DoD Space Planning Criteria for Health Facilities
Nursery

4.3.1. PURPOSE AND SCOPE:

This section provides guidance for the space planning criteria for nursery activities in DoD medical facilities. These units provide the facilities and services associated with the care of newborn infants.

Levels of Newborn Care: The following are levels of newborn care, which denote the service provided in a hospital:

Level I: Nurseries that provide routine services for normal newborns without complications and provide minimal resuscitative services. Nurseries, which typically provide this level of service, are often referred to in literature as: holding nursery, full-term nursery or newborn nursery.

Level II: Nurseries that provide services for both the routine newborns and infants who require minimal physiological monitoring and/or supplemental oxygen. May also include premature infants who are feeding and growing. Nurseries, which typically provide this level of service, are often referred to in literature as: transition nursery, continuing care nursery, special care nursery or intermediate care nursery.

Level III: Nurseries that provide services for management of severely ill infants who require constant nursing and continuous cardiopulmonary monitoring. These infants are often on life support (i.e. ventilators, IV blood pressure support and invasive monitoring). Nurseries that typically provide this level of service are often referred to in literature as: Neonatal Intensive Care Unit (NICU) or Intensive Care Nursery (ICN)

Note: The area per bassinet increases with each level of care.

4.3.2. DEFINITIONS:

Average Length of Stay (ALOS): The amount of time between arrival and departure of patient.

Holding Nursery (Level I): The holding nursery is required where Mother-Baby care is being delivered. The infant would normally stay in the room with its mother. A small "holding nursery" is located adjacent to the nurses' station on the unit(s) to accommodate well infants who need to be removed from the mother's room. The holding nursery will be located on the Obstetric Unit when the LDR concept is used, and on the Labor and Delivery Unit when the LDRP concept is programmed

Isolation Room: This is a room for the treatment of infectious infants. The infant placed in this area has an infectious disease and must not be placed in an area with other infants. In a hospital that provides only Level I nursery care, this area may also serves as the "transition area."

Mother-Baby: This is also described as "Rooming In" and "Mother-Infant Couplet Care." This is when the infant stays in the same bedroom as the mother following delivery and during the infant and mother's stay in the hospital.

Neonatal Intensive Care Unit (NICU) (Level III): This nursery provides the highest (most comprehensive) level of care to newborn infants. This unit is essential for a hospital to be considered a "Level III" facility. Infants, which receive care in such a nursery, may be either born in this hospital or may have been transferred to this hospital from another hospital (typically a Level I or II facility).

Special Care Nursery or Area (Level II): Most infants born in LDR or LDRP rooms will "transition" (pass through the critical four-hour period following birth where intensive observation is needed) in the LDR or LDRP room with the mother during her recovery period. A space is required for potentially sick infants who need special observation or medical intervention following birth. For hospitals providing only Level I nursery care, this Level II space is provided in the Holding Nursery when LDRPs are programmed.

In a hospital providing only Level I nursery care, using the LDR concept, the transition care may be provided in the isolation nursery room. For those hospitals providing Level II or III care, transition care will be provided in either nursery. No extra space is required for transition care.

4.3.3. POLICIES:

An economic analysis should be accomplished when nursery services of Level II or III are included in a MILCON project to determine the desired capacity and resources. Such analysis may be accomplished with in-house resources or through a commercial contract. This analysis must consider: population served and future trends for that population, fertility rates in the population by segments both past and future, obstetric service staffing projections, availability and cost of nursery services in the geographic area and concepts of care. For Level III services, the analysis must include the Poisson process calculation for determining required number of bassinets. The analysis may include a simulation evaluation, which includes projected occupancy over time, to justify and display the risk associated with the number of bassinets proposed.

4.3.4. PROGRAM DATA REQUIRED.

Note: There is a linkage between Nursery Services in a hospital and Labor & Delivery. In almost all cases, a Level III nursery service will be found in a hospital with a high number of deliveries. The higher the number of deliveries, the more likely that there will be newborns in need of Level III care. In Level I nursery facilities, almost all of the infants in the hospital will have been born in that hospital. In hospitals with higher levels of care (II & III), infants that are not born in the hospital will be transferred into that hospital from other hospitals (Level I to Level II & III, and Level II to Level III).

What will the level of care be for nursery services in this hospital? (I, II or III)
What is the model or concept of care that will be used? (LDR or LDRP)
Project annual number of births.
Project annual percent of births that are cesarean sections.
Projected annual number of infant admissions (i.e. infants transferred into the MTF or discharge and later admitted) (Level II & III hospitals
Projected Average Length of Stay (ALOS) for vaginal birth infants.
Projected Average Length of Stay (ALOS) for cesarean section infants.
Maximum number of pediatricians who require sleeping space at one time.
Peak FTE's on a shift for Nursery areas distributed by sex.
Total number of FTE for Nursery areas distributed by sex.
Projected annual number of infants requiring intensive care (i.e. admissions to the NICU).
Project average length of stay for an infant in intensive care.
Project number of sick infants from normal births.
Projected number of infectious or isolation cases annually in the NICU.

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FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m^2	nsf	

4.3.5. SPACE CRITERIA:

NURSERIES:

LEVEL I (HOLDING NURSERY)				**Locate with the postpartum mothers.**
Newborn Nursery (GP)	NYNN1	7.43	80	One bassinet per every 10 LDR/LDRP Rooms or 10 Post Partum beds, minimum of 80 nsf, 55 nsf per bassinet not to exceed 16 bassinets. See formula in para. 4.3.6. NOTE: Minimum clear area per bassinet is 24 nsf for level I.
Exam Area	NYWE1	9.29	100	One per Newborn Nursery.
Isolation Nursery (GP)	NYIR1	13.94	150	One airborne infection isolation room is required in or near the nurseries.

LEVEL II (SPECIAL CARE NURSERY)				**For Hospitals providing Level II care.**
Nursery Reception/Control Area (GP)	RECP1	11.15	120	Central control point for all visitors and staff who enter and depart area where infants are housed, i.e. all nurseries combined. If nurseries are physically separate, then add additional reception area for each separate nursery area.
Nursery Anteroom	NYAR1	5.57	60	A minimum of one for all nursery units. Typically provide one at the highest level of care. Enter Nursery Area via this room with scrub facilities and observation. Not required if there is an anteroom for a Level III nursery.
Special Care Nursery (GP)	NYIC1	10.22	110	Provide 105 nsf per bassinet (provide a minimum clear area of 50 nsf). Provide not less than one lavatory per every four bassinets. Every bassinet must be within 20 feet of a lavatory. No nursery may exceed 16 bassinets. See formula in para. 4.3.6.

DoD Space Planning Criteria for Health Facilities

Nursery

FUNCTION	Room Code	AUTHORIZED m^2	AUTHORIZED nsf	PLANNING RANGE/COMMENTS
LEVEL III - NEONATAL INTENSIVE CARE UNIT (NICU)				
Nursery Reception/Control Area (GP)	RECP1	11.15	120	Central control point for all visitors and staff who enter and depart area where infants are housed, i.e. all nurseries combined. If nurseries are physically separate, then add additional reception area for each separate nursery area.
Nursery Ante Room	NYAR1	5.57	60	A minimum of one for all nursery units. Typically provide one at the highest level of care. Enter Nursery Area via this room with scrub facilities and observation.
NICU Nursery (GP)	NYIC2	16.72	180	Provide 180 nsf per bassinet (provide a minimum clear area of 120 nsf per bassinet). Provide not less than one lavatory per every four bassinets. Every bassinet must be within 20 feet of a lavatory. No nursery may exceed 16 bassinets. See formula in para. 4.3.6.
SUPPORT AREAS (LEVELS II OR III)				Supports all nurseries except Level I
Nurse Station	NSTA1	18.58	200	One per nursery area.
Procedure Room	NYPR1	13.94	150	One per nursery area.
Isolation Nursery (GP)	NYIR1	13.94	150	Minimum of one airborne infection isolation room is required in or near the nursery. Maximum number of rooms programmed must be based on the maximum number of infected infants in the nursery for a period on not less than ten days.
Parent Teaching Room	NYPT1	16.72	180	One per nursery service.
Lactation Room	NYFA1	11.15	120	One per nursery service.
NCOIC/LCPO/LPO/SMT Office	OFA01	11.15	120	Private office, Standard furniture. One per nursery area.
	OFA02			Private office, System furniture.
Nurse Supervisor Office	OFA01	11.15	120	One per nursery area.
	OFA02			
Charting Area	WRCH1	5.57	60	One per nursery area.
Storage	SRSE1	8.36	90	Minimum. One per nursery area. Calculate 18 nsf per bassinet if more than five bassinets programmed.
Clean Utility (GP)	UCCL1	13.94	150	One per nursery area.
Nursery Transport Unit Alcove	NYTU1	1.86	20	One per transport unit
X-ray Alcove	XRM01	3.72	40	One per dedicated mobile X-ray unit.

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FUNCTION	Room Code	AUTHORIZED m^2	AUTHORIZED nsf	PLANNING RANGE/COMMENTS
SUPPORT AREAS (LEVELS II OR III) (cont)				Supports all nurseries except Level I
Laboratory	LBOB1	11.15	120	One per Nursery Services when laboratory technician dedicated to Nursery Services.
Developmental Therapy	PTPR1	11.15	120	One per nursery services when developmental. therapist FTE dedicated to nursery.
Social Worker Office	OFDC1	13.01	140	One per FTE Social Worker dedicated to Nursery Services
On-call Room (GP)	DUTY1	11.15	120	One per projected on-call clinical staff that must stay in the hospital for periods which exceed 18 hours.
On-Call Toilet/Shower	TLTS1	5.57	60	One per on-call room.
STAFF AND SUPPORT AREAS				
Staff Lockers, Lounges and Toilets				See also Section 6.1
Female Locker Room (GP)	LR002	9.29	100	Minimum, add 7 nsf for every projected FTE female in Nursery Services on peak shift over 10.
Female Shower Area (GP)	SHWR1	5.57	60	Minimum: provides area for one shower. Increase by one shower for each increment of 15 FTE females on peak shift over 10. Add 20 nsf for each additional shower.
Male Locker Room (GP)	LR002	9.29	100	Minimum, add 7 nsf for every projected FTE male in Nursery Services over 10, on peak shift.
Male Shower Area (GP)	SHWR1	5.57	60	Minimum: provides area for one shower. Increase by one shower for each increment of 15 FTE males on peak shift over 10. Add 20 nsf for each additional shower.
Staff Lounge (GP)	SL001	9.29	100	Minimum, add 5 nsf for every projected FTE on peak shift in Nursery Service over 10. Separate lounges may be provided for each nursery area and the postpartum unit when total FTE's in area is ten or greater.
Staff Toilets (see also Section 6.1)				
Female	TLTF2		varies	Minimum of 60 nsf. One wc @ 30 nsf, PLUS one lavatory @ 30 nsf for each 15 female FTE's projected per peak shift
Male	TLTM2		varies	Minimum of 30 nsf for one urinal @ 30 nsf for every 40 projected male FTE's on peak shift PLUS minimum of 60 for one wc @ 30 nsf and one lavatory @ 30 nsf, for every 20 projected male FTE's on peak shift.

4.3.6. FORMULAS:

Normative formulas are provided below for the purpose of both quick and comparative program development. The Poisson process will be used to provide the accepted quantity solutions. An example Poisson distribution example is provided following the formulas. An interactive, electronic spreadsheet, which graphs this distribution, is available on the website: http://www.tricare.osd.mil\ebc\rm.

Common Planning Factors: Actual experience rates are more desirable and should be obtained from the historic workload for the facility. The following factors are provided for comparative purposes.

Infant's ALOS (Average Length of Stay) for a normal vaginal birth (DRG 391) = 1.5 days. For more information in how to obtain ALOS information, see Labor & Delivery/Obstetrics Units Section 4.2.6 Formulas, the end of the section.
Infant's ALOS for Cesarean birth = 3.5 days Cesarean birthrate is 20% nationally

Formulas for:

Level I, Holding Nursery Total Number of Bassinets =

Total Number of LDR/LDRP & Postpartum Rooms X 10%

Level II, Continuing Care Bassinets Required =

$$\frac{\text{(Projected annual number of sick infant births + sick infant admissions or transfers into the hospital) X ALOS}}{\text{365 X Projected Occupancy Rate}}$$

PLUS

$$\frac{\text{Projected annual number of cesarean section births in the hospital X 0.167}}{\text{365 X Projected Occupancy Rate}}$$

Step 1. Determine the projected number of annual sick infant births and admissions (annual admission to continuing care nursery, not to NICU).
Step 2. Project the Average Length of Stay (ALOS) in the Continuing Care nursery unit. For more information in how to obtain ALOS information, see Labor & Delivery/Obstetrics Units Section 4.2.6 Formulas, the end of the section. Step 3. Determine the desired percentage of occupancy in the continuing care nursery. The most widely used number in the private sector is 70% or .70.
Step 4. Project the annual number of cesarean section births in the hospital and multiply this by 0.167 (0.167 is the ALOS for a cesarean section infant prior to being returned to its mother in a LDRP or in Postpartum.
Step 5. Plug the appropriate numbers into the formulae above and calculate. Step 4. Insert the numbers attained in steps one through three into the formula and calculate the number of bassinets required.

Level III, NICU Bassinets Required = $\frac{\text{Projected annual \# of admission to the NICU X ALOS}}{\text{365 X desired percentage occupancy}}$

Note: This calculation includes the isolation bassinets.
Step 1. Determine the projected number of admissions to the NICU.
Step 2. Project the Average Length of Stay in the NICU.
Step 3. Determine the desired percentage of occupancy for the NICU.
Step 4. Insert the numbers attained in steps one through three into the formula and calculate the number of NICU bassinets required.

Nursery

Isolation Rooms = % of nursery admissions requiring isolation X 100 X total bassinets required.

Step 1. Project the percent of admissions, based on historic experience, that require isolation.

Step 2. From the formula for each level of bassinets required, obtain the total number of bassinets required.

Step 3. Insert the appropriate numbers into the formula and calculate the number of Isolation Rooms Required.

Step 4. Subtract the number of isolation rooms required from each level of nursery care provided, to determine final number of bassinets in each level nursery.