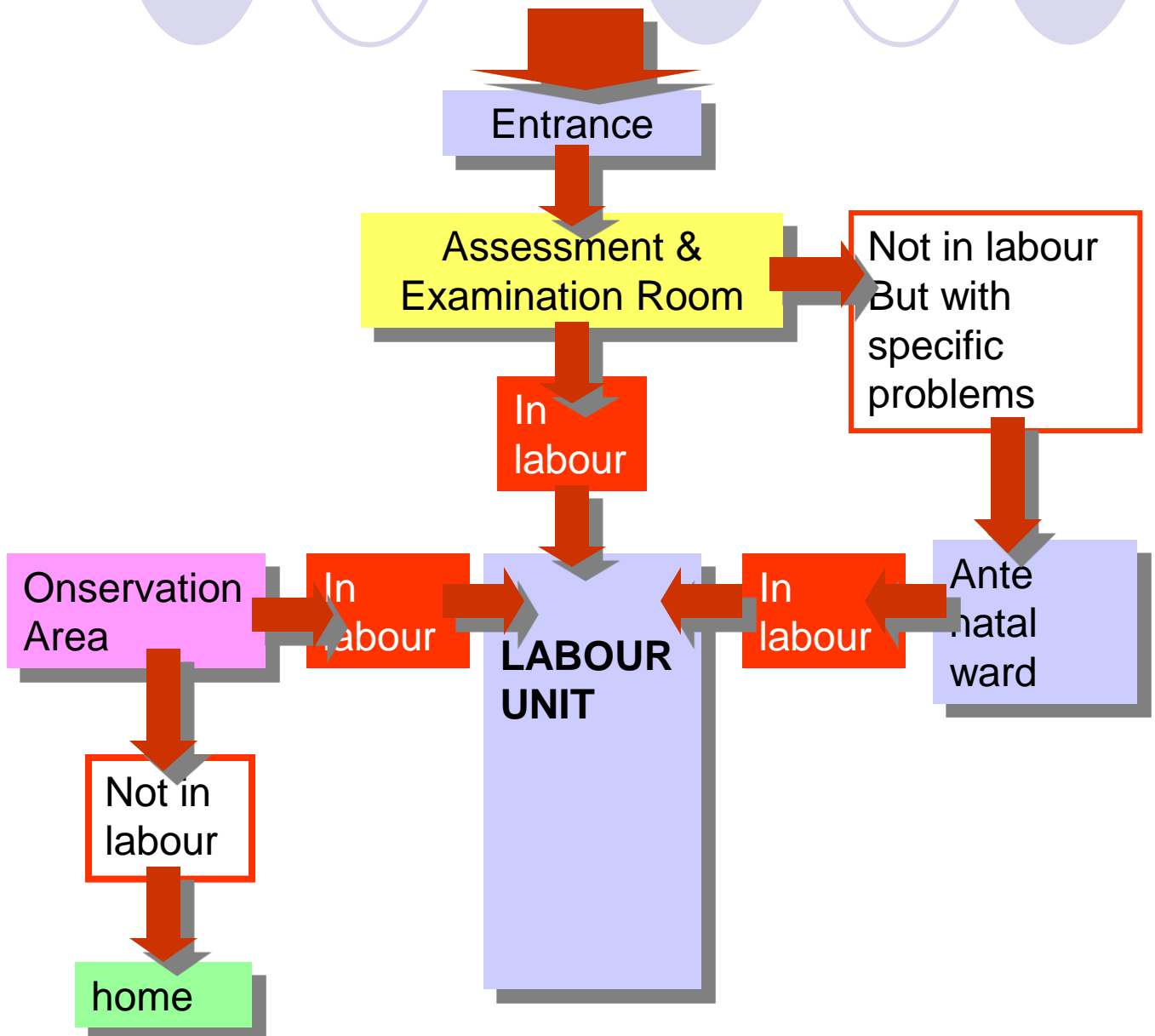
- Naming of LDU as Labour Units
- Staffing and Equipment to be considered as Unit
- Centralised Labour Unit for 1st, 2nd and 3rd Class patients..i.e classless
- Individual rooms to suit different cases eg.pre- eclampsia.
- To be located on the same floor as General OTs,ICUs and SCNs
- Preferably on the 1st Floor
- No separate 1st Stage.
- All patient in Labour to be admitted directly to Labour Unit and stay till delivery.
- Husbands encouraged to accompany



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Patient flow in Labour Unit



Spaces proposed in Labour Units (O&G 1990)

- Examination
- Observation area
- Waiting area
- Labour unit
 - Individual rooms for privacy minimum 10' x 13'
 - 2 rooms to share toilets
 - 1 room for every 600 deliveries
 - Max deliveries per hospital 10,000 per year
 - 1 room to be reserved for special care of ill patients that requires close monitoring and ventilators
 - A VIP room with own toilet, entrance and waiting room
 - Require at least 40% circulation area
- Labour unit operation theatre
- Tssu-not necessary

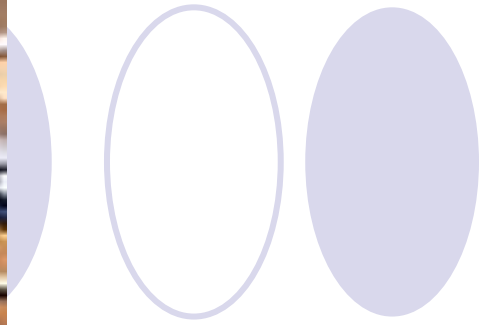
Case studies & Findings

- Case studies were LDUs and ABCs in the public sector.
- As actual visits were scarce, briefs and as built drawings of the facilities chosen were among the cases studies use to confirm the spaces actually built to house the function.
- The choice is based on the level of care and availability of information within the period of study.



International scene

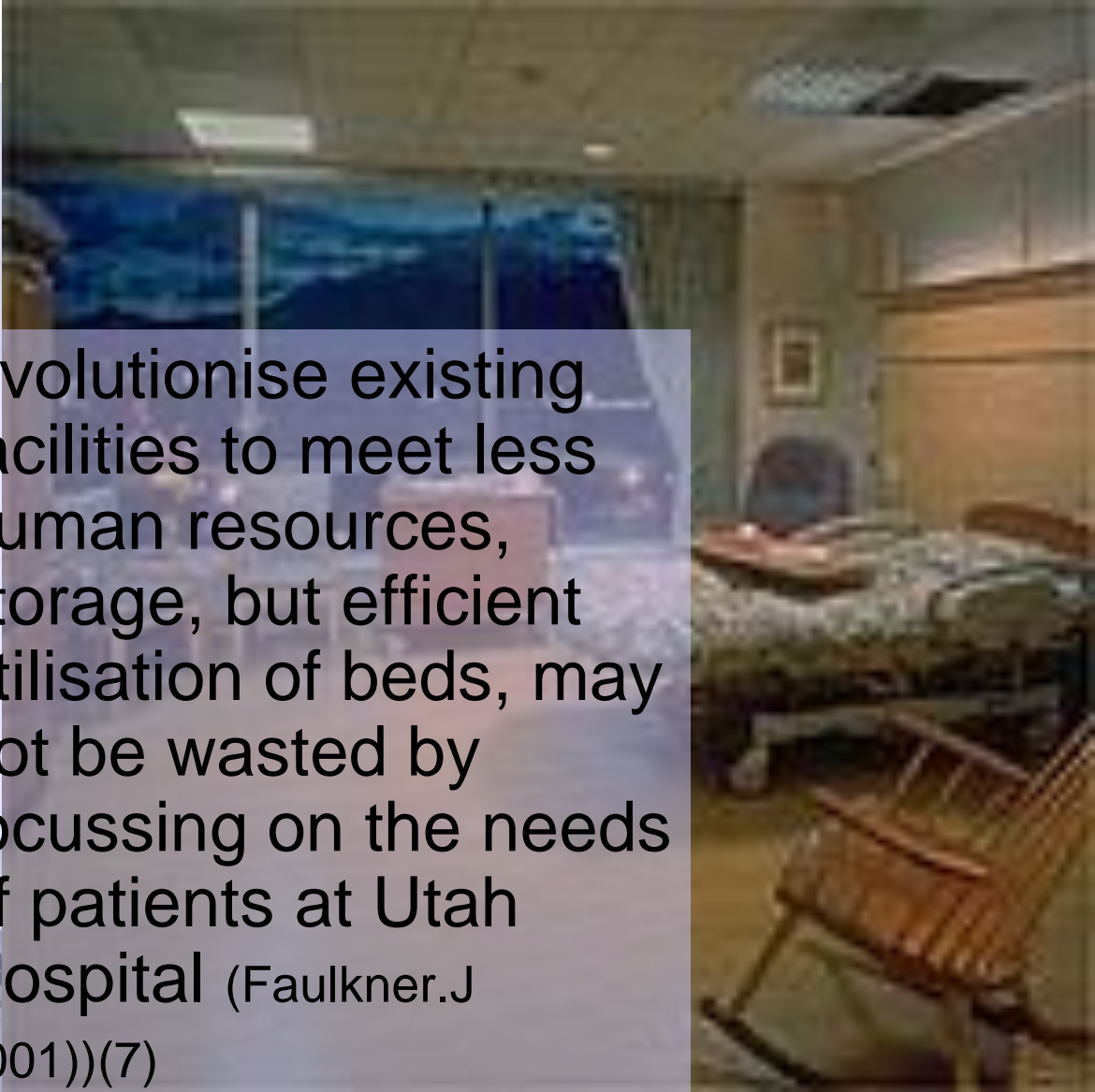
- the provision of **Maternity facilities as a Unit in a Hospital or a stand alone Birthing Centres** depends very much on the needs and expectation of one's country and culture.
- The article *Birth by Design* (2001) studies the evolution of maternity care and midwifery services of North American and Europe, sums up the most important message of the book i.e. many would like to see maternity care become more woman- (and family-) “friendly” must consider all the social, historical, and cultural contingencies that design care at birth.



- Refurbishment of existing facilities to meet the new demands such as comforting home environment with hidden hi-tech in child birth unit were also seen in the international projects such as the Maternity Centre of Ohio State University



- Evolutionise existing facilities to meet less human resources, storage, but efficient utilisation of beds, may not be wasted by focussing on the needs of patients at Utah Hospital (Faulkner.J 2001))(7)

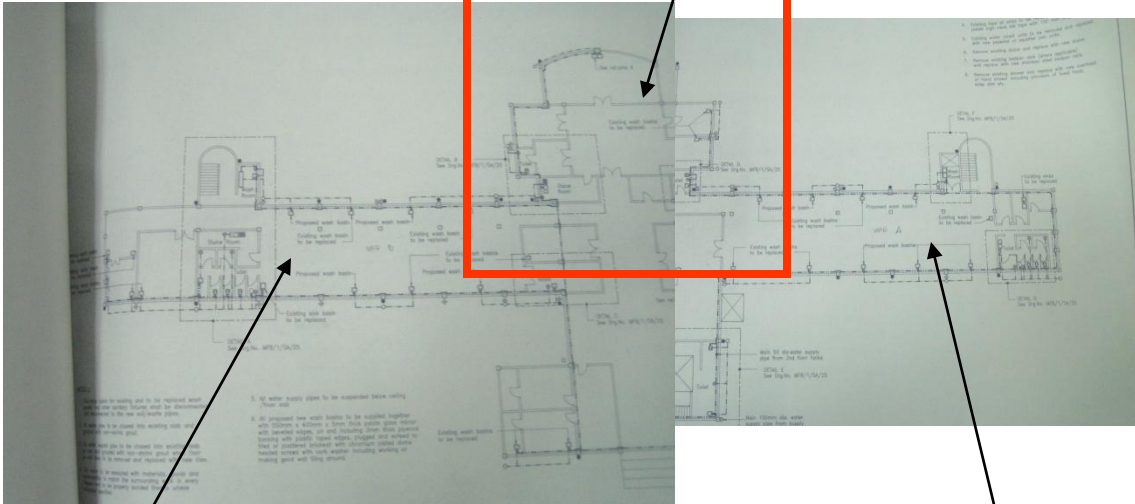


Local scenes



then

The refurbished LDU,
grd floor



Postnatal ward

Antenatal and
caesarian case
ward

● Maternity Unit, Penang Hospital

Now



● LDU, Maternity Unit, Penang Hospital

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Low Risk (Birthing) Centre(refurbished OPD)



Reception, registration



Baby wash, resus, assess



Ante natal ward



LDR

Maternity Unit, Hospital Tengku Ampuan Afzan, Kuantan

High Risk LDU



Reception, registration



History taking turn to Staff Rest



Resus Area



Labour Ward
(5 beds)



Assessment/Enema

Maternity Unit, Hospital Tengku Ampuan Afzan, Kuantan

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Comparative Spaces By Level of Care

The physical differences in the facility of differing level of care lies in the number of Labour Delivery Room (LDR) provision and additional spaces such as for training (seminar).

Comparative Spaces of Maternity Unit By Levels of Care-Rev.doc

When a facility is smaller, a number of activities are done within the same space. Huge or extensive LDU will witness the repeat of the space provision for certain important activities such as resuscitation area and even staff base.

Comparative Spaces By Level of Care

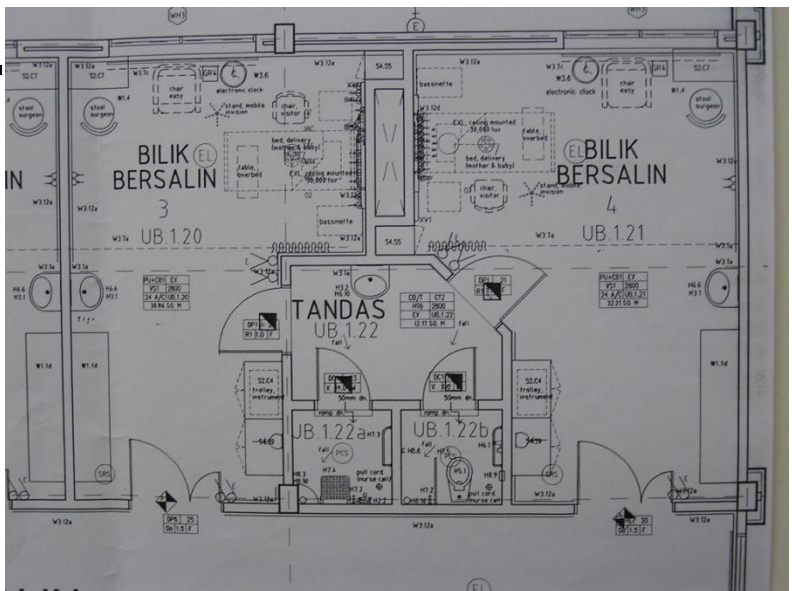
- With exception of smaller hospitals, most layouts are deep plan with LDRooms and other habitable rooms having no access to daylight or view.
- Configuration of spaces, especially the LDR, also differs in different hospitals. Some LDRs are elongated and some are square shape.

Comparative Spaces By Level of Care

- As the study did not record the sizes, only the loaded drawings with equipments provide some indication on the adequacy of the spaces.
- The study did not detect any cultural influence.
- Basically the layout is clinically based. However, the study denote Gua Musang Hospital to be more father friendly than most other designs in terms of the generosity of space.

Comparative Spaces By Level of Care

- On other projects, although due constraints only known to the designers, the concept of mother friendly, baby friendly and father friendly are yet to be assimilated in the spaces and the layout.



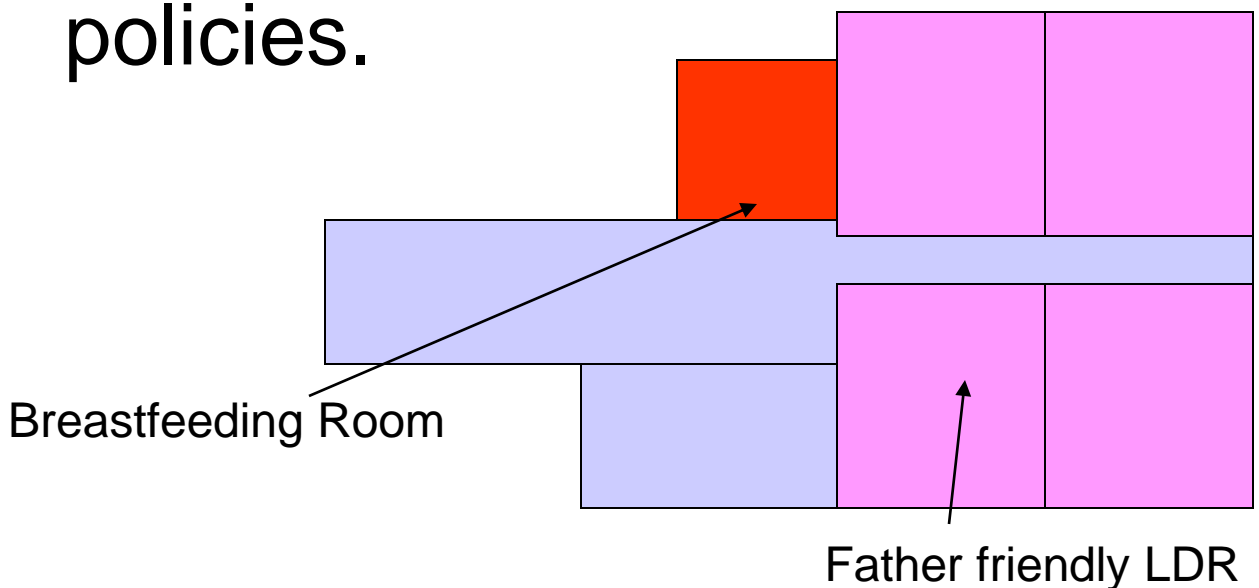
Proposed LDR of Hospital Gua Musang, Kelantan



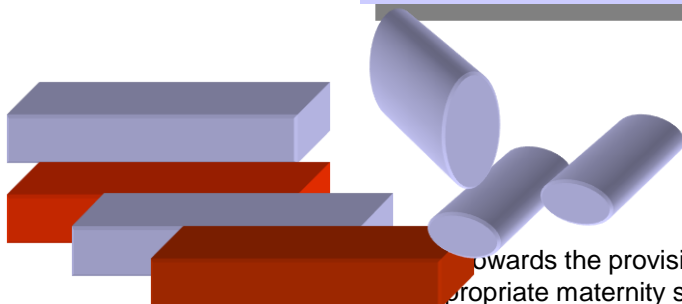
Summary and recommendations

- ‘Adequate spaces and appropriate spaces ’ for the provision of maternity spaces in any healthcare or any nation is quite relative. Studies found that it depends on the country practices, the micro culture and work culture of the users-patients and care-givers/staff. Standard optimum spaces (not size) based on activities remain although it may be adapted according to how the staff are used to or trained to.

- New policies need to be accommodated to existing physical structures.
- Natural changes were made to ease without much thought to the future requirements as long it suffice the 'circulars' such as father friendly or baby friendly policies.



- Primarily, planners and designers may base upon the generic spaces of requirement provided to start the process of design. The responsibility to check upon actual needs on site apart from added understanding of workflow becomes critical in the design process.
- For healthcare projects, space means more than a 3 dimensional site. It needs to meet many other requirements in order to support the well being of patients and the staff, as care givers, 24 hours a day.





- For maternity care, the patients are well patients and the moment of birth is a celebration for the family and perhaps sadness to some.
- Spaces required may overcome even the former clinical requirement of sterility to homelike environment and access to family.

- Whatever the future may bring, as planners and designers for a humane environment, the least one could do is to imagine and visualise the future and act on it immediately for a clear conscience.

