Calculation of ACSA population:

R x Zip Code Pop. = ACSA in-state population

$$R = \frac{\text{Admissions from zip code to ACSA hospitals}}{\text{Admissions from a zip code area to any Wisconsin Hospital}}$$

Zip Code population = MCD-Zip conversion factor for each MCD-Zip Code fragment (proportion of a given MCD served by a given zip code area times the MCD population estimate)

The in-state ACSA populations are adjusted to incorporate out-of-state population increase due to care provided residents of other states:

out-of-state population = $\dfrac{\text{out-of-state discharges to the ACSA}}{\text{in-state discharges to the ACSA}}$ x in-state population

Age cohort distribution are based on a determination of which counties had at least 50% of their geographic area within either primary or secondary service area of the ACSA. The proportional representation of each cohort as projected in the county or counties is applied to the total ACSA population.

(13)-(17) 1990 population projection based on calculation of ACSA in-state population + in-migration adjustment x county age cohort distribution

(18) One half the population 15-44 to represent the population of childbearing age

(19) Projected Patient Days for patients under 15 years of age

(20e) Sum of Projected Patient Days for medical/surgical patients 15 years of age and over = (20a) + (20b) + (20c) + (20d)

(21) Projected Patient days for obstetric patients

(22) ICU/CCU patient days as a percentage of total non-obstetric patient days for the ACSA (data from the Wisconsin Annual Survey of Hospitals)

(23) (22) x (19)
(24) (22) x (20e)
(25) (19) ÷ 365 (# of days in year)
(26) (20e) ÷ 365
(27) (21) ÷ 365
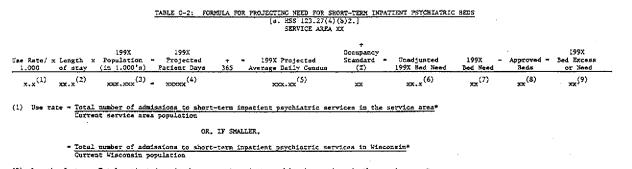(28) (23) ÷ 365
(29) (24) ÷ 365
(30) (23) ÷ (24)
(31) (25) ÷ Occupancy Standard in Appendix D for the service bed complement in ACSA. For services of less than 10 beds, the medical/surgical occupancy standard applies.

(32) (26) ÷ Occupancy Standard in Appendix D for the service bed complement in ACSA.

(33) (27) ÷ Occupancy Standard in Appendix D for the service bed complement in ACSA

(34) (30) ÷ Occupancy Standard in Appendix D for the service bed complement in ACSA. If a separate pediatric intensive care unit exists in the service area, bed need is calculated for 28 and 29 using the occupancy standard for the entire ICU/CCU bed complement

(35) (31) rounded to the nearest whole number
(36) (32) minus (34) rounded to nearest whole number
(37) (33) rounded to the nearest whole number
(38) (34) rounded to the nearest whole number
(39) (35) + (36) + (37) + (38)

(40)-(43) Service bed complement by ACSA from the Annual Survey of Hospitals adjusted for beds closed, deactivated or decertified under s. 123.30

(44) (40) + (41) + (42) + (43)
(45) (40) - (35)
(46) (41) - (36)
(47) (42) - (37)
(48) (43) - (38)
(49) (44) - (39)

TABLE C-2: FORMULA FOR PROJECTING NEED FOR SHORT-TERM INPATIENT PSYCHIATRIC BEDS
[s. HSS 123.27(4)(b)2.]
SERVICE AREA XX

Use Rate/ x Length x 1.000 of stay	199X Population (in 1.000's)	199X = Projected Patient Days	÷ 365 =	199X Projected Average Daily Census	Occupancy Standard = (%)	Unadjusted 199X Bed Need	199X Bed Need	- Approved = Beds	199X Bed Excess or Need
$x.x^{(1)}$ $xx.x^{(2)}$	$xxx.xxx^{(3)}$ =	$xxxxx^{(4)}$		$xxx.xx^{(5)}$	xx	$xx.x^{(6)}$	$xx^{(7)}$	$xx^{(8)}$	$xx^{(9)}$

(1) Use rate = Total number of admissions to short-term inpatient psychiatric services in the service area*
           Current service area population

OR, IF SMALLER,

= Total number of admissions to short-term inpatient psychiatric services in Wisconsin*
           Current Wisconsin population

(2) Length of stay = Total patient days in short-term inpatient psychiatric services in the service area*
                 Total number of admissions to short-term inpatient psychiatric services in the service area*

OR, IF SMALLER,

= Total patient days in short-term inpatient psychiatric services in Wisconsin*
       Total number of admissions to short-term inpatient psychiatric services in Wisconsin*

(3) Projected population in 199X for the service area, based upon information provided by the University of Wisconsin Applied Population Laboratory and the State Department of Administration.

(4) (1) x (2) x (3)

(5) (4) ÷ 365 (number of days in the year)

(6) (5) ÷ Occupancy standard in Appendix D for the bed complement in the service area.

(7) (6) rounded to the nearest whole number

(8) Total number of approved short-term inpatient psychiatric beds in the service area.

(9) (7) - (8)

*Information on patient days and admissions from the Annual Survey of Hospitals.

TABLE C-3: FORMULA FOR PROJECTING NEED FOR CHEMICAL DEPENDENCY BEDS
[s. HSS 123.27(4)(c)2.]
SERVICE AREA XX

Use Rate/ x Length x 1.000 of stay	199X Population (in 1.000's)	199X Projected − Patient Days	÷ 365 =	199X Projected Average Daily Census	Occupancy Standard = (%)	Unadjusted 199X Bed Need	199X − Bed Need	Approved = Beds	199X Bed Excess or Need
$x.x^{(1)}$ $xx.x^{(2)}$	$xxx.xxx^{(3)}$	$= xxxxx^{(4)}$		$xxx.xx^{(5)}$	xx	$xx.x^{(6)}$	$xx^{(7)}$	$xx^{(8)}$	$xx^{(9)}$

(1) Use Rate = $\dfrac{\text{Total number of admissions to chemical dependency services in the service area*}}{\text{Current service area population}}$

OR, IF SMALLER,

= $\dfrac{\text{Total number of admissions to chemical dependency services in Wisconsin*}}{\text{Current Wisconsin population}}$ + 1 Standard deviation above the statewide average use rate $\dfrac{\text{using the poisson distribution}}{\sqrt{\text{Standard average use rate}}}$

(2) Length of stay = $\dfrac{\text{Total patient days in chemical dependency services in the service area*}}{\text{Total number of admissions to short-term inpatient chemical dependency services in the service area*}}$

(3) Projected population in 199X for the service area, based upon information provided by the University of Wisconsin Applied Population Laboratory and the State Department of Administration.

(4) (1) x (2) x (3)

(5) (4) ÷ 365 (number of days in the year)

(6) (5) ÷ Occupancy standard in Appendix D for the bed complement in the service area.

(7) (6) rounded to the nearest whole number

(8) Total number of approved chemical dependency beds in the service area.

(9) (7) − (8)

*Information on patient days and admissions from the Annual Survey of Hospitals.

APPENDIX D
HOSPITAL SERVICE OCCUPANCY STANDARDS [HSS 123.27(3)(c)]

Medical/Surgical Services

Number of beds in service area	Occupancy standard
1-25	61%
26-50	69%
51-75	74%
76-100	78%
101-150	80%
151-250	82%
251+	85%

Pediatric Services

Number of beds in service area	Occupancy standard
1-10	50%
11-15	52%
16-20	57%
21-25	60%
26-75	65%
76-100	78%
101-150	80%
151-200	82%

Obstetric Services

Number of beds in service area	Occupancy standard
1-10	50%
11-15	51%
16-20	59%
21-25	62%
26-30	64%
31+	70%

ICU/CCU Services

Number of beds in service area	Occupancy standard
1-10	50%
11-15	56%
16+	66%

Psychiatric/Chemical Dependency Services

Number of beds in service area	Occupancy standard
1-20	80%
21+	85%

Long-Term Psychiatric Services

Number of beds in service area	Occupancy standard
1+	90%

APPENDIX E: PROPORTIONATE SHARE OF EXCESS BEDS BY HOSPITAL
[s. HSS 123.27(10)]
ACUTE CARE SERVICE AREA XX

Current Share of Excess

Hospital	Patient Days	Total Beds	Occupancy (%)	SMFP Expected Occupancy (%)	Current Hospital Excess
A	$xxx,xxx^{(1)}$	$xxx^{(2)}$	$xx.x^{(3)}$	$xx^{(4)}$	$xx^{(5)}$
B*	xxx,xxx	xxx	xx.x	xx	xx
C*	xx,xxx	xx	xx.x	xx	xx

199X Share of Excess

Hospital	Current Hospital Excess	199X ACSA Excess	199X Proportionate Share of Hospital Excess
A	$xx^{(5)}$		$xx^{(8)}$
B*	$xx^{(5a)}$		$xx^{(8a)}$
C*	$xx^{(5b)}$		$xx^{(8b)}$
	$xx^{(6)}$	$xx^{(7)}$	$xx^{(7)}$

*Same calculation as performed on hospital A performed on all hospitals in the service area.

APPENDIX E: NOTES

(1) Total patient days from the Wisconsin Annual Survey of Hospitals excluding patient days for psychiatric and chemical dependency (AODA) services and from neonatal intensive and intermediate care.

(2) Total approved beds excluding psychiatric, chemical dependency (AODA), neonatal intensive and intermediate care.

(3) $[(1) \div 365] \div (2)$

(4) Sum of (a) + (b) + (c) + (d):

(a)	Medical/Surgical Service bed complement (all other beds excluding psychiatric, chemical dependency and neonatal intensive/intermediate)	$\div$	Total approved beds (excluding psychiatric, chemical dependency, and neonatal intensive/intermediate)	x	Medical/Surgical occupancy standard for the hospital's medical/surgical bed complement from appendix D.
(b)	Pediatric service bed complement	$\div$	Total approved beds (excluding psychiatric, chemical dependency, and neonatal intensive/intermediate)	x	Pediatric occupancy standard in Appendix D unless the unit is less than 10 beds for which the medical/surgical occupancy rate in (4a) is used.
(c)	Obstetrics service bed complement	$\div$	Total approved beds (excluding psychiatric, chemical dependency, and neonatal intensive/intermediate)	x	Obstetrics occupancy standard in Appendix D.
(d)	ICU/CCU bed complement	$\div$	Total approved beds (excluding psychiatric, chemical dependency, and neonatal intensive/intermediate)	x	ICU/CCU occupancy standard in Appendix D.

(5) $(2) - \left[\dfrac{(1) \div (4)}{365} \right]$

(6) Sum of current hospital excess for all hospitals in ACSA [(5) + (5a) + (5b)]

(7) Total projected ACSA as stated in the SMFP and as calculated in Appendix C-1.

(8) (5) x (7) ÷ (6)

(8a) (5a) x (7) ÷ (6)

(8b) (5b) x (7) ÷ (6)

If (5), (5a) or (5b) are negative, the numbers are excluded from the calculation to determine (6) and therefore in the calculation of 199X proportionate share of hospital excess.

NOTE: (5a) and (5b) represent current hospital excess for the other hospitls in the ACSA XX.