Appendices:

Short-Stay Quality Measures

14:16 Thursday, August 23, 2001 The SAS System

The LOGISTIC Procedure

Model Information

Data Set	RES.SHORTSTAY
Response Variable	Congestive Heat Failure Rehospitalization
Number of Response Levels	2
Number of Observations	593587
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	qmchf	Total Frequency
1	Yes	31226
2	No	562361

NOTE: 95064 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	244698.69	217258.06
SC	244709.98	217348.42
-2 Log L	244696.69	217242.06

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	27454.6236	7	<.0001
Score	30216.4178	7	<.0001
Wald	23814.1033	7	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-3.7527	0.0575	4263.7393	<.0001
Congestive Heart Failure	1	1.8640	0.0134	19236.4082	<.0001
Hypertension+Complications	1	0.3933	0.0195	408.6675	<.0001
Respiratory Disease	1	0.2778	0.0127	480.6484	<.0001
Barthel ADL Score	1	-0.00815	0.000279	852.7821	<.0001
Do Not Resuscitate	1	-0.3620	0.0133	746.2267	<.0001
Feeding Tube Present	1	0.1678	0.0192	76.4683	<.0001
Age At Assessment	1	0.00242	0.000677	12.7479	0.0004

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Congestive Heart Failure	6.449	6.282	6.621
Hypertension+Complications	1.482	1.426	1.539
Respiratory Disease	1.320	1.288	1.353
Barthel ADL Score	0.992	0.991	0.992
Do Not Resuscitate	0.696	0.678	0.715
Feeding Tube Present	1.183	1.139	1.228
Age At Assessment	1.002	1.001	1.004

Association of Predicted Probabilities and Observed Responses

Percent Concordant	75.0	Somers' D	0.522
Percent Discordant	22.8	Gamma	0.533
Percent Tied	2.1	Tau-a	0.052
Pairs	17560284586	c	0.761

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The LOGISTIC Procedure

Model Information

Data Set RES.SHORTSTAY
Response Variable Electrolyte Imbalance Rehospitalization
Number of Response Levels 2
Number of Observations 593587
Link Function Logit
Optimization Technique Fisher's scoring

Response Profile

Ordered Value	qmeleci	Total Frequency
1	Yes	31635
2	No	561952

NOTE: 95064 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	247057.81	237180.42
SC	247069.10	237304.66
-2 Log L	247055.81	237158.42

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	9897.3834	10	<.0001
Score	10499.3257	10	<.0001
Wald	9821.6760	10	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-2.5745	0.0544	2241.8038	<.0001
Congestive Heart Failure	1	0.3513	0.0123	820.9540	<.0001
Dysphagia	1	0.0371	0.0212	3.0663	0.0799
Renal Failure	1	0.4632	0.0175	702.4623	<.0001
Barthel ADL Score	1	-0.0150	0.000391	1464.0922	<.0001
Do Not Resuscitate	1	-0.4281	0.0131	1064.1160	<.0001
Feeding Tube Present	1	0.2484	0.0182	186.3565	<.0001
Bedfast	1	0.0611	0.0164	13.9739	0.0002
Cognitive Performance Scale	1	0.0109	0.00310	12.3675	0.0004
Requires Assistance To Eat	1	0.2586	0.0169	235.0889	<.0001
Age At Assessment	1	-0.00012	0.000618	0.0379	0.8457

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Congestive Heart Failure	1.421	1.387	1.455
Dysphagia	1.038	0.996	1.082
Renal Failure	1.589	1.536	1.645
Barthel ADL Score	0.985	0.984	0.986
Do Not Resuscitate	0.652	0.635	0.669
Feeding Tube Present	1.282	1.237	1.328
Bedfast	1.063	1.030	1.098
Cognitive Performance Scale	1.011	1.005	1.017
Requires Assistance To Eat	1.295	1.253	1.339
Age At Assessment	1.000	0.999	1.001

Association of Predicted Probabilities and Observed Responses

Percent Concordant	65.0	Somers' D	0.320
Percent Discordant	33.0	Gamma	0.327
Percent Tied	2.0	Tau-a	0.032
Pairs	17777351520	c	0.660

The LOGISTIC Procedure

Model Information

Data Set	RES.SHORTSTAY
Response Variable	Respiratory Infection Rehospitalization
Number of Response Levels	2
Number of Observations	593587
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	qmrespi	Total Frequency
1	Yes	24456
2	No	569131

NOTE: 95064 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	203887.72	191158.50
SC	203899.01	191260.14
-2 Log L	203885.72	191140.50

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	12745.2205	8	<.0001
Score	15045.1892	8	<.0001
Wald	13014.0405	8	<.0001

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The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-2.9673	0.0245	14651.7159	<.0001
Congestive Heart Failure	1	0.4753	0.0136	1230.2969	<.0001
Dysphagia	1	0.1013	0.0217	21.9107	<.0001
Do Not Resuscitate	1	-0.3953	0.0145	745.9167	<.0001
Feeding Tube Present	1	0.7150	0.0187	1459.9742	<.0001
Bedfast	1	0.1045	0.0181	33.1868	<.0001
Barthel ADL Score	1	-0.0163	0.000461	1247.9675	<.0001
Cognitive Performance Scale	1	0.0120	0.00334	12.9017	0.0003
Requires Assistance To Eat	1	0.2759	0.0197	195.6548	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Congestive Heart Failure	1.609	1.566	1.652
Dysphagia	1.107	1.061	1.155
Do Not Resuscitate	0.673	0.655	0.693
Feeding Tube Present	2.044	1.971	2.120
Bedfast	1.110	1.071	1.150
Barthel ADL Score	0.984	0.983	0.985
Cognitive Performance Scale	1.012	1.005	1.019
Requires Assistance To Eat	1.318	1.268	1.370

Association of Predicted Probabilities and Observed Responses

Percent Concordant	68.6	Somers' D	0.395
Percent Discordant	29.2	Gamma	0.404
Percent Tied	2.2	Tau-a	0.031
Pairs	13918667736	c	0.697

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The LOGISTIC Procedure

Model Information

Data Set	RES.SHORTSTAY
Response Variable	Sepsis Rehospitalization
Number of Response Levels	2
Number of Observations	593587
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	qmsepsi	Total Frequency
1	Yes	10185
2	No	583402

NOTE: 95064 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	103005.74	95434.369
SC	103017.03	95524.721
-2 Log L	103003.74	95418.369

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	7585.3682	7	<.0001
Score	9239.4901	7	<.0001
Wald	7741.6451	7	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-3.8035	0.0378	10112.5860	<.0001
Renal Failure	1	0.7546	0.0267	799.4926	<.0001
Do Not Resuscitate	1	-0.6312	0.0228	768.4554	<.0001
Feeding Tube Present	1	0.5690	0.0263	466.4997	<.0001
Bedfast	1	0.3811	0.0272	195.7919	<.0001
Barthel ADL Score	1	-0.0179	0.000742	578.9196	<.0001
Cognitive Performance Scale	1	0.00785	0.00488	2.5865	0.1078
Requires Assistance To Eat	1	0.3533	0.0306	133.4553	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Renal Failure	2.127	2.018	2.241
Do Not Resuscitate	0.532	0.509	0.556
Feeding Tube Present	1.767	1.678	1.860
Bedfast	1.464	1.388	1.544
Barthel ADL Score	0.982	0.981	0.984
Cognitive Performance Scale	1.008	0.998	1.018
Requires Assistance To Eat	1.424	1.341	1.512

Association of Predicted Probabilities and Observed Responses

Percent Concordant	70.8	Somers' D	0.463
Percent Discordant	24.6	Gamma	0.485
Percent Tied	4.6	Tau-a	0.016
Pairs	5941949370	c	0.731

The LOGISTIC Procedure

Model Information

Data Set	RES.SHORTSTAY
Response Variable	Urinary Track Infection Rehospitalization
Number of Response Levels	2
Number of Observations	593587
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	qmuti	Total Frequency
1	Yes	20906
2	No	572681

NOTE: 95064 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	180978.02	171451.60
SC	180989.31	171553.25
-2 Log L	180976.02	171433.60

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	9542.4163	8	<.0001
Score	9955.3659	8	<.0001
Wald	8945.4493	8	<.0001

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The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-2.4498	0.0637	1481.1421	<.0001
Dysphagia	1	-0.0364	0.0248	2.1603	0.1416
Congestive Heart Failure	1	0.2993	0.0149	403.4870	<.0001
Do Not Resuscitate	1	-0.4305	0.0158	742.2403	<.0001
Feeding Tube Present	1	0.3893	0.0206	358.5372	<.0001
Barthel ADL Score	1	-0.0242	0.000470	2658.4233	<.0001
Cognitive Performance Scale	1	0.0192	0.00356	28.9718	<.0001
Requires Assistance To Eat	1	0.1394	0.0205	46.1655	<.0001
Age At Assessment	1	-0.00261	0.000740	12.4187	0.0004

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Dysphagia	0.964	0.919	1.012
Congestive Heart Failure	1.349	1.310	1.389
Do Not Resuscitate	0.650	0.630	0.671
Feeding Tube Present	1.476	1.418	1.537
Barthel ADL Score	0.976	0.975	0.977
Cognitive Performance Scale	1.019	1.012	1.026
Requires Assistance To Eat	1.150	1.104	1.197
Age At Assessment	0.997	0.996	0.999

Association of Predicted Probabilities and Observed Responses

Percent Concordant	68.1	Somers' D	0.385
Percent Discordant	29.6	Gamma	0.394
Percent Tied	2.3	Tau-a	0.026
Pairs	11972468986	c	0.692

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The LOGISTIC Procedure

Model Information

Data Set	LRES.LONGSTAY
Response Variable	Functional Improvement
Number of Response Levels	2
Number of Observations	339802
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	fnctimpr	Total Frequency
1	1	32484
2	0	307318

NOTE: 326160 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	214280.54	205479.37
SC	214291.27	205565.26
-2 Log L	214278.54	205463.37

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	8815.1697	7	<.0001
Score	8562.8373	7	<.0001
Wald	8058.8564	7	<.0001

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The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-1.8711	0.0399	2203.3809	<.0001
Age At Assessment	1	-0.00882	0.000503	307.5839	<.0001
Barthel Index (25 to 70)	1	0.9006	0.0137	4304.5489	<.0001
Incontinence, Bowel	1	0.0960	0.0143	45.2086	<.0001
Cognitive Perf. Scale >=4	1	-0.6909	0.0176	1541.7507	<.0001
Do Not Resuscitate	1	-0.2325	0.0124	350.1098	<.0001
Visual Impairment	1	-0.1226	0.0175	49.2558	<.0001
Bed Mobility (>=3)	1	0.3034	0.0145	440.7132	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age At Assessment	0.991	0.990	0.992
Barthel Index (25 to 70)	2.461	2.396	2.528
Incontinence, Bowel	1.101	1.070	1.132
Cognitive Perf. Scale >=4	0.501	0.484	0.519
Do Not Resuscitate	0.793	0.774	0.812
Visual Impairment	0.885	0.855	0.915
Bed Mobility (>=3)	1.355	1.317	1.393

Association of Predicted Probabilities and Observed Responses

Percent Concordant	65.0	Somers' D	0.313
Percent Discordant	33.8	Gamma	0.316
Percent Tied	1.2	Tau-a	0.054
Pairs	9982917912	c	0.656

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The LOGISTIC Procedure

Model Information

Data Set	LRES.LONGSTAY
Response Variable	Incident Pressure Ulcer Stage 2+
Number of Response Levels	2
Number of Observations	461264
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	decubitu	Total Frequency
1	1	14575
2	0	446689

NOTE: 204698 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	129389.95	122135.21
SC	129400.99	122212.50
-2 Log L	129387.95	122121.21

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	7266.7432	6	<.0001
Score	7071.6889	6	<.0001
Wald	5933.3800	6	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-5.0669	0.0655	5990.4680	<.0001
Age At Assessment	1	0.00460	0.000770	35.7021	<.0001
Ambulation Dependent	1	0.6992	0.0276	642.8953	<.0001
Body Mass Index <21	1	0.2108	0.0173	147.9352	<.0001
Cognitive Perf. Scale >=4	1	0.0942	0.0186	25.6320	<.0001
Transfer Assistance Needed	1	0.6088	0.0313	378.6986	<.0001
Bed Mobility (>=3)	1	0.5211	0.0209	620.9302	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age At Assessment	1.005	1.003	1.006
Ambulation Dependent	2.012	1.906	2.124
Body Mass Index <21	1.235	1.193	1.277
Cognitive Perf. Scale >=4	1.099	1.059	1.140
Transfer Assistance Needed	1.838	1.729	1.954
Bed Mobility (>=3)	1.684	1.616	1.754

Association of Predicted Probabilities and Observed Responses

Percent Concordant	68.0	Somers' D	0.399
Percent Discordant	28.2	Gamma	0.414
Percent Tied	3.8	Tau-a	0.024
Pairs	6510492175	c	0.699

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The LOGISTIC Procedure

Model Information

Data Set	LRES.LONGSTAY
Response Variable	Resisting Care Improvement
Number of Response Levels	2
Number of Observations	133274
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	rzstimpr	Total Frequency
1	1	39290
2	0	93984

NOTE: 532688 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	161636.48	159766.77
SC	161646.28	159815.77
-2 Log L	161634.48	159756.77

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1877.7151	4	<.0001
Score	1843.3538	4	<.0001
Wald	1819.8315	4	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-0.5364	0.0116	2150.1596	<.0001
Incontinence, Bladder	1	-0.0839	0.0138	37.1367	<.0001
Cognitive Perf. Scale >=4	1	-0.2426	0.0135	322.8769	<.0001
Abusive Behavior, Physical	1	-0.1582	0.0153	106.5646	<.0001
Abusive Behavior, Verbal	1	-0.3809	0.0139	749.6246	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Incontinence, Bladder	0.920	0.895	0.945
Cognitive Perf. Scale >=4	0.785	0.764	0.806
Abusive Behavior, Physical	0.854	0.828	0.880
Abusive Behavior, Verbal	0.683	0.665	0.702

Association of Predicted Probabilities and Observed Responses

Percent Concordant	51.6	Somers' D	0.148
Percent Discordant	36.8	Gamma	0.167
Percent Tied	11.6	Tau-a	0.062
Pairs	3692631360	c	0.574

The LOGISTIC Procedure

Model Information

Data Set	LRES.LONGSTAY
Response Variable	Incident Skin Trauma
Number of Response Levels	2
Number of Observations	212022
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	skintrau	Total Frequency
1	1	22490
2	0	189532

NOTE: 453940 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	143425.26	137625.93
SC	143435.53	137728.57
-2 Log L	143423.26	137605.93

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	5817.3365	9	<.0001
Score	5248.6563	9	<.0001
Wald	4989.9621	9	<.0001

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The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-4.6713	0.0725	4150.9081	<.0001
Age At Assessment	1	0.0198	0.000723	749.5242	<.0001
Barthel Index	1	-0.00696	0.000525	176.0669	<.0001
Body Mass Index <21	1	0.2215	0.0147	227.4969	<.0001
Cognitive Perf. Scale >=4	1	0.0926	0.0179	26.7513	<.0001
Do Not Resuscitate	1	0.0695	0.0155	20.1179	<.0001
White	1	0.9295	0.0278	1119.3516	<.0001
Transfer Assistance Needed	1	0.1395	0.0253	30.3520	<.0001
Bed Mobility (>=3)	1	0.0541	0.0197	7.5624	0.0060
Resists Care	1	0.2734	0.0163	281.7732	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age At Assessment	1.020	1.019	1.021
Barthel Index	0.993	0.992	0.994
Body Mass Index <21	1.248	1.212	1.284
Cognitive Perf. Scale >=4	1.097	1.059	1.136
Do Not Resuscitate	1.072	1.040	1.105
White	2.533	2.399	2.675
Transfer Assistance Needed	1.150	1.094	1.208
Bed Mobility (>=3)	1.056	1.016	1.097
Resists Care	1.314	1.273	1.357

Association of Predicted Probabilities and Observed Responses

Percent Concordant	64.5	Somers' D	0.300
Percent Discordant	34.5	Gamma	0.303
Percent Tied	1.0	Tau-a	0.057
Pairs	4262574680	c	0.650

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The LOGISTIC Procedure

Model Information

Data Set	LRES.LONGSTAY
Response Variable	Weight Loss below danger threshold
Number of Response Levels	2
Number of Observations	274496
Link Function	Logit
Optimization Technique	Fisher's scoring

Response Profile

Ordered Value	wghtloss	Total Frequency
1	1	17094
2	0	257402

NOTE: 391466 observations were deleted due to missing values for the response or explanatory variables.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	128015.71	126344.97
SC	128026.24	126397.59
-2 Log L	128013.71	126334.97

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1678.7389	4	<.0001
Score	1621.1798	4	<.0001
Wald	1600.0084	4	<.0001

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The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr > ChiSq
Intercept	1	-4.6611	0.0621	5639.1297	<.0001
Age At Assessment	1	0.0213	0.000744	817.8049	<.0001
Ambulation Dependent	1	0.1473	0.0187	61.9565	<.0001
Incontinence, Bowel	1	0.2076	0.0193	115.4519	<.0001
Eating (>=3, Exten. Asst.)	1	0.1961	0.0211	86.1738	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age At Assessment	1.021	1.020	1.023
Ambulation Dependent	1.159	1.117	1.202
Incontinence, Bowel	1.231	1.185	1.278
Eating (>=3, Exten. Asst.)	1.217	1.167	1.268

Association of Predicted Probabilities and Observed Responses

Percent Concordant	57.8	Somers' D	0.186
Percent Discordant	39.2	Gamma	0.192
Percent Tied	3.0	Tau-a	0.022
Pairs	4400029788	c	0.593

Results of a Follow-Up Survey to States on Wage Supplements for Medicaid and Other Public Funding To Address Aide Recruitment and Retention In Long-Term Care Settings

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November 4, 2000

Background Information

In September 1999 the North Carolina Division of Facility Services published a paper entitled: *"Comparing State Efforts to Address the Recruitment and Retention of Nurse Aide and Other Paraprofessional Aide Workers."* The paper examined public policy efforts being taken/considered by states to address aide recruitment and retention. This follow-up paper focuses specifically on wage supplements, commonly referred to as "Wage-Pass Throughs" (WPT), implemented by a number of states in an attempt to help address recruitment and retention of aide workers in long-term care related service settings.

Note: *Another follow-up paper is planned for early 2001 that looks at the progress made by states to develop a career ladder for the long-term care aide workforce. Follow-up information from the 1999 survey will be sought from the 5 states (AK,DE,ME,MS,NC) reporting that they were taking or considering action to address career ladder issues. States currently working on development of a career ladder for paraprofessional aides that were not listed in the 1999 paper are encouraged to contact the Division of Facility Services via email regarding such efforts (email info to: susan.harmuth@ncmail.net).*

What are Wage Pass Throughs?

States with "Wage Pass Throughs" designate that some portion of a reimbursement increase for one or more public funding sources for long-term care (typically Medicaid but may also include Older Americans Act funds, state appropriations, etc) must be (or are intended to be) used specifically to increase wages and/or benefits for aide workers (sometimes also includes other front line workers). Typically WPT's have been implemented in 1 of 2 ways:

1) designating that some specified dollar amount (e.g. $.50, $1.00) per hour or patient day be used specifically for wages/benefits; or
2) designating that a certain percentage of a reimbursement increase be used for wages/benefits.

States vary both in terms of implementation and accountability procedures used to verify compliance.

*The 1999 report is available via the web at: **http://facility-services.state.nc.us** (click on "For Providers" and look under Documents of Interest"). The paper is listed as the last bullet in this section.*

The 1999 paper reported that a total of 16 states had approved or implemented some form of a "Wage Pass Through." Most states that have implemented a wage pass through have done so only in recent years.

The 16 states identified in the 1999 report as having a Wage Pass Through (mandatory or intended) included:

Arkansas	*Rhode Island*
Colorado	*S. Carolina*
Mass.	*Texas*
Missouri	*Virginia*
Oregon	*Washington*
California	*Michigan*
Illinois	*Montana*
Maine	*Minnesota*

***Note**: Arkansas did not implement a WPT due to lack of funding and Texas's WPT wasn't effective until September 2000. Oregon indicated in their follow-up survey they did not have a Wage Pass Through as defined by the Division of Facility Services for state comparison purposes.*

Methodology

During August 2000, the NC Division of Facility Services sent a brief follow-up survey to the 16 states identified in the 1999 report as having a Wage Pass Through (either mandatory or intended). Fourteen of the 16 states (88%) responded to the follow-up survey. Follow-up calls were made to states as needed. Updated unemployment data for these states were obtained from the U.S. Bureau of Labor Statistics web site (August 2000 seasonally adjusted data). The National Conference of State Legislatures (NCSL) was contacted regarding additional states that enacted wage pass through related legislation (data search of states with "Medicaid wage pass through" for 2000). These states were also contacted for clarification of legislation enacted and status.

There may be additional states that have enacted legislation or appropriated funding for a wage pass through type of program. However, based on the follow-up survey and other contacts, we have identified 4 additional states that have either implemented a wage pass through (Kansas and Wyoming) or enacted other legislation related to a wage pass through (Louisiana and Kentucky).

Results of Follow-Up Survey on Wage Pass Throughs

Note: See attachment #1 for a state by state summary of follow-up survey responses and related state notes.

- All 14 states responding indicated that aide recruitment and retention was still a problem in their state (includes Oregon).
- Of the 12 states responding that have implemented a WPT, 4 (33%) reported that the WPT had a positive impact on recruitment and/or retention and/or probably had some positive impact.
- 3 states (25%) reported that the wage pass through had no impact on recruitment and/or retention thus far.
- 3 states (25%) indicated it was unknown whether there was any measurable impact on aide recruitment and/or retention.
- All but 1 (92%) of the states responding (Missouri) indicated they were satisfied with the accountability process being used to verify that the pass through funds got to aides (and other front line workers as applicable) in the form of increased wages or benefits. Accountability procedures included audits, expanded cost reporting, submitting a plan for use of WPT funds, a survey of providers (or some combination).
- To address concerns about their accountability process, Missouri reported they have revised the survey instrument used to determine compliance with the directive that the increase provided be used for direct care staff. The survey was revised to improve consistency in the interpretation of survey questions and use exhaustive and exclusive categories related to the use of WPT funds.
- 6 (50%) states also indicated they were making/considering changes to the wage pass through. These changes included efforts such as: possible expansion to other settings of care, modifications to accountability procedures, revisions to limit pass through in other ways, examine rate disparities and recommend solutions, roll WPT funds into reimbursement rate, etc.
- 5 (42%) of 12 states that have implemented a wage pass through indicated that their state was considering/undertaking additional efforts to address aide recruitment and retention.

Michigan was the only state that provided data addressing the impact of wage pass through funds on aide turnover rates. Michigan has had a wage pass through in place for nursing homes since 1990. Data provided indicated that aide turnover rates dropped from 74.50% in 1990 to 67.45% in 1998 (the most recent year for which data was provided). It is also worth noting, however, that market forces are pushing wages up even faster than the amount provided by the wage pass through. The wage pass through has, however, helped to keep starting salaries close to market demand wage rates.

Other Initiatives Being Undertaken by WPT States

Note: See attachment #1 for a state by state summary of follow-up survey responses and related state notes.

- Several WPT states have/are setting up work groups to study a variety of issues related to this workforce. Some examples of topics to be examined by various work groups include examining welfare to work and recruitment and retention as part of the State's plan to comply with the Supreme Court decision in the case of *Olmstead vs. L.C*.

- Several states are considering expanding the WPT to other settings not currently covered.

Additional States Known to Have Implemented A Wage Pass Through Since 1999

- Since the 1999 report, the Division of Facility Services is aware of at least 2 additional states that have implemented a wage pass through to address recruitment and retention of the long-term care aide workforce.

  Kansas -- The wage pass through was effective with State Fiscal Year 2000 and applies to nursing homes only. Funding has been continued for a second year. Participation by facilities is voluntary. The legislation allowed for up to a $4.00 per day increase in the per diem reimbursement rate to be used for direct care worker salaries, benefits or new hires to increase staffing ratios. However, due to funds appropriated and the number of facilities requesting to participate (about 50%), the maximum per diem WPT amount was about $1.90. Participating facilities are required to submit quarterly reports (including payroll documents) to verify that funds were used for wages, benefits and/or new hires to increase staffing ratios.

  Wyoming – The wage pass through was effective with the State Fiscal Year beginning July 1, 2000 and applies to nursing home care only. Wage pass through funds are to be used exclusively for wages and directed to front line workers (not just nurse aides). Wage pass through funds increase the per diem reimbursement rate by approximately $1.00 per day. Participation by facilities is voluntary. Participating facilities must prove, via the annual cost-settlement process, that additional funds were spent on wages for front line workers.

- Legislation has been enacted in Kentucky to establish a task force on quality long-term care. Among other tasks, the task force shall study wage pass through programs to increase staff salaries. The task force is required to report its findings and recommendations to the Legislative Research Commission and Governor by September 1, 2001. (Legislation reference: SCR 39)

- Legislation has been enacted in Louisiana that calls for, among other uses, investment earnings from a permanent Medicaid Trust Fund for the Elderly to be used for a wage enhancement for direct care workers in certified nursing homes. (SB 71 – enacted April 19, 2000)

Kansas is satisfied with their accountability process from the standpoint of verifying compliance. The process is, however, reported to be labor intensive for both facilities and state audit staff responsible for monitoring. Kansas will also analyze turnover data for direct care staff by participating facilities. Annual cost report data prior to the WPT will be used as a baseline. It is expected that analysis of turnover data will be complete by December 2000.

About 21% (5) of Wyoming's nursing facilities decided not to accept WPT funds. Generally, those choosing not to participate perceived a difficulty due to the corresponding impact on the employer share of fringe benefits paid to staff receiving increased wages as a result of the pass through.

***Note:** Other states that have approved or implemented a wage pass through to address aide recruitment and retention for one or more long-term care service settings that are not included in this paper are requested to notify the NC Division of Facility Services. We will update this information on our web site. Please email information to susan.harmuth@ ncmail.net.*

Unemployment Rates in Wage Pass Through States

Between April 1999 and August 2000 unemployment rates declined in 10 of the 15 states (66%) approving a WPT (excludes Oregon). This is consistent with national data where the unemployment rate dropped from 4.3% in April 1999 to 4.1% in August 2000.

State	April 1999	August 2000
Arkansas	4.4%	**4.1%**
California	5.7%	**5.1%**
Colorado	3.0%	**2.8%**
Illinois	3.9%	4.2%
Maine	3.6%	**3.2%**
Massachusetts	2.9%	**2.6%**
Michigan	4.0%	**3.8%**
Minnesota	2.1%	2.8%
Missouri	3.2%	**2.6%**
Montana	5.4%	**5.1**%
Rhode Island	3.1%	4.5%
South Carolina	4.2%	4.2%
Texas	4.7%	**4.3%**
Virginia	2.7%	**2.5%**
Washington	4.5%	5.1%
National Rate	4.3%	**4.1%**

Between April '99 and August 2000, of the 15 states authorizing a wage pass through, the unemployment rate dropped in 10 states, increased in 4 and stayed the same in 1 state.

North Carolina's unemployment rate increased from 2.8% in April 1999 to 3.5% in August 2000 – still below the national average of 4.1%. Aide recruitment and retention continues to be a serious workforce issue for North Carolina in all long-term care related settings.

Unemployment Rates for States Known to Have Implemented a Wage Pass Through Since the 1999 report was published

State	4/99	8/00
Kansas	3.4%	3.4%
Wyoming	4.5%	**4.3%**

(Note: Unemployment Rates from US Bureau of Labor Statistics and are seasonally adjusted rates.)

Conclusion

Long-term care aide recruitment and retention is still a major workforce issue for all of the states responding to the follow-up survey on wage pass throughs.

While states are generally satisfied with their accountability procedures for monitoring whether Wage Pass Through increases were used as intended/required, there is little hard data available, as yet, to substantiate whether or not the wage pass through has had any definitive and positive impact on aide recruitment and retention. On a positive note, however, one of the states that has had a WPT in place for a number of years did submit historical data showing a drop in overall turnover rates for aide workers in nursing facilities (from 74.5% in 1990 to 67.45% in 1998) as average starting wages have increased. The data also showed generally, however, that market forces were driving up average starting wages in excess of the amount of the WPT allocated.

Although no data is available to support such an assumption, one could speculate that continuing low unemployment rates (and declining unemployment rates in the majority of WPT states) may have eroded some of the potential impact that WPT funds may have made to help mitigate aide worker shortages in long-term care settings. Given the amount of wage pass through funds allocated on a per hour or per diem basis, combined with their relatively short history, it will be important to re-examine the impact of wage pass throughs where funds continue to be allocated specifically for wages/benefits (either on a mandatory or intended basis) over a period of years. In addition to verifying that WPT funds have been used to increase wages and/or benefits of the aide workforce, tracking vacancy, retention and unemployment rates over a period of years will be important to helping determine whether wage pass throughs have contributed to achieving a more adequate and stable aide workforce in states where such pass throughs have been implemented. Given the continued interest by states to address this workforce issue, it would be useful to collect, compile, analyze, and disseminate information from states on an annual basis (for the foreseeable future) to identify public policy trends as well as unique and/or highly successful strategies employed by states in an effort to achieve an adequate, well trained and stable aide workforce over time in recognition of the growing demand for long-term care services that will result from the aging of the nation's elderly population. Adequacy of this essential workforce is critical to the quality of care provided to persons in need of paid long-term care services.	*Wage Pass Throughs continue to be a concept getting increased attention by states*.

Update On North Carolina Efforts to Address Long-Term Care Aide Recruitment and Retention

Efforts Currently Underway

1) Pilot project underway at 10 sites (home care, assisted living and nursing homes) to:
   - test 7 new training programs developed by the NC Division of Facility Services to address gaps in initial training identified by aides themselves and staff development coordinators; and
   - test the impact of financial and other incentives given for completion of additional aide training on aide retention.

2) Data Collection and Analysis
   - Collect and analyze demographic, wage, benefit and other information about the adequacy and stability of the aide workforce in long-term care settings (home care, assisted living, nursing homes) with the intent of setting up a process for on-going data collection and analysis.

3) Development of a mentoring program for nurse aides working in long-term care.
   - Three forums were held across the state to get input from Nurse Aides and Nurses working in nursing homes about how the mentoring program should work.

4) Public education and awareness efforts regarding the importance of the aide workforce in the delivery of long-term care.

*(**Note**: All of the above efforts already underway are funded through a 3 year grant from the Kate B. Reynolds Charitable Trust – A North Carolina based private foundation.)*

5) The North Carolina General Assembly appropriated $500,000 for the State Board of Community Colleges for State Fiscal Year 2000-01 to develop on-site Internet training and other innovative training programs to improve recruitment and retention of nurse aides working in nursing facilities.

Recruitment and retention of long-term care aides in North Carolina is currently a workforce issue of crisis proportion. To provide a sense of the severity of the problem, there are approximately 84,600 active nurse aides (42%) on the State's Nurse Aide Registry compared to approximately 115,500 (58%) inactive nurse aides. To better understand this workforce issue, an analysis of 1998 employment data from the NC Bureau of Labor of nurse aide registrants was conducted by the NC Institute on Aging for the Division of Facility Services as part of the Division's efforts to address long-term care aide recruitment and retention funded by a grant from the Kate B. Reynolds Charitable Trust. This analysis showed that the active nurse aides had lower wages than their inactive counterparts (median income of $11,358 compared to $14,425 for inactive nurse aides) and also had less stable employment (1.89 different employers in 1998 compared to 1.05 for inactive aides). In summary, the Institute on Aging's analysis showed that although a considerable number of persons are being trained as nurse aides, they are leaving their trained field in large numbers for better wages and more stable employment outside the health and long-term care sectors.

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Other Recommendations/Initiatives Proposed to Address Long-Term Care Aide Recruitment and Retention

1) The NC Institute of Medicine staffed Long-Term Care Task Force recommended the following:
   - provide a carefully monitored labor enhancement for publicly funded long-term care reimbursement rates;
   - the Departments of Health and Human Services and Insurance should work together to explore ways to establish group health care insurance purchasing arrangements for professional and paraprofessional staff working in long-term care settings (residential and non-residential);
   - the Department of Health and Human Services should convene a broad based group to explore options for expanding the pool of paraprofessional and professional staff available to provide long-term care services; and
   - various long-term care provider organizations should work to develop a plan to improve retention rates among paraprofessionals.

The Task Force is a broad based group comprised of policymakers, legislators, advocacy organizations, consumers, providers, business leaders and academics.

These efforts should include looking at training, reengineering the workforce and whether new categories of staff are needed.

2) The Department of Health and Human Services is considering putting forth an expansion budget proposal for the 2001-03 biennium that would include efforts such as the following:
   - implementing a program that provides financial incentives such as bonuses and tuition assistance as well as other incentives and recognition to support professional development of aides working in long-term care settings;
   - developing a career ladder for aide workers including development of at least 2 new levels of workers with the goal of providing a career path that recognizes additional training and expands the pool of potential workers;
   - continuing data collection and analysis efforts already underway to continually assess the adequacy and stability of NC's aide workforce; and
   - providing a labor enhancement for Medicaid funded personal care services (in home and in assisted living facilities) as well as increasing the Medicaid daily rate for direct care in nursing homes. The enhancement would have to be used for wages, benefits, and/or payment of shift differentials.

This program of incentives would be modeled on NC's highly successful TEACH program in support of early childhood education workers. (TEACH stands for "Teacher Education and Compensation Helps")

No decision has been made as yet as to whether any of these initiatives will be included in the Department's expansion budget priorities for the 2001-03 biennium. There is, however, widespread recognition of the extent of this workforce problem within the Department.

Attachment #1

State	Recruitment & Retention Still a Problem	Pass Through (mandatory or intended) had any Positive Impact	Data to Substantiate Impact on Recruitment and Retention	Type of Accountability System	Satisfied with Accountability System	Any Costs Associated w/audit Requirements if Applicable	State Considering Changes to WPT	State Undertaking any additional Efforts
Arkansas	Yes	Not impl. due to budget shortfall						Yes (see notes)
Colorado	Yes	(see note)	No	Survey		N/A		Yes (see note)
Illinois	Yes	Unknown	No	Annual Rpt.	Yes	N/A	Cost of living adj.	None indicated
Maine	Yes	Not in any measurable way (see notes)	No	Audit	Yes	Minimal	Yes (see notes)	Yes (see notes)
Michigan	Yes	Yes - Probably	Yes (see notes)	Audit	Yes	Yes minimal	Yes (see notes)	Yes (see notes)
Minnesota	Yes	No	No	Plan	Yes	N/A	Yes (see notes)	Yes (see note)
Missouri	Yes	No (see notes)	No	Survey	No (see notes)	N/A	Yes (see notes)	No
Montana	Yes	unknown assume some impact	No	Plan and Audit	Yes	minimal	Yes (see notes)	Yes (see notes)
Rhode Island	Yes	Yes (see notes)	No (see notes)	Plan and Audit	Yes	Yes	No Response to question	No
South Carolina	Yes	Yes (see notes)	No	Submit expanded cost report	Yes	none indicated	No	No
Texas	Yes	Implemented Sep-00						
Virginia	Yes	Unknown	No	Report	Yes	Yes	Yes (see notes)	No
Washington	Yes	No (see notes)	No	Audit & Other	Yes (see notes)	No	Yes (see notes)	No

Note: No follow-up survey received from California or Massachusetts

Notes:

Notes reflect survey responses and/or follow-up discussions of survey responses with states.

Arkansas: Did not implement wage pass through due to budget shortfall. Efforts have been underway over the past two years to use consumer-directed care as a strategy to help address the worker scarcity problem. As of late October 2000, approximately 2,000 family members and/or friends have been hired to provide care rather than relying on agencies. Consumer-directed care efforts are working out quite well thus far.

Colorado: Based on a survey done of providers receiving WPT funds, about 1/2 used the increase in reimbursement intended for wages/benefits for that purpose. Based on input received from providers, the amount of increase allotted was about half of that needed to make up lost ground. This, combined with declining unemployment rates, results in recruitment and retention continuing to be an issue. The increase was for non-skilled personal care services. The legislature requested that the Department establish a task force to examine rate disparities and identify possible solutions. The task force included representation from home health providers, nursing facility administrators, assisted living administrators, advocates, legislators, and departmental staff. Recommendations have not as yet been formalized. However, a report will go to the legislature for consideration of the Department's 2001-02 budget.

Illinois: Recruitment and retention still a major problem facing community care program (wage pass through approved for home care only). With regard to reporting by providers for accountability purposes, provider agencies are required to submit an annual report documenting that at least 73% of their reimbursement rate is spent on worker wages and benefits.

Maine: Considering possibly providing a wage pass through for aides working in additional settings not initially funded such as home care and seeking appropriations to continue/increase the wage pass through next year. Also considering changing accountability requirements (e.g. home care agencies don't file cost report). This session legislature appropriated funds for a .50 per hour increase in reimbursement rates for home care workers (excludes nurses). These funds will be harder to track since these agencies don't file cost reports. Many agencies are balking at "government telling them how to use their funds." These are the same providers who say they can't find or keep staff. Efforts are underway to work with the Board of Nursing to develop core curriculum for Certified Nurse Aides, Personal Care Aides and Residential care aides so a worker doesn't have to start all over if they move between jobs.

M**ichigan:** State ending WPT for 2000-01 as a result of changes in appropriations language. WPT revenues are an offset to inflationary allowance all facilities receive but to receive the WPT, facilities must have a minimum wage of $8.50 p/hr. for competency evaluated nurse aides. With regard to data concerning the wage pass through, while data shows that turnover rates have declined from 75% in 1990 to about 67% in 1998 as average starting wages have increased, the data also shows that market forces are pushing up wages faster than the impact of the wage pass through. (Source: Chart from Health Care Association of Michigan and follow-up discussion with staff of the Fee-for-Service Division, Medical Services Administration). With regard to additional steps being undertaken, nurse aide training and testing will be covered.

Minnesota: Expect there will be another legislative initiative this year to help problem but don't know if it will actually be implemented (have had wage pass through in place for 4 years now). Work groups have been set up that include state and private sector to study the issue and look for solutions.

Missouri: There has been no indication from industry of any positive impact of the WPT on recruitment and retention. The survey used to verify provider compliance with WPT requirements is being revised to limit variability of interpretation of questions to increase reliability and consistency. Reimbursement is being increased January 1, 2001 by $.52 with the requirement that the increase be used to increase home care direct care staff wages/benefits.

Notes Continued

Montana: Assume that recruitment and retention would have been even worse problem in absence of wage pass through for nursing homes. Increased demand for entry level workers in all sectors and shortage of supply for these workers is driving up wages. Hoping to seek additional WPT increase for Medicaid Personal Care Services again in 2001. Also looking at non-wage initiatives such as welfare to work, recruitment and retention as part of the State's plan to comply with the Supreme Court decision in the case of *Olmstead vs. L.C* . With regard to accountability, will compare fiscal year 2001 wage plan with fiscal year 2000 wage plan to ensure that fiscal year 2001 wage increases pick up where fiscal year 2000 increases left off.

Rhode Island: The Rhode Island Partnership for Home Care conducted a survey of providers to determine the extent to which providers had increased wages and/or benefits for aide workers as intended by the reimbursement increase provided for state subsidized home care. While not a mandatory wage pass through, survey findings indicated that the vast majority of providers, particularly the largest providers of state-subsidized care, allocated a portion of reimbursement increases in a meaningful way to aide wages and benefits. Of the total survey respondents 75% increased worker wages. The hourly increase provided ranged from .75 per hour to $2 per hour. Of those (5) indicating they did not increase wages with the increase, 4 were Medicare providers who indicated they already were offering competitive wages and benefits and the increase only brought them closer to covering costs. Half of the respondents indicated they had either instituted a benefit package or added to their benefit package as a result of the increase in reimbursement. Staff with the Partnership indicated that they had received anecdotal information from providers that the reimbursement increase had impacted retention but not recruitment.

South Carolina: Several providers indicated that the additional wages paid to personal care aides has helped them compete with other employers.

Virginia: Wage pass through funds will be rolled into reimbursement rates. Thus, no separate report will be required for nursing homes regarding these funds in future years (home care wage pass through funds did not require a separate report to account for WPT funds).

Washington: Anecdotal information indicates the Wage Pass Through has not impacted the recruitment/retention problem. Worker wages will be a topic of discussion for the 2001 legislature. In addition to home care (setting for which initial wage pass through approved), other settings are reporting difficulty with recruitment and retention of aides. Home care providers continue to report difficulty recruiting and retaining workers. With regard to accountability, the initial budget provision was somewhat unclear so some agencies did not increase wage as intended. The provision language has been corrected and the state is now satisfied with their ability to ensure that wage increases are passed on to the workers.

Attachment #1

Attachment #1

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National Survey On State Initiatives To Improve Paraprofessional Health Care Employment

October 2000 Results On Nursing Home Staffing

For the past 18 months, the Paraprofessional Healthcare Institute (PHI) and the National Citizens' Coalition for Nursing Home Reform (NCCNHR) have been documenting states' activities around nursing home staffing. In fall 1999 and, again, in summer 2000, surveys were sent to ombudsmen's offices in all 50 states. Additional data was collected through follow-up phone calls and secondary sources.

Tables:

The PHI/NCCNHR November 1999 report on state initiatives to improve staffing shows that 40 states have been addressing inadequate staffing levels in some way. These states have recognized that, as the HCFA staffing study released in July 2000 points out, inadequate staffing levels are directly affecting the quality of care received by residents.

Preliminary results from this most recent survey, released in October 2000, show that, in the 40 states that responded to the survey, advocates and providers, often working together, are pursuing a variety of solutions. Although many states are pursuing legislation that would mandate improved staffing-to-resident ratios, some are looking at a broader array of reforms to help providers recruit and retain a stable, well-trained workforce. Most notably, a large number of states are seeking to improve wages for CNAs. Those that are most forward looking are also seeking to improve benefits, training, and opportunities for advancement in order to compete for workers in the new economy. Massachusetts successfully passed a comprehensive bill that authorized funds for wage increases, pre-certification preparation and certification training, and career advancement demonstration projects.

Summary of Findings

Staffing Ratios Several states have fully adopted changes in staffing ratios, while others achieved legislative approval, but not final gubernatorial approval. Maine has adopted new staff-to-patient ratios for staff responsible for "hands-on patient care" (including all nursing staff): 1 to 5 for days; 1 to 10 for evenings; and 1 to 18 for nights. Oklahoma has approved ratios of 1 to 8, 1 to 12, and 1 to 17, respectively, beginning September 1, 2000. Further increases, mandated for 2001 and 2002 eventually achieve ratios of 1 to 6, 1 to 8, and 1 to 15. (The Oklahoma ratio includes activity, social

services, and therapy staff as well as nursing staff until 2002, when the ratios must include only CNAs). California passed legislation mandating minimum threshold of 3.5 hours of hands-on care per patient per day by 2004, unless a study commission develops an alternative recommendation by that date. Delaware also passed legislation mandating that minimum hours be increased to 3.0 hours per patient per day for 2001; a study commission has recommended increases to 3.2 hours by December 2001 and to 3.67 hours by January 2003.

Advocates also introduced legislation to set higher staffing levels in Michigan, New Jersey, New York, and Washington, DC, but efforts failed this year. Rhode Island's proposal to improve ratios to 1 to 8, 1 to 12, and 1 to 20 stalled in this session. The Arkansas legislature passed a new standard of 1 to 8, 1 to 12, and 1 to 18, but the measure was derailed in July 2000 by lack of departmental funding. Arkansas advocates continue to push for implementation. Most staffing legislation includes a requirement to publicly post staff on duty, reflecting a long-standing consumer demand.

Wages and Benefits In 1999, Connecticut, California, Florida, Maine, Montana, Virginia, and Wisconsin passed wage increases for CNAs. During 2000, more than 20 states (California, Colorado, Delaware, Idaho, Iowa, Illinois, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Mexico, Nevada, North Carolina, North Dakota, Oklahoma, Oregon, Rhode Island, Texas, Utah, and Washington) introduced legislation to improve wages to direct-care workers, but many of the proposals either failed or were modest in scope. For example, Oklahoma's reform package set a minimum hourly wage for direct-care workers at $6.65.

Maryland and Minnesota took a more flexible approach to addressing low wages. Maryland passed legislation increasing Medicaid funding to the nursing cost-center by $10 million in both 2002 and 2003. These funds are not targeted specifically to CNAs-the funding can be used to enhance staffing levels, wages, or direct-care services. Minnesota's legislation offers even more flexibility. Rate increases can be used for compensation-related costs, including salaries, payroll taxes, and fringe benefits for all employees except managers and central office staff. An additional rate increase is also available for specific operating costs. In both Maryland and Minnesota, facilities have considerable flexibility in using the rate increases.

Wage pass-throughs are the most commonly proposed strategies to achieve wage increases. We are just learning the effects of different types of implementation on the actual dollars that CNAs receive. For example, in 1999, Virginia passed a package to improve CNA hourly wages by up to a $1/hour, but not all nursing homes applied for the increase. Because the legislation was poorly implemented and lacked accountability, many CNAs failed to benefit from the state authorization. Some states are asking nursing facilities to submit plans to their state Medicaid departments to define how they will use additional funds. Other states take a more standardized approach and determine exactly which staff are eligible and for what amount of increase. Some states have a clearly designated system for auditing these new funds, while others have not been as specific. (The North Carolina Division of Facilities Services will soon publish the results of their study of the efficacy of these different wage pass-throughs. See their most recent data at http://facility-services.state.nc.us/provider.htm.)

Only a few states offer any assistance with health insurance. CNAs benefit from state laws that address the health care needs of low-income workers in states such as Vermont and Hawaii.

Vermont expanded a plan that allows individuals with incomes up to 300% of poverty to purchase prescription drugs at the Medicaid rate. Hawaii mandates that full-time workers receive medical coverage from their employers who must pay at least 50% of the premium. Although not yet extended to CNAs, Rhode Island has implemented a program to provide health care for child care workers through Medicaid. This model that could also work for low-wage health care workers. Most states, however, see health care as the responsibility of providers and have not begun to explore alternatives.

In truth, many direct-care workers have traditionally relied on health insurance and other benefits from the public assistance system. CNA wages have been so low that workers have been eligible for Medicaid to provide health insurance for themselves and their children. However, with the cutbacks generated by "welfare reform," more low wage and part-time workers are now left without any health insurance-from either their employer or the government-though their children are often eligible for their state's version of the Medicaid CHIP program. Research, however, indicates that many low-wage workers are not aware of this benefit and are not using it.

Training & Supervision Currently, the federal government requires 75 hours of training for CNA certification. About one-third of the states mandate additional hours of training, with California, Maine, and Oregon at the high end, requiring 150 hours. Advocates for increased training point to recent data about nutrition, hydration, dementia care, worker injury rates, and turnover rates to illustrate the need for better, more comprehensive training.

Ten states are pursuing efforts to increase or improve the training for CNA certification. Several of those are requiring unspecified additional hours, while California and Oklahoma, among others, indicate that those additional hours should address dementia care. New York advocates sponsored a conference focused exclusively on CNA training requirements, urging that soft skills such as communication and problem solving also be included in the required curriculum. They have also been lobbying for 160 hours of mandated training.

Advocates in several states-Delaware, Massachusetts, and North Dakota-are actively promoting career ladders as another aspect of training. Other states, such as Louisiana are focused specifically on curriculum development.

In contrast to a general push for more training, one bill has been offered in Congress and others have been proposed in the states -West Virginia, for example-for single-task, minimally trained workers. Rather than promoting a solution, the use of single-task, untrained workers poses a risk to the health and well-being of residents while perpetuating the poor quality of direct-care jobs by offering part-time work for even lower pay without benefits.

Finally, more than one-third of the states are looking at ways to shape incentives to promote better management, supervision, and other improvements in the nursing home workplace culture. Nine states have been able to access Civil Monetary Penalty funds to support new programs on training, supervision, and management.

Emerging Coalitions Of the 40 states that responded to the survey, 30 report that their state has either an informal or formally appointed taskforce or commission looking at long-term care

workforce issues. Most of these work groups are comprehensive in that they include workers, consumers, providers, and government representatives. The work group in Massachusetts is perhaps most inclusive because it also includes representatives from community colleges as well as the welfare reform and traditional workforce development constituencies.

Notably, the Massachusetts legislature recently passed a bill that provides the most comprehensive approach to addressing workforce issues in nursing homes. In addition to a $35 million wage pass-through for CNAs, it includes $5 million for CNA career ladder grants, $l million for a scholarship program for certification training for new CNAs, and $1 million in training and adult basic education for prospective CNAs. The governor vetoed two proposals in the original bill: a study on health insurance for direct-care workers and a permanent Advisory Council on Nursing Home Quality to study and make recommendations on staffing levels and workforce issues. This new law is an important model for other states in its comprehensive approach to a multifaceted problem.

Conclusion

Seen as a whole, all these attempts by states are focused on finding ways to attract a stable, valued, and well-trained direct-care workforce for our nation's citizens who are elderly, ill, and living with disabilities. There is a shared recognition that improving the quality of care delivered to residents can only be achieved by enhancing the job quality of the frontline workforce. In some states, advocates are seeking to change a single aspect of the problem. In other states, successes in one year have lead to more improvements in subsequent years. Massachusetts, however, has taken a more comprehensive approach by addressing multiple issues in a single piece of legislation. Their success can be attributed to having created a strong, broad-based coalition that included consumers, workers, and providers who worked together to influence government officials. We must now track these changes over time to evaluate their effect on workforce stability and quality care.

State Activities to Increase C.N.A. Wages

- Return to survey

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
AL	N	N					
AZ	Y	N			Discussion of increase in wages through LTC Taskforce that will start again in fall 2000		
CA	Y	Y	Legislation and Budget	$50 M.Wage pass through in Governor's Aging with Dignity Budget. Includes 7.5% incr. for housekeepers, maintenanc,e admin. And direct care staff.	Increased wages and lower ratio	Passed	7/1/00 Medi-Cal will start program. Mandatory for providers.
CO	Y	N		Discussion of funding of benefits counselor to assist workers access public benefits such as child care, earned income tax program etc.	Coalition and Governor's panel		NA
D.C.	N	N		LTCOP advocating for wage pass-throughs		Discussing with local govt officials	To be determined. No specific time frame. Probably will be voluntary
DE	Y	N			Wage increase for		

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
					C.N.A in state-owned N.H., not those in privately operated facilities.		
GA	N						
HI	N	N					
IA	Y				Industry efforts for wage pass through	failed	
ID	Y	N	No organized effort, only market driven on individual facility basis				
IL	Y	Y	Legislation, Budget	PCW wage pass-through of $19 million in FY '01.	Effective 7/1/00 facilities will receive a 2.5% increase in Medicaid reimbursement. No specific requirements tied to increase.		
IN	N	N					
KY	Y	Y	Was proposal to pass-through wage increase	To be determined, but legislative session adjourned in 4/2000			Mandatory
LA	N	N					
ME	N	Y	Legislation	Wage pass through of $4M for C.N.A.s in NH, passed in 1999.	federal match of $533,000		Check is done at time of facility audit. Mandatory participation.
MD	Y	?	Budget	$10 M additional funds for	Funds to be used	Passed	NH expenditures

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
				both FY 2002 and 2003 for Medicaid nursing service cost centers.	for increase in hours to residents, increase staffing, increase wages, benefits or compensation to direct care personnel.		will be subject to audit and cost settlement by Dept. of Health and Mental Hygiene
MA	Y		$35 M wage pass through for CNAs in Medicaid facilities passed through budget, signed by governor.		Funds available for wages and benefits, not pool staff.		Accountability mandated. Details to be developed. Mandatory wage pass-through.
MI	Y	Y	Budget	Wage pass-through.	$.50/hour wage pass-through for fy 2001. Contingent on each NF pay their C.N.A. at least $8.50 during post-probationary period.		
MN	Y	Y	Legislation	Divide increase into compensation costs (salaries, payroll taxes, fringe benefits for all employees except mgt, admin and central office staff) and operating costs.	Compensation costs for direct care staff increased by 3.63% in fy 2000.		Facilities must submit plan for increasing wages and operating costs, and post plan in employee room or give copy of plan to every employee.

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
							Raises can only be used for existing staff, not new staff. Facilities using funds differently- some for raises, some for benefits
MT	Y	Y	Rate Setting, Budget	Wage pass-through $2.14/day for all direct care workers.			Documentation of starting/ ending wages. Will audit select facilities to ensure. Voluntary participation.
NH	N	N					.
NM	Y	Y	Legislation	Wage pass-through.	Failed in committee		
NV	Y	Y	Legislation, Rate Setting, Budget				
NY	N	N					
NC	Y	N	Legis., Rate Setting, Budget	"labor enhancement" to be used for multiple items.	Being discussed by legislators and aging study commission.	Expect wage increases to be implemented by Oct 2001.	DHHS to develop safeguards for accountability. Not yet completed.
ND	Y	N			Task force on LTC appointed by governor has	Legis. session begins Jan. 2001	Medicaid and private pay rates are same in ND

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
					subcomm. looking at increasing wages for C.N.A. s, HHA., and career ladder		
OK	Y	Y	Legislation and rate setting.		Wage pass-through. Increase to $6.65 hourly as minimum wage for C.N.A., effective 7 – 1-2000. All other staff receive $1.50 hour increase	Signed by governor 6-6-2000. Immediate implementation.	Staffing reports/cost reports/audits. Mandatory participation by providers.
RI	Y		Budget	Ongoing discussions with DHS re increases for C.N.A.s	Industry proposal earmarked for direct care staff. Not passed this year.		
SD	N	N		Non-specific incr. in rates	Task force convened in May to study rates currently being paid to facilities		
TN	DK	DK					
TX	Y	Y	Rate setting, Budget.	Change in reimbursement formula. 3.1% incr. in reimb. for FY 2000	.	Currently being implemented	Legis. requirement that increases targeted to staffing, with tracking through cost reports. Mandatory

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
							participation.
UT	Y	N	Increase in Medicaid rates for C.N.A. wages only			Slowly beginning	
VA	N	Y	Legislation	$1. hour wage pass through in 1999.			Was not equitably distributed. Not all staff received, not all facilities applied.
VT	N	Y –	Legislation, Rate setting.	Change in reimbursement formula.1999 statute allowed $4 M. from NH bed tax to improve wages and benefits for NH employees. Each NH receives pro- rata share of fund. Facilities can spend funds on any wage or benefit for all staff, except owners/administrators.	States must report to state 60 days after beginning of fy how they are using funds.	Some facilities used to increase wages of all staff, others use as signing bonuses to attract new staff.	States will use facility cost reports to determine if and how supplement was used. If not used for wages/benefits, supplemental payments treated like Medicaid overpayments and can be recouped. Supplement in effect until 2000 when all cost categories will be been rebased. Then supplement will be incorporated into

State	Efforts to increase wages in 2000	Efforts to increase wages in 1999	Designed through Legislation, Rate Setting, or Budget	Wage pass-through non-specific increase change in reimbursement formula	Description	Status	Accountability Voluntary or Mandatory
							base.
WA	Y	Y	Legislation	Change in reimbursement formulas. Wage pass-through of $.50 /hour/year for 2 years.		Accomplished.	2 year time frame for implementation. Mandatory participation.
WV	N	N		No formal increases proposed, but many facilities paying bonuses and increased initial wages to increase staffing.	Discussing wage pass-throughs in ongoing discussions with Bureau for Medical Services		
WI	Y	Y		Increase specifically for C.N.A.s not dietary and other support services passed in last biennial budget.			Some difficulties for facilities since funds could not be used for support services personnel.

State Activities to Improve Staffing Levels

- Return to survey

State	No. hours of nurse staffing required	Efforts to change for CNA in 2000?	Efforts to change in 1999	Through Legislation, Regulation, or Budget	Description	Status
AL	?	N	N			
AZ	No ratios. Staff to meet the needs of residents.	Y		Legislation	To lower allowable age of CNAs to 16.	Legislation was included in ltc initiative that was a "strike all"
CA	3.2 hours per pt. day	Y	Y for CNA	C.N.A. through Budget, PCW through legislation	Increase wages and lower staff ratio per resident. Increase wages for PCW	Commission to make recommendations by 2004. If not, automatic deferral to 3.5 minimum
CO	2 hours per pt. day.	Y	Some for C.N.A., nothing for HHA, PCW		Discussion with legislators re staffing ratios	Nothing yet
D.C.	fed. requirement	Y	Y for C.N.A.	through regulation	NCCNHR recommended fixed staffing ratios	Regs. not yet finalized. staffing ratios may or not be accepted
DE	2.25 hours daily	Y	Y for C.N.A., N for HHA, PCW	legislation	proposal for 3.0 contact hours per resident, year one, and 3.33 year two.	Passed 3.0 hours for 2001, with Medicaid funds appropriated. Commission to report by 12/1/01 to increase to 3.2 hours, and by 1/1/03 to increase to 3.67 hours.
GA	2.5 hours daily	Y	Y	legislation	Resolution passed to assign members to study committee to look at all ltc staffing.	Appointment of members
HI	No staffing ratios,	N	N	2 bills died. HI Nursing Assn concern re hospital increasing No. of C.N.A.	2 bills died. No real advocate for staffing ratios.	
IA	2 hours daily	N	N for C.N.A., HHA			
ID	Up to 59 residents .4 hours per resident day. Hours shall not include DON, but Supervising nurse may be counted. 60 + residents at 2.4 hours per resident day, and not include DON or	N	N-C.N.A., HHA, PCW			

State	No. hours of nurse staffing required	Efforts to change for CNA in 2000?	Efforts to change in 1999	Through Legislation, Regulation, or Budget	Description	Status
	supervising nurse.					
IL	"Staffing shall be based on the needs of the residents…" Ill. state code.	Y	Y-C.N.A.	Legislation	NCCNHR ratios.	Remained in committee.
IN	Sufficient to meet needs of residents	Y		Legislation	NCCNHR standards	Study commission assigned
KY	No specific number "adequate staff"	Y	Y – C.N.A.	Public committee meetings	NCCNHR ratios	Task force named by KY legislature to examine issues. will look at HHA, too
LA	2.6 skilled, 2.35 intermediate	Y	Y – C.N.A.	Legislation	same staffing ratio as AR law	Bill not pushed beyond introduction, but senator still interested. Will be raised in 2001
ME	1:8 day shift, 1:12 evening, 1:20 night	Y	Y – C.N.A., N- HHA	Legislation	Bill to enrich NH staffing ratios.. Sets up pilot projects to determine appropriate staffing ratios for mealtimes. Report due to legislature Jan. 2001, mandates Me. develop acuity based staffing ratios, with report to leg. 5/2001.	Bill passed with $1,336,000 in state funds, with matching fed. funds of $2,610,000 to increase minimum staffing ratios in NH to 1:5, 1:10, 1:18. Signed by governor in April 2000, P.L. chapter 731.
MD.	2 hrs. daily	Y	Y		NCCNHR standards	Bill went to study. Task force estabd. Legis. introduced in 2000
MI	2.25 hrs daily nov 1:15)	Y	Y	Legislation to ir 3.0 hours per d	3.0 hrs direct reside staff: resident ratio below 1:15 on avera day	Legislation passed
MT	"meet the needs"	N	Y – C.N.A.,	Legislation		
NH		Y		Legislation	NCCNHR recommended minimum.	
NJ	2.5 hrs. daily plus extra time for residents with complex needs	Y	Y	Legislation and, Regulations. Increased staffing levels with simplified calculations.	Legislation to stop overtime by nurses, C.N.A.s and other direct care workers	Passed both houses, but vetoed by governor.
NM	2.25 hrs. daily	Y	Y	Legislation	Staffing based on acuity. Include only staff who actually provide	Legislation died in Senate.

State	No. hours of nurse staffing required	Efforts to change for CNA in 2000?	Efforts to change in 1999	Through Legislation, Regulation, or Budget	Description	Status
					hands-on service. Medicaid recoupment when minimum standards unmet.	
NV		N				
NY	"sufficient staffing"	Y	Y	Legislation	NCCNHR ratios	Introduced in State Senate and State Assembly. Not passed.
NC	2.1 hours daily	Y	Y	Legis, Reg and Budget.	1999 increased staff on Special Care Units in adult care homes.	
ND	Fed. "meet res. needs"	N	N			
OH	3.2 hours daily	Y	?		As part of 5 year rule revision for all nursing homes, DOH established commission to look at different proposals. Study of proposal to increase to 4.0 hours daily care due in 8 months.	Public Health Council will report out in eight months. Advocates will revisit in 2001.
OK	1.75 hours daily	Y	Y	Legislation. Raise ratio required of direct care staff to residents. Penalty for facilities who understaff. Raise wages of direct care staff. More to improve quality of care and quality of life.	Not passed in 1999. Passed both houses in 2000, and governor signed.	Raise ratios to 1:8, 1:12, 1:17 by 8/31/01; to 1:7, 1:10, 1:16 by 8/31/02 and to 1:6, 1:8, 1:15 by 9//1/02. By 9/1/02 ratios to include only CNAs, not activities or social services. Legislation also raised all staff but administrators by $1/hour. With minimum wage in NF set at $6.65/hour.
PA	2.7 hours daily	Y	Y	Auditor General's office has been studying issue.		
RI	1.9 hours daily	Y	Y	Legislation	NCCNHR ratios.	Will die in 2000 session. Looks good for 2001
TN	2 hours daily	Discussions	N	Legislation		
TX	?	Y	Y	Legislation	Similar to NCCNHR.	Unsuccessful 1999
UT	No ratio, just "sufficient to meet their needs"	Y	Y	Health Facility Committee.	Priority - Specific ratios for all staff and residents	Advocates must submit specific proposal
VA		N				

State	No. hours of nurse staffing required	Efforts to change for CNA in 2000?	Efforts to change in 1999	Through Legislation, Regulation, or Budget	Description	Status
VT		N	N			
WA		Y	Y	Legislation.	NCCNHR recn.	Very little progress
WV	2 hrs. daily	Y	Y	Legislation, Regulation	AARP wants 2.75, licensure department requests 2.25. state Health Care Assn wants category of workers (valets) to assume increased responsibility without certif.	AARP proposal died in legislature. . Optimistic that 2.25 will be implemented.
WI	N	N				

Supervision and Management Strategies and Advocacy Activities on Behalf of CNAs

- Return to survey

State	Describe	New funds available for new initiatives? (CMP)	Commission/Taskforce? Topic?	Studies?	Other Strategies?	Key Contact?
AL	Eden Alternative work group	N	Governor appointed committee of NH administrators and Aging Director	DK	N	
AK						Nancy Johnson, Arkansas Adv. For Nursing Home Reform, gjohnson@artelco.com; Alice Ahart, Ombudsman, alice.ahart@mail.state.ar.us
AZ		Y for training	Comprehensive Workforce Taskforce. Reinstated for next legislative session. Includes Dept. Health, Economic Security, AAAs, providers, Alzheimer's Assn, and others.	No study, but work will focus on workforce development and retention, funding, and other areas.	Tucson area coalition of providers, consumers and workers create job bank, continuing education, support etc. Judy Clinco, (520) 327-6351	Dawn Savattone, AAA and ombudsman, 602-264-2255.
CA		N	Y Workgroup includes State omb., DHS, CAHF, looking at Recruitment, trg. and retention	Conducting CNA survey. Recn. to Dir, DHS.	$25 million in state grants tfor training, recruitment and retention of caregivers	Susan DeMarois , Calif. Council of Alzh. Assn. 916-979-9131. Heather Martin, Lic. and Cert, 1800 Third St., Suite 210, Sacco. Ca 94234. 916-322-9912.
CO	CNA leadership day	N	Y. Formal panel soon to be announced, chaired by ED of state Health Care Assn.		Alz. training	Virginia Fraser, 303-722-0300. chgin28@aol.com
D.C.	nominal efforts	DK	Y. Mayor's Health Policy Council, LTC Committee, DC LTC Coalition. Looking at: N.H. regs for DC, and assisted living	Nothing current	Implementing assisted living in D.C.	Beverly Bryant, DC ltc omb., 202-434-2140
DE	Office of State Omb. emphasize benefits of Eden Option, and promotes aqua therapy for ltc facilities	N	Y. Senior Victim Task Force in A.G. office established subcommittees to improve health and safety of NH residents. Ensure that NH staff do not have criminal history.	Not now	Develop systems that protect residents from abuse, neglect, and financial exploitation.	Tim Hoyle, Ombudsmen office, 302-577-4791, thoyle@state.de.us
GA	Eden alternative coalition	N	Y. Appointees to be from provider, worker, consumer, home care and state depts. of Labor, Human Resources, Community Health, Adult Education etc. .	Coalition of providers, Council on Aging, Alzheimer's Assn, Ombudsmen, AAA, Georgia Gerontological Society		Becky Kurtz. 888-454-5826. bakurtz@dhr.state.ga.us
HI			N	Hi does not have ltc worker shortage		John G. McDermott, Exec. Office on Aging, State of Hawaii, N. 1 Capital District, 250 South Hotel Street, Suite 109, Honolulu, HI, 96813-2831, 808-586-7268. jgmcderm@mail.health.state.hi.us

State	Describe	New funds available for new initiatives? (CMP)	Commission/Taskforce? Topic?	Studies?	Other Strategies?	Key Contact?
IA	Iowa Caregivers Assn. received funding to recommend how to recruit and retain CNAs through non-financial incentives (e.g. support, shared responsibility, etc.)	Y. ICA study funded through CMP and medicaid dollars	ICA survey of CNAs and nurses. Also Commission with IA Healthcare Assn, Omb. office and IA Dept of Inspections and Appeals.	Looking at use of non-traditional workers. Not doing a study, or advocating rule changes, but intense recruitment efforts, PR and cultural changes at facility level.	Co-sponsored with Alz.Assn. statewide meeting of stakeholders including: providers, officials from workforce devt, welfare to work, education, health, immigration and ltc, elected officials, consumers direct care workers and unions.	Iowa Caregivers Assn, 1117 Pleasant St., Des Moines, IA, 50309. 575-241-8697. Iowacga@aol.com
ID		N	N		N	Cathy Hart, ID Comm. on Aging, P.O. Box 83720-0007, Boise, ID 83720-0007. Chart@icoa.state.id.us (208)334-3833.
IL	LTCOP is bringing Pioneers to IL to provide NF staff with concept and implementation strategies.	Y. IL DPH increasing assignment of monitors in homes. They can provide technical assistance to staff while in NF.	Y. looking at recruitment and retention of CNAs. Based on study will develop C.N.A. incentive program by 1/1/01.	No study yet. Due 1/1/01. Commission participants include: DPH, Il Health Care Assn, Life Services Network, Il Council on LTC, County NH Assn, organized labor, Il Community college board, Southern Il Univ. at Carbondale Dept of workforce Ed., Il State Bd. of Ed, Dept on Aging Omb.		Beverly Rowley, browley@ageo84r1.state.il.us. 217-785-3143.
IN	Conference promoting best practices, nonprofit assn. promoting culture change to membership.	Y – for training in restraint reduction	Y- task force. United Sr. Action, Alzheimers Assn, Nonprofit industry assn, consumers and omb. program. Looking at all possibilities for improving staffing	Not that far along.		Paul Severance, United Sr. Action 1211 Hyatt Street, Indianapolis, IN 46221. pseverance@iquest.net, 317-634-0872. or Doug Starks, Alz. Assn, 317 – 575-9620.
LA	Individual facility level: several facilities have or plan to "edenize".	N	Y, looking at training needs.	N	N	Dr. Bob Crow, 504-942-8201 Deborah Eley, Community Living Omb Program 225-925-8884
MA	Broad coalition achieved significant legislative goals	?	CORE (Coalition to Reform Eldercare) includes Alz. Assn., n.h. and h.h. provider assns., Elderly Legal Services, NASW, Paraprofessional Healthcare Institute.	PHI study on workforce crisis in ltc across settings. Published June 2000 in statewide meeting of stakeholders.	Legislative strategy incorporated unions, providers, workers, consumers, community colleges. Focus on workforce concerns across ltc sectors	Barbara Frank, PHI, 617-338-8478, bfrank1020@aol.com, Deb Thomson, Alz. Assn, 617-868-6718, Deborah.Thomson@Alz.org, Kathy Fitzgerald, Greater Boston Eldery Legal Services, 617-371-1270. kfitzgerald@gbels.org

State	Describe	New funds available for new initiatives? (CMP)	Commission/Taskforce? Topic?	Studies?	Other Strategies?	Key Contact?
ME	ME Health Care Assn launched, with partial state funding a "labor task force". Meets monthly, includes all stakeholders.		Y	Feb. 1999 study of all ltc workers by the Labor Task Force, convened by Me. Health Care Assn. Paid by ME. DOL, DHS and members of ME. Health Care Assn. Primary rec. to create career ladder for entry-level health care workers in Me.	May 2000 MHCA sponsored training for new supervisors in ltc settings to promote better mgt.	Catherine Valcourt, Legal Counsel for LTCOP, Paula Valente, Maine Care, 207-623-1146
MD			Y. Now being established. Aging health, industry, advocates. Looking at implementation of task force legislation. Reconvene Medicaid Nursing Home Reimbursement study Group.	Report findings to Senate and House by Dec. 1, 2000.		Patricia Bayliss, MD Dept of Aging, 410-767-1100. plb@marlooa.state.md.us
MI	MI Office of Services to Aging committed to bringing Eden Alternative to MI. Second annual conference and celebration of C.N.A.s.	No	(incomplete)			Eileen Kostanecki, state budget 517-373-0370, Cindy Paul 517-373-8928.
MT		N	Y. AARP, AL providers, ombudsmen, QA and Senior and LTC divisions. Looking at ed/trg./staffing requirements for AL owners, mgrs, workers.	Not yet. due 2001.		Hilke Faber, AARP, 206-517-2319. hfaber@aarp.org, Barb Smith, SLTC/DPHHS, 406-444-4064. basmith@state.mt.us
NH	Eden altern. in several NF. Staffing Crisis Task Force discussing ways to promote culture change.	N	Y. DHHS identified human service workforce as top priority. Assigned workforce taskforce. Red Cross, Hlth Care Assn, VNA, HHA, prof. assn, Assn of Res. Care Homes, Div. of Elderly and Adult services, LTC Ombudsmen, Hosp. Assn etc	Looking at recruitment, retention, financing, image No study yet.	Health Care Assn planning pilot projects in several NF. Proposing state-wide award and recognition of CNAs representing each area of practice to heighten public awareness. SLTCO compiled Staffing Crisis I&R Packet for NF.	Rebecca Hutchinson, Dir. of NH Paraprofessional Healthcare Initiative, NH Community Loan Fund, 603-224-6669. Rhutchinson@nhclf.org
NM			Y. HOME coalition, Health Action New Mexico		Attempt to develop rel. with NM Hlth Care Assn, DON	Kay Bird, 505-827-7645. kay.bird@state.nm.us

State	Describe	New funds available for new initiatives? (CMP)	Commission/Taskforce? Topic?	Studies?	Other Strategies?	Key Contact?
						Linda Sechovic, NM Hlth Care Assn 505-880-1088
NY	Pioneer Network, 1199 SEIU investing in helping NH in NYC start culture change. Working on changing supervision in NH	N – NY does not use CMP. Must go into Medicaid.	Y. provider association, NYS DOH, SEIU, Paraprofessional Healthcare Inst., CSEA, Nurses Assn. Looking at recruitment and turnover	Study underway by Paraprofessional Healthcare Institute. Due in early 2001. NYAHSA also has study.		Louis Bonilla, Paraprofessional Healthcare Institute 718-402-7766, Louis@paraprofessional.org, Cynthia Ruddder, Nursing Home Community Coalition of NYS, 212-385-0355, Pearl Granite, SEIU, 212-261-2297.
NC	Cultural change training with LTC Pioneers	Y for those promoting Eden alternative	Several in state. AAA, ombudsmen, regulators, providers, comm. colleges, advocates, hospitals etc.	Looking at recruitment, retention, benefits, training, wages, stress mgt. State Health Facilities Division completed study. Click here. Update due Fall 2000. Bob Konrad at UNC published study of registered C.N.A.s who no longer working in health care.	Meeting with direct care staff in November .	Susan Harmuth, Division of Facility Services, 919-733-4139. Susan.harmuth@ncmail.net, Nancy Smith Hunnicutt, 828-251-6622. nancy@landofsky.org. , konrad@mail.schsr.unc.edu
ND	Health and LTC facilities, AARP, Dept of Human Serv, Med. Assn sponsored conference on managing, retaining staff.	N	Yes. Governor appointed Task Force on LTC Planning.	Report available in Sept.	Y. Voc tech colleges offer programs	Dave Zentr?? 701-328-3191, Carol Olson – DHS 701-328-2538. Fax: 328-2359)
OK		N	Legislative "Continuum of Care Committee", Ad Hoc Comm. of State Health Dept on Training for Nurse Aides, LTC Facilities Advisory Board.	Looking at continuum of care and easy access. Proposing: adequate reimbursement, increase staffing, increase trg. re	Coalition with omb. office and NH assn., C.N.A. of year award, held a few round table summits re pay and recruitment/retention problems, costs and requirements. C.N.A. trg. provided	Eleanor Kurtz, DHS, 405-521-6734. elearnor.Kurtz@okdhs.org

State	Describe	New funds available for new initiatives? (CMP)	Commission/Taskforce? Topic?	Studies?	Other Strategies?	Key Contact?
				dementia, mentoring program for C.N.A. after hired.	in voc-techs , and in facilities.	
OR			Or. Health Care Assn tried, failed to get task force funded in legisl. session. . Ballot measure for Nov. 2000 would create 9 member commission ensuring high-quality home care services for elderly, disabled receiving publicly-funded personal care.			Kathy Labady, Senior Disabled Services Division 503-945-6462
RI	Bilingual speaking and NH cooking for different populations	N	Y. Omb., Depts of Elderly Affairs, Human Services, Health, Nursing homes, home care, legislators, union Looking at short term problems.	RI Health Care Ass. With AAHSA affiliate did survey of C.N.A.s	Yes. pulling voc-tech into commission	
SD		N	Y. DOH, Medicaid, S.D. Health Care Assn. Looking at Rate setting in relation to workforce supply	First mtg. June 2000	unsure.	
TN						
TX			Y. TX Health and Human Services Comm, and TX Workforce Comm. Looking at welfare to work proposals to transition from welfare to independence.	Study due Jan. 2001	Y. stakeholder partnerships.	Susan Sycor. 512-438-3111. TX Dept of Human Svcs.
VA	Informal discussions re Eden alternative	N	Y. Joint Commission on Health Care of the VA General Assembly. Looking at Recruitment and retention incentives, reimb. issues, career devt, staffing ratios.	Study avail from JCHC, Old City Hall, 1005 E. Broad St., Suite 115, Richmond, VA 23219		Patrick Finnerty, JCHC, 804-786-5445, Lorrene Maynard,VAPNA, 757-244-2857.
VT		N	Dept of Aging and Disabilities, Dept of Ed. and Trg. looking at issue.		voc. tech	Joan Senecal, 103 S. Main St., State Dept of Aging and Disabilities. Waterbury, VT 05676 241-2400.
WA						
WV	Informally, WV HCA and Social work conference brought in Dr. Thomas. . Conversations among providers, ombudsmen and others to have licensure change regs that inhibit Eden approach.	N	Y. Legislature in last session passed resolution to form committee to look at ltc issues. WV Interagency LTC panel comprised of WV Health Care Authority, WV Sr. Services, WV Office of Health Facility Licensure, Bureau of Med. Services, Dept of HHS, WVU. Ctr. on Aging, Bureau of Public Health, WV Health Care Assn, WV council of Home Health, WV state legislature provider orgs.	Primary issues: trg. improvement of staff, med. admin, pay scales, trg. in palliative care	Study due in June, 2000	WV Health Care Authority, 304-558-7000. hcawv.org Wm. Davis, Capital City Task Force, 124 Tiskelwah Ave. Elkview WV 25071
WI	1999 was Year of LTC worker.	?	Governor appointed commission to study issue. Conference in 1999.	Study completed in 1999. Multi-stakeholder group continuing to meet .	Proposals include more training and funding.	Claudia Stein, Ombudsman office 608-264-9760

State Training Activities to Prepare C.N.A.s

- Return to survey

State	# training hours now required for CNAs	Efforts to increase? Describe	Must some portion of training be offsite?	Specific requirements for trainers?	Does curriculum include communication/critical thinking/organizational skills?	Is there training required specific to Alzheimer/nutrition/ hydration?	Any other required training?
AL	75 hours	N	N		?		N
AR	75 hours	N	?				Most trg. at facility.
AZ	120 hours	Y	Y	Coordinators must by LPN with 2 yr. Experience, Instructors LPNs with 1 yr. experience. Assistants can be C.N.A. with 1 year exper.	Communication		
CA	150 hrs. for C.N.A.	Y Add 10 more hrs. for certification.	Y	Y. for RN and LVN	N	6 hours of certification training must be devoted to Alzheimer's. In residential care, aides must receive 6 initial hours of Alzheimer's care. and 8 annually.	N
CO	75	N	N	N	N	Y for Alz., N for other	
D.C.	75	N	DK	DK	DK	DK	For assisted living workers, training program is being designed. Legislation passed, not yet implemented.
DE	75	Y Add 75 hours for certification.	N	N	N	Students can opt for special Alz. training. Y for Nutrition,	N
GA	85 hours	N					N
HI	75	N	DK	DK	Am. Red Cross certifies C.N.A.s	C.N.A.s who are care home operators must take special classes on nutrition to admit residents with special food needs.	
IA	N		N	N	N.	N for assisted living	

State	# training hours now required for CNAs	Efforts to increase? Describe	Must some portion of training be offsite?	Specific requirements for trainers?	Does curriculum include communication/critical thinking/organizational skills?	Is there training required specific to Alzheimer/nutrition/ hydration?	Any other required training?
						or adult day care, respite	
ID	126 hours for C.N.A.	N	Y	N		Y for Alz, and nutrition/hydration	
IL	120 hours	Y increase hours specific to care to residents with dementia. Training to be developed.	Y	Y. Trainer requirements: - RN IL license no other duties, and – 2 yrs. experience in: teaching CNA program or employment in ltc, and either IL teaching or DPH certificate, teaching exper. or college coursework re teaching.	Y – communication, N- critical thinking, organ. skills	Y – Alz, and nutrition/hydration	
IN	120 hours.	Y-- advocates and consumers working to determine needs for specific trg. in aging, dementia, and behavioral mgt.					
KY	?						
LA	80 hours	N		Professional and experiential requirements, specific ratios of instructors to trainers	Y – communication, task analysis. N- critical thinking, organ skills	Y – Alz, nutr, hydration	
ME	150 hours –	Y . Revised curriculum to add several skills trg. components. – 3/1/00. Ongoing task force looking to coordinate various trainings of PCW,	Y	follows Fed. law	Y – communication, critical thinking, org. skills	Y - Alz, and nutr, hydr	Coalition of consumers, advocates, providers, and State agencies studying trg. issues for unlicensed assistive personnel in various settings.

State	# training hours now required for CNAs	Efforts to increase? Describe	Must some portion of training be offsite?	Specific requirements for trainers?	Does curriculum include communication/critical thinking/organizational skills?	Is there training required specific to Alzheimer/nutrition/ hydration?	Any other required training?
		C.N.A.s and RCS into portable system.					
MA	75 hours	Y	N	Initial and ongoing requirements. DPH revising regs. RN with experience of at least one year in lesson planning, delivery or student eval. in health care setting, or who has attended 24 hr. of continuing ed. can be waived	?	Y for NF, proposed for AL	2000 legislation signed by governor provides $5M for pilot projects in career advancement, $1M for C.N.A. certification scholarships, and $1M for education and job support for current and former welfare recipients who want to become C.N.A.s
MD	75 hours	N	N	Y. RN, 2 yr experience, completed LCA instructors training program.	Communication	Alz, nutrition, dehydration	
MI	75 hours	Y increase to 120 hours	N	N		N, Alz, Y, nutr. and hydr.	Personnel policies, concepts of care, environment, collecting/sharing info. nutrition, elimination, rehab.
MT	96 hours.	N.		Follows Federal regs.	Y – all 3	Y :Alz, nutr, hydr.	Discussing mandated training for assisted living workers
NH	100 hours	Discussions to require specialized trg. for Alz. and other special care	N	Y	Y – all 3,	N – Alz, or other specific areas. Proposed in new rules.	Proposed new rules for res. care aides.
NV	75 hours	?		Bd. of Nursing states instructor must be RN with B.S. degree	?	Alz and nutr, hydr.	
NJ	90 hours		Y	Y –NJ license as RN, 3 yrs of FT or FTE experience in health care facility, 1 yr. FT or FTE	Y – all 3,	Y, and psychosocial needs, physical needs, spiritual, and recreational needs.	

State	# training hours now required for CNAs	Efforts to increase? Describe	Must some portion of training be offsite?	Specific requirements for trainers?	Does curriculum include communication/critical thinking/organizational skills?	Is there training required specific to Alzheimer/nutrition/ hydration?	Any other required training?
				exper. as RN in ltc facility within 5 yrs. completion of evaluator's workshop course approved by DHSS.			
NM	75 hours	Y	N	LPN or more advanced	Communication	feeding, hydr. required for all workers, Alz only if on special unit.	Bowel and bladder training
NY	100 hours	Y. add 100 hours	?	Y. Coordinator is RN with 2 yrs experience in NH, competent to teach adults. Instructor is RN with 1 yr. NH exper. Clinical skills evaluator is RN with 1 yr. Experience in NH and completed eval. Program.	Commun., critical thinking and org skills Nursing Home Comm. Coalition of NYS proposing additional requirements: working as part of team, power relationships, communication skills, manners, compassion, care planning, aging process, assessment of individual needs, values and differences. autonomy and choice, multi-culturalism, time mgt., stress mgt., problem solving and creative thinking, basic English.	Alz, nutr. And hydr	NHCC also proposing that C.N.A. training include: support groups for aides, mentoring, field experience, case studies, role playing, including residents and relatives in training, emphasizing goals and objectives for resident care, visiting resident and family councils. Increasing on-going and in-service training. Beginning work on supervision issues.
NC	75 hours	N	N	N			Personal care workers, and assisted living
ND	75 hours. -	Y- Health Facilities and LTC assn. jointly sponsoring trg. for C.N.A.s.	N	Take course and have experience teaching adults, with experience supervising C.N.A.s	Y – comm., and interpersonal skills.	Y – alz and nutr, hydr.	Nothing planned for AL workers.
OH	?	Y – attempt to increase orientation from 2 hr. to 6 hrs. and in-service from 12 hrs yearly to 24 hrs . Efforts unsuccessful in 2000. Will try again.	?	?		Rules require providing sufficient additional hours of training for staff working on special units. Unsuccessful in changing that to 12 hours annually.	
OK	75 hours	Y –. will	N	Y – Set by	Y – communication, N –	Proposed in new	Assisted living

State	# training hours now required for CNAs	Efforts to increase? Describe	Must some portion of training be offsite?	Specific requirements for trainers?	Does curriculum include communication/critical thinking/organizational skills?	Is there training required specific to Alzheimer/nutrition/ hydration?	Any other required training?
	within 120 days of employment for C.N.A.	include specific Alz. care training		state health dept. either done by or under general supervision of RN with at least 2 yrs. nursing experience, with 1 yr. in ltc, and completed course in teaching adults or supervising nurse aides.	others Y – communication in HHA trg.	legislation for Alz. training. N – Nutr, hydr.	and adult day care aides 45 hrs. classroom and supervised trg. specific to facility pop. RN with 1 yr. experience can train
OR	150 hours						
PA	75 hours.		N		Y – commun., critical think, organ. skills for C.N.A.	Y – nutr and hydr.	
RI	?	Y	N	Y	Y – commun., critical thinking	Y – Alz, nutr, hydr.	
SD	75 hours.	N	N	Trg. must be approved by DOH	N	N	
TN	40 hours. classroom, 60 hrs. supervisor clinical experience						
TX	75 hours.	Y – C.N.A. Proposals being considered by Legis. committees	N	Y	Y – Communication	Y – Alz, Nutr. and hydration.	
UT	Fed. Avg. 20 – 50 hours classroom, 20 – 50 clinical.	Y –hoping for 2 – 4 hr. annual course	Y	Y – must be approved by Bd. of Nursing and must do clinicals in facility that is not sanctioned.	Y – comm., crit. thinking, org skills	Y – alz, nutr, hydr.	Problem that breadth of trg. is great, but depth of study in each topic is limited.
VA	120 hrs.	Y. discussing 40 addtl. hrs. for certif., no change in post-cert.	N	Y. RN, plus 2 yrs. experience	Y – commun., N – crit. think, org skills	Y – Alz, nutr, hydr.	
VT	75 hours.– Most programs between 80 and 100 hours.	N	Y	Trg. administrator must have 2 yrs. experience.	Communic., interpersonal skills, mental health and social service needs.	Alz. care,	
WA	86 hrs but most trg. programs are 130 to	Y	Y	Y	Commun.,	Nutr, hydr.,	

State	# training hours now required for CNAs	Efforts to increase? Describe	Must some portion of training be offsite?	Specific requirements for trainers?	Does curriculum include communication/critical thinking/organizational skills?	Is there training required specific to Alzheimer/nutrition/ hydration?	Any other required training?
	140 hrs.						
WV	75 hours.	N .	N		Commun., critical thinking, organ. skills	Alz, hydr, nutr.	In non-NH setting, specific requirements for person who administers meds

Interview Outline
Typical Process for Interviews at Selected Nursing Facilities in CA, WI, and KS.

1. Administrators
    a. I scheduled a 15 to 20 minute meeting with administrators, as the first level of contact in the facility, and also to introduce me to other managers and staff.
    b. For administrators, I focused on questions about mission and values, overall management philosophy, overall care philosophy, and perceptions of issues and problems related to recruitment, retention and turnover.

2. Directors of Nursing
    a. This interview lasted about 30 minutes, at least. I asked the DON about training, about supervisor and management relationships, about work assignments and scheduling, about her own background and experience and philosophy. Then I added turnover and retention questions, including about specific management practices of work organization and care organization, probing for resident-centered or worker-centered practices.
    b. I would also ask her to whom else I should talk and through her gain access for charge nurse and worker interviews in the targeted facilities.

3. Charge nurses
    a. I asked charge nurses all the questions about work and care organization, about quality, and some of the questions about training.
    b. I ordinarily sampled charge nurses for about two units per facility, depending on the size and composition of the facility, perhaps one 'ordinary' unit and one dementia unit, for instance.
    c. I spoke with both RN and LPN charge nurses
    d. I also asked about their backgrounds, recruitment, training in gerontology, their perceptions of issues of retention for their own classifications as well as those of CNAs' recruitment and retention.

4. CNAs –paraprofessional nursing employees
    a. I initially selected a sample of 4 or 5 CNAs in each case study facility, often to correspond with the units in which I interviewed charge nurses. I also interviewed at least 2 CNAs on evening and 2 on night shifts.
    b. I wanted both senior and newly arrived employees as well as some medium term employees, depending on the profile of the facility.
    c. I attempted to do formal or informal focus groups in the break room or at the beginning or end or middle of shift, though that depended on facility practices and voluntary support.

d. The paraprofessionals' perception of management practices, work and care organization, their intention to turn over, recruitment and attraction and selection, was important
e. I wanted to know about orientation and training, and relationships with managers, charge nurses, residents, and families. What keeps them there? What would make them leave? What is their past and desired future work experience?
f. I imagined a 15 to 30 minute interview with these workers, hopefully on their break time in a private place such as an unused office or a break room that has some privacy. Interviews lasted from 10 minutes to more than 1 hour, and occurred everywhere from lobbies to storage closets, on nursing stations, or in corners of dining rooms or quiet rooms.
g. I also considered small informal focus groups with varying other workers, to increase the breadth of the responding group.

5. Other people that I did interview in nursing homes re: recruitment, retention during this study

    a. Staff development director
    b. Human resource director and/or assistant
    c. Scheduler
    d. Whoever recruits, interviews, selects, and hires nursing staff
    e. Quality assurance personnel
    f. CEO or other officers who are on site
    g. Residents who are willing and able to talk
    h. Family members or family council members
    i. Secretarial or administrative staff, especially if long term
    j. Social services director
    k. Activity director
    l. Alzheimers' coordinators or directors
    m. Assistant directors of nursing
    n. Assistant administrators
    o. Chaplain
    p. Volunteers, especially regular ones

Appendix B:
Chart of Interviewees

Facility	*Interviewees* Admin	DoN (RN)	Staff Devel	Asst DON(s)	HR Director	RNs	LPNs/Chg	CNAs	Med Tech/ Restor. CNA	Scheduler	Others	Volunteer	Residents *Conversations not Interviews*	**Total N *w/o residents***	(also 8 CNA
Low Turnover															
Kansas 1	1	1	1	na	1	2	5	11	na	na	2	1	6	**25**	
Wisconsin 1	1	1	(HR Dir)	na	1	1	1	2	na	na	0	0	4	**7**	
Los Angeles 1	1	1	1	na	na	1	5	11	na	na	1	0	5	**20**	
Rural Ca. 1	1	1	1	na	na	4	7	14	1	na	0	1	6	**42**	
High Turnover															
Kansas 2	1	1	na	2	na	1	5	8	na	(DON)	0	0	3	**18**	
**Kansas 3*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	***2***	
Wisconsin 2	1	vacation	1	1	na	5	2	10 + group of 8	1	na	2	1	1	**24**	(also group of 8 CNAx)
Los Angeles 2	1	1	1	na	na	0	2	4	na	na	0	0	3	**9**	
Rural Ca. 2	1	1	1	na	na	2	3	11	1	1	1	0	4	**22**	
Interview Totals	**9**	**8**	**6**	**3**	**3**	**16**	**30**	**71 +** grp of 8	**3**	**1**	**6**	**3**	**35**	**159**	

** Kansas # (high turnover) refused access except for a one hour and 15 minute interview with the NHA and DoN; I interviewed residents on my own.*

Appendix B:
Chart of Interviewees

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A. Facility Introduction

Objective

- To orient management staff to the specifics of the site visit
- To obtain essential initial information

Procedure

A list of six facilities will be distributed prior to the field data collection phase. The Center on Aging will provide you with the name of a facility contact person, at least one week prior to a scheduled site visit. Additional facility information, including provider number, exact location and phone numbers will also be provided at that time.

Contact the facility liaison two days before scheduled arrival. Identify yourself as a research nurse from the University of Colorado Health Science Center. Announce date of arrival and request that a current and updated census list be available for you at that time. Request that the census list includes the following information for each resident: name, first and last; room number and unit location; payer source (Medicare, Medicaid, private or HMO); and date of most recent admission to the facility. Arrange a time for an introductory meeting with key facility staff on the first day of the site visit.

Meet once with key facility staff on the first day of your site visit. At a minimum, interview the DON and/or the administrator (or person who is filling in for them if they are absent). Other staff can be present per request. The introductory meeting may be scheduled at any time during the first day. Please accommodate the needs of the facility; however, ensure that you can proceed with your work if the introductory meeting is scheduled later in the day. In that case, request that facility staff be informed of your presence. Also request that one staff member be assigned to you for a brief period to provide you with necessary information.

Reiterate the following during the introductory meeting with key facility staff:

- Facility was selected randomly
- Data collection includes observation, record review, and some staff interviews
- Information is kept confidential: facilities are not identified in any publications
- Occurrences of immediate jeopardy to a resident must be reported to the proper regulatory authorities

Answer any questions about the project at the time of the introductory meeting.

Obtain practical information at this time. Tour the facility if desired or obtain a floor plan. Request names of key facility staff and phone extension numbers to facilitate communication. Record the facility information on the Facility Introduction Worksheet.

Support staff will be available at the Center on Aging for the duration of the project. Contact Julia Tufts or Mike Lin (for phone numbers see Contact List) with questions or in event of an emergency.

B. Quality Measure Set Selection

Objective

- To identify three quality measures to utilize for investigation

Quality Measure Sets

Seven quality measures have been selected as the basis for investigating the relationship between staffing and quality of care: Rehospitalization, Resisting Care, Unclean / Ungroomed, Significant Weight Loss, Incident Pressure Ulcers, Functional Status Eating, and Functional Status Toileting. However, only three quality measures will be targeted for investigation during one site visit.

The seven quality measures have been arranged into four sets, each containing three quality measures. All four sets incorporate the quality measure Rehospitalization, assuring that the case studies include the examination of skilled nursing care. The quality measures within these sets are as follows:

Set 1	Rehospitalization Functional Status Toileting Incident Pressure Ulcers
Set 2	Rehospitalization Functional Status Eating Significant Weight Loss
Set 3	Rehospitalization Resisting Care Unclean / Ungroomed
Set 4	Rehospitalization Significant Weight Loss Incident Pressure Ulcers

One quality measure set is assigned to each facility. Sets are predetermined, alternating sequentially in each subsequent site.

Selection Procedure

Select a quality measure set for the facility in order of sequence specified on the Selection Worksheet.

Record the facility name and provider # on the Selection Worksheet, next to the selected quality measure set. Assign a facility identification number to the facility. The facility identification number is composed of letters representing the state in which the facility is located, followed by a number representing the order in which the facility is visited in the specified state. Record the identification number on the Selection Worksheet.

C. Unit Selection

Objective
- To identify three units each with a different resident population

Rationale
The unit is a focal point for investigation of the relationship between staffing and quality of care. Residents with different care needs are often located on separate units.

Three different units should be selected in each facility: one Medicare/SNF unit and two long-term care units. If available, preference should be given to one special care unit (Alzheimer, dementia, or secured unit).

Criteria for Unit Selection
One Medicare/SNF unit should be selected if in operation in the facility.
If the facility has no Medicare/SNF units in operation, select the unit with the highest number of Medicare/HMO residents present on the first day of the site visit.

If the facility has multiple Medicare/SNF units in operation, select the unit in the following order of priority: 1) highest acuity level residents; 2) highest number of Medicare/ HMO residents present on the first day of the site visit.

One general long-term care unit should be selected.
If the facility has multiple long term care units in operation, select the unit with the highest resident census on the first day of the site visit

One special care unit (Alzheimer /dementia) should be selected if in operation in the facility.
If no special care unit is in operation, select two general long-term care units.
If the facility operates more than one special care unit, select the special care unit with the highest resident census on the first day of the site visit.

Selection Procedure
Identify the units in operation by type, using the following criteria: Medicare/SNF unit if the residents require mainly short term, sub acute care; Special Care Unit if the residents require a secured environment; and Long Term Care Unit if the residents are in the facility for long term placement. Record the information on the Facility Introduction Worksheet.

For each unit, enter the total current census, specifying resident payer status (Medicare, HMO, etc.). Hopefully, this information may be obtained from the facility census list. Request staff assistance if the information needed is not available on the census list and/or identified with a special facility key.

Select three units meeting the above criteria. Highlight the selected units on the Facility Introduction Worksheet. Enter the unit names and room numbers on the Selection Worksheet.

D. Resident Samples

Objective
- To obtain three resident samples, one on each of the selected units

Samples
Residents are selected from two population samples: an *Admission Sample* focusing on short-stay residents and a *Long-Stay Sample* focusing on long term residents.

The Admission Sample is composed of residents residing on the selected Medicare/SNF unit. Long Stay Samples are obtained for each of the long-term care units.

Each sample is composed of 20 residents randomly selected from the population on the selected unit.

Inclusion Criteria for Resident Sampling
Residents eligible for the Admission Sample must meet the following criteria:
1) admission (most recent) to the nursing home is from a hospital,
2) length of stay in the nursing facility is < 120 days.

Note: residents who were discharged from this nursing home to a hospital and then were readmitted from the hospital to the Medicare/SNF unit under investigation are included in the Admission Sample .

Residents eligible for inclusion in the Long Stay Samples:
1) have a length of stay in the facility > 120 days.

Length of stay is calculated from the first day of the resident's most recent admission to the facility.

Obtain an Admission Sample from the residents residing on the Medicare/SNF units. Obtain two Long Stay Samples one on each of the selected long-term care units.

Select all eligible residents in a sample if the current census on one or more units is less than 20 residents.

Procedure
Review the facility census list (use unit list if available). Identify all residents located on the selected units.

1. Identify residents eligible for each sample
   a. Admission Sample: length of stay in the facility is < 120 days ***and*** admission to the facility from a hospital
   b. Long Stay Samples: length of stay in the facility > 120 days

2. Assign a number to each of the eligible residents (sequentially starting with number 1).

3. Randomly select 20 residents in the sample using the Random Selection Chart.

E. Identifying 'At Risk' and 'Treatment' Status

Objective

- To screen the residents in each of the samples for health conditions related to the investigated quality measure(s)
- To identify residents who are at risk for a negative outcome and residents who have experienced a negative outcome

Rationale

Residents are screened for the presence or absence of certain health conditions in order to identify areas for investigation. An 'at risk' category and a 'treatment' category has been defined for each of the quality measures in the study. Residents who have a condition placing them at risk for specific negative health outcomes are assigned to the 'at risk' category for a particular quality measure. Residents who have incurred a negative health outcome are assigned to the 'treatment' category for a particular quality measure.

Admission Sample Inclusion Criteria in the 'At Risk' and/or 'Treatment' Category

Rehospitalization

At-risk: Residents with one or more of the following diagnoses: COPD, CHF, diabetes, cancer with treatment, HIV, quadriplegia, paraplegia and/or dysphagia.

Treatment: At risk residents, who were hospitalized within 30 days following admission for any of the following conditions: respiratory infection, electrolyte imbalance, sepsis and/or urinary infection

Long Stay Samples Inclusion Criteria in the 'At Risk' and/or 'Treatment' Category

Resisting Care

At-risk: Residents who require physical assistance with ADLs **and** who have impaired decision making skills and/or episodes of anger/unpleasant mood.

Treatment: Residents who exhibit symptoms of resistance to care > 5times per week.

Unclean / Ungroomed

At-risk: Residents requiring physical assistance with personal hygiene/grooming and/or bathing **and** who are either have impaired decision making skills or exhibit anger/unpleasant mood and/or resistance to care.

Treatment: Residents who, on the first day of the site, show evidence of a more than short-term lack of personal care.

Significant Weight Loss

At-risk: Residents who require physical assistance with eating self-performance **and** who have impaired decision making skills and/or who exhibited in the most recent 7 days episodes of crying/tearfulness/withdrawal/resistance to care and/or who have chewing/swallowing problems/mouth pain.

Treatment: Residents who have incurred a weight loss of at least 5% at any time in the most recent 90 days.

Identifying 'At Risk' and 'Treatment' Status (continued page 2)

Incident Pressure Ulcers

At-risk: Residents who have any of the following conditions: require physical assistance with bed mobility, transfer/ toileting **or** who are daily incontinent of bladder **or** who have a history of pressure ulcers of any stage in the last year.

Treatment: Residents, who in the most recent 90 days, newly developed a stage 2/3/4 pressure ulcer or whose existing pressure ulcer increased to a more severe stage in that same period of time.

Functional Status Eating

At-risk: Residents who require physical assistance with eating self-performance **and** who have impaired decision making skills and/or who resist care at least once a week.

Treatment: Resident who experienced a severe decline (2-level decline MDS code) in eating self-performance on the two most recent MDS assessments.

Functional Status Toileting

At-risk: Residents who require physical assistance with toileting self-performance **and** who have impaired decision making skills and/or who resist care at least once a week.

Treatment: Resident who experienced a severe decline (2-level decline MDS code) in toileting self-performance on the two most recent MDS assessments.

Selection Procedure

Complete a review for each of the residents in a sample in order to determine their 'at risk' or 'treatment' status for a specific quality measure. Conduct the review for the quality measures under investigation in the facility; 1) review for residents in the Admission Sample pertains to the quality measure 'Rehospitalization' while 2) review for the residents in the Long Stay Samples pertains to the two remaining quality measures in the set.

Utilize the Admission Sample Questionnaire, and Long Stay Sample Questionnaires to collect the appropriate information for each of the sampled residents. The questionnaires are organized by quality measure set and preferred source for data collection (see below):

Identifying 'At Risk' and 'Treatment' Status (continued page 3)

Data Source	At Risk Category	Treatment Category
Observation		• Unclean/Ungroomed
Staff Interview	• Resisting Care • Unclean/Ungroomed • Pressure Ulcers • Functional Change • Weight Loss	• Resisting Care
Record Review	• Rehospitalization	• Rehospitalization • Pressure Ulcer • Functional Change • Weight Loss

Record the data for each resident on the Resident Sample Tracking Form. The accumulated data identifies a resident in the appropriate 'at risk' or 'treatment' category. A resident should not appear in either category if the review reveals that the resident is not at risk for or being treated for the conditions indicating a negative outcome.

Extended Admission Sample for Rehospitalization Treatment Category
If there are no residents in the Admission Sample that meet the Rehospitalization Treatment Category, complete an extended admission sample as follows:

1. Unit Nurse – review the remaining admission sample residents to identify any re-admissions to this facility following a hospital discharge. If none, proceed to step 2.

   If yes, review the medical record for all the qualifying criteria (sampling & treatment criteria). If no qualifying residents, proceed to step 2.

2. Medical Records – request a list of discharges in the past 90 days. Starting with the most recent discharge date, select the first 20 residents who meet the Admission Sample criteria (length of stay < 120 days & admitted from a hospital). From this selection, proceed to identify residents who meet the Rehospitalization Treatment Category according to protocol

   If no residents meet the criteria, sampling is complete for this category.

F. Resident Selection for Care Study

Objective

- To select two residents on each unit for an in-depth investigation
- To identify potential quality of care concerns

Select two residents on each unit for further investigation: one resident in the 'at-risk' category and one in the 'treatment' category if available.

Rationale

Identification of a resident in the 'treatment' category indicates a potential quality of care concern. A high rate of residents identified in the 'treatment' category for a specific quality measure warrants further investigation.

Selecting a resident identified in the 'treatment' category ensures that the case study will include investigation into the avoidability of the negative outcome. In addition it ensures investigation of the provision of treatment for certain conditions.

Selecting a resident in the 'at risk' category ensures that the case studies will include the investigation of quality of care from the perspective of prevention.

Select residents in order to investigate the full array of care delivery; preventive and treatment care relevant to the quality measure.

Procedure

1. Review the completed Resident Sample Tracking Form for each unit. This review is aimed at discerning potential quality of care concerns related to the investigated quality measures.

    a. Identify the number of residents in the 'treatment' category. Review the causes for identification in the 'treatment' category.

    b. Identify the number of residents in the 'at risk' category. Review the reasons for identification in this category.

2. Attempt to identify patterns involving potential quality concerns.

3. Select one resident in each of the categories representative of the identified patterns. If no patterns are discerned, select a resident who is identified in the 'treatment' or 'at risk' category for multiple quality measures.

Indicate the names of the selected residents on the Selection Worksheet. Assign each resident with the identification number accorded to him or her in the sampling process.

A. Overview

Objective

- To investigate the relationship between quality of nursing care and staffing variables.

Data Collection

The case studies are conducted on each of the three units selected for investigation. Data for the case studies should be collected during a minimum of three different shifts including a day, an evening, and a weekend shift.

The investigation focuses on the three quality measures specified in the quality set selected for the facility. In each facility, the quality measure 'Rehospitalization' is investigated on the Medicare/ SNF unit, while the two remaining quality measures are investigated on two long-term care units.

The investigation into the quality of care focuses on two residents from each selected unit. This part of the investigation involves a review of the individual resident records and observation of the administration of individual care practices.

In addition to a review of the care to individual residents the investigation includes general unit observations focusing on care practices and staff interactions with residents other than the selected residents.

Staffing factors potentially affecting the quality of care may be investigated initially at the unit level through observations of general unit proceedings and interviews with direct care and supervisory staff.

The management interview should be conducted with at a minimum, the DON, staff development coordinator and scheduler to place the information collected on each of the units in the larger context of the facility. Management practices directly influence the staffing situation in a facility and more indirectly the quality of care.

Payroll data are collected to verify information obtained from staff and management interviews.

In summary, the case study investigation includes collection of the following data:

1. Individual Resident Record Review
2. Resident Specific Observations
3. General Unit Observations
4. Staff Interviews
5. Summary

Following the completion of data collection from all sources, the data will be synthesized in a summary evaluation. Protocols described in the next pages explain the procedures for data collection in detail.

B. Individual Resident Record Review

Objective

- To identify potential quality of care concerns
- To target care practices relevant for observation

Data Collection

Conduct a medical record review for each of the two residents selected on a particular unit.

Review the medical records on the first day of the unit investigation.

Extract the following information from each medical record:

1. Resident characteristics including
   - Resident ID and Social Security Number
   - Gender /DOB
   - Date of most recent admission: new admit or readmit
   - Location admitted from
   - Reason for admission
2. Medical history including
   - Diagnosis
   - Risk factors
   - Onset of symptoms
   - Responses and interventions
3. Assessments and RAPS relevant for each investigated quality measure
   - Nursing assessment and assessment(s) of relevant other disciplines
   - Evaluation of causes
   - RAPs
4. Care Plan and Care Plan Interventions relevant for the investigated quality measure
   - Problem/concern
   - Reason
   - Goal/objective
   - Interventions/approaches

Record data in the appropriate boxes on the Individual Resident Record Review Worksheet.

Individual Resident Record Review (continued page 2)

Evaluation of Quality of Care
Following your review, evaluate the quality of care provided to each individual resident by answering the following questions:

1. Are medical/behavioral concerns **adequately assessed**?
    - Does staff respond timely as concerns arise?
    - Does staff inform other professional disciplines in a timely manner?
    - Does staff evaluate all possible causes for the medical/behavioral concern?
2. Are medical/behavioral concerns **appropriately addressed**?
    - Does staff evaluate and monitor concerns/symptoms in accordance with accepted standards of care and resident preferences?
    - Are interventions in accordance with accepted standards of care?
    - Are interventions effective?
    - Are ineffective interventions replaced in a timely manner?
3. Are medical/behavioral symptoms **sufficiently monitored**?
    - Does staff monitor until symptoms subside?
    - Does staff document resident's status consistently?
    - Is documentation appropriate to described symptoms

Record the findings from the records on the provided Individual Resident Record Review Worksheet.

Procedure
1. Initiate the data collection on each of the selected units with a record review of the two residents selected on the Selection Worksheet
2. Use an Individual Resident Record Review Worksheet for each of the residents to record the findings
3. Locate and start the review of the individual records
4. Record resident characteristics as indicated on the worksheet
5. Review Tracking Form and identify the quality measure(s) for which the resident has a negative outcome and/or is considered at risk. Record data on worksheet including dates and outcomes
6. Review all relevant records and provide a brief medical history related to the investigated quality measures
7. Review assessments, care plan, progress notes, and flow sheets for the time frames relevant for the quality measures. Record findings on the Individual Resident Record Review Worksheet
8. Evaluate findings as per protocol guidelines. Record potential quality concerns in the designated area on the worksheet
9. Indicate relevant care practices to target for observation. Indicate potentially important staffing related issues

C. Resident Specific Observations

Objective

- To describe the administration of care to selected residents
- To evaluate the quality of the observed care practice
- To evaluate the direct care worker's job performance

Data Collection

Conduct observations of the individual care practices for the two residents selected per unit.

Identify and select care practices for observation following an individual record review. The selected care practices may include, but are not limited to the following:

• Personal hygiene	• Mealtime + Snack time	• Unstructured Time
• Bathing	• Taking Medication	• Structured Activity
• Toileting	• Dressing	• Special Needs Care

Observe a minimum of three different care practices as they are administered to each of the selected residents during normal daily routines.

Observe each care practice performance from initiation to completion. Indicate for each a starting and ending time.

Describe the job performance of the direct care worker and the interaction between resident and care worker as it actually occurs.

Review at the end of each shift whether the observed care practices are documented accurately. Record findings on Data Collection Worksheet.

Observe whether relevant issues are reported to the appropriate staff, both during and at the end of the shift. Record findings on Data Collection Worksheet.

Evaluation of Quality of Care

Evaluate the quality of the care provided in a review of the following:

- Is the care practice implemented as indicated in the nursing care plan?
- Is the administration/delivery of care practiced in accordance with accepted standards for care?
- Is the provided care effective?
- Is the interaction with the resident appropriate and considerate and in accordance with the resident's preferences?
- Is documentation of the completed intervention accurate and timely?

Indicate the results of your evaluation on the Data Collection Worksheet in the column 'Quality of Care'

Resident Specific Observations (continued page 2)

Evaluation of Staffing Issues

Evaluate how the quality of the observed care potentially relates to staffing issues:

- Is the care worker' familiar with the resident and/or the resident's care plan
- What is the availability of supervisory/co-worker's and material support
- What is the workload of the direct care worker
- What appears to be the care worker's motivation/attitude

Indicate the results of your evaluation on the Data Collection Worksheet in the column 'Staffing Issues'.

Procedure

1) Introduce yourself to the resident selected for the case study (if appropriate) and to the direct care worker before initiating any observations.
2) Briefly explain the reason for your presence. Answer questions.
3) Observe the administration of care practices during normal daily nursing routine. Arrange your day accordingly.
4) Observe care practice for the entire duration of the performance during the regular scheduled times.
5) Record actual findings on Data Collection Work Sheet. Use data source key and resident study ID number to identify the data.
6) Evaluate quality of care as per protocol and record in the section 'Quality Concern' on the Data Collection Worksheet.
7) Evaluate job performance of care worker as per protocol and record under 'Staffing Issue' on the Data Collection Worksheet.
8) Identify topics to further investigate during their interviews.

D. General Unit Observations

Objective

- To describe general unit proceedings
- To describe staff activities and staffing characteristics
- To evaluate the relation ship between observed staffing factors and the observed quality of care

Data Collection

Conduct general unit observations during three shifts; one day, one evening and one weekend shift. Observations are ongoing for the duration of the shift.

Focus your observations on the following:

1. communication between shifts
2. allocation of staff
3. workload of nursing staff
4. preventive nursing care
5. supervision of direct care staff

1. Observe the communication among nursing staff between shifts. Observe the transfer of information during nursing report at least once on each observed shift. Observe the following: mode of communication, type of staff present and information transferred.

Evaluate the accuracy of communicated information. In addition, assess whether the information is communicated timely to the appropriate disciplines. Evaluate whether the communicated information enables the incoming staff to provide uninterrupted care.

2. Observe number and type of nursing staff allocated to the unit during the shift. Identify the presence or absence of medical staff, nursing staff and ancillary staff; identify the allocation of additional staff during peak hours, identify the presence of pool/agency staff.

Observations are ongoing during the shift. Focus your attention on staff allocation during peak hours.

Evaluate the adequacy of the numbers of allocated staff in terms of staff's professional experience and background in relation to type and acuity of residents on the investigated unit.

3. Observe the workload of available staff by identifying the percentage of time spent carrying out job-related activities; the ability to respond to needs of residents as evidenced in response time to call lights/ response to requests; the ability for staff to take scheduled breaks.

General Unit Observations (continued page 2)

Evaluate whether the observed workload allows staff to reasonably complete the assigned tasks.

4. Focus the observation of preventive care practices on positioning and repositioning of non-ambulatory residents; management of incontinent residents; management of disruptive and/or abusive residents; provision of meaningful and resident appropriate activities; provision of nutritional supplements and hydration; mealtime activities.

Observe a minimum of three general preventive care practices relevant to the investigated quality measure. The observation of preventive care practices is not restricted to the two selected residents.

Evaluate findings related to general preventive nursing care practices base on their administration in accordance with accepted standards of care.

5. Observe supervision of staff during the shift. Identify: presence and responsibilities of the supervisor; percentage of provided leadership activities; demonstration of nursing skills, knowledge, and experience; familiarity with residents and staff; and follow up on given directives.

The observation of supervision of direct care staff is on going for the duration of the shift. Record relevant observation as they occur.

Evaluate performance of the supervisor in terms of quality of care. Does the activity and presence of the supervisor enhance the quality of the provided care?

Following each observation, record the findings as they actually occurred on the Data Collection Worksheet.

Record evaluations pertaining to the quality of care or related staffing issues in the appropriate columns on the Data Collection Worksheet.

Identify topics for interviews and/or issues for follow up in the designated space.

Procedure

1) Introduce yourself to the unit supervisor and explain the reason for your presence.
2) Inform the supervisor of your presence for the duration of the shift
3) Conduct observations as per protocol. Use the Unit Topic List for guidance
4) Record findings on Data Collection Worksheet. Describe occurrences as closely to the actual facts as possible
5) Indicate times/data source as per data source key on the Data Collection Worksheet
6) Evaluate findings as per protocol

E. Staff Interviews

Objective

- To investigate job performance and quality of care findings
- To describe management practices

Data Sources

Conduct interviews with the following facility staff:

1. Direct care staff on each selected unit
2. Direct care worker observed during the administration of care to the selected residents
3. Unit manager and/or other supervisory staff
4. Specialist/professional staff, such as dietary, wound care specialist, rehab, who are relevant for the investigation of the quality measure(s) under review
5. Management staff
6. Payroll manager

Data Collection

1 Conduct brief interviews with each direct care worker present on the unit during the shifts of observation. Elicit information regarding allocation of staff. Focus the interviews on the following topics:

- Professional background: RN, LPN, CNA
- Educational background especially regarding additional training in geriatrics
- Employment status: facility employee - agency worker
- Tenure on the unit; number of days, months, years of assignment to the unit
- Rotation on and off the unit

Conduct these brief interviews during the observed shift. Please attempt to minimize interruptions to the staff's normal daily routines.

Evaluate whether the staffing resources allocated to the unit are adequate in order to provide care in accordance with acuity level of residents and accepted standards of care.

2 Conduct a more extensive interview with the direct care worker(s) observed during the administration of care to the selected residents. This interview aims to investigate the observed job performance findings. Obtain information regarding the following:

- Workload, assignments and/or responsibilities
- The care workers knowledge of and familiarity with the resident's care, care plan and preferences
- Knowledge of the standards of care relevant to the investigated quality measure
- Adequacy of facility provided resources involving staffing, supervision, training and in-services
- Personal opinion about quality of care provided and important staffing issues in the facility

Staff Interviews (continued page 2)

Conduct these interviews either in a formal or informal manner, depending on the anticipated length of the interview and the preference of the direct care worker.

Evaluate the care worker's job performance in terms of motivation, attitude, and ability to communicate effectively. In addition evaluate the facility's provision of resources in terms of staffing, supervision, and training.

3 Conduct one interview with each unit manager/nurse supervisor assigned to the observed shifts to obtain information regarding staff allocation, systems of communication, quality assurance and quality monitoring. The interviews will cover the following topics:
- Professional /educational background and previous work experience
- Responsibilities and duties
- Presence and availability of medical, ancillary staff
- Presence and frequency of unit meetings
- Interdisciplinary and/or interdepartmental communication
- Presence, implementation and monitoring of clinical guidelines
- Performance evaluations; frequency, consequences and follow up
- Personal opinion about quality of care provided and staffing issues in the facility

Evaluate how the organization of the unit; provision of structure, professional expectations and communication contribute to the observed quality of care.

4 Conduct interviews with professionals in other disciplines providing services relevant to the investigated quality measure; e.g. dietary for the quality measure 'Significant Weight Loss'. Elicit information regarding clinical management programs. Cover the following:
- Professional /educational background and previous work experience
- Responsibilities and duties
- Protocols relevant to the investigated quality measure
- Work performance in accordance with guidelines
- Resources provided by facility
- Personal opinion about quality of provided care and staffing issues in the facility

Interview other professional staff members in a formal interview.

Evaluate how protocols and guidelines meet professional standards of care and how knowledge, background and experience contribute to maintaining high standards of care.

Staff Interviews (continued page 3)

5 Conduct a management interview with the following professionals as available: a) director of nursing, b) staffing coordinator and c) staffing development coordinator. The aim of the interviews is to elicit information about management practices relevant for quality and quantity of available nursing staff. Cover at minimum the following topics:

- Professional /educational background and previous work experience
- Responsibilities and duties of each professional
- Tenure in position
- Recruitment strategies including attracting and evaluating new employees/contract workers
- Evaluation of job performance of facility and contract staff
- Allocation of staff including skill level and preferences of staff for particular assignment, scheduling strategies/guidelines, staffing levels, rotation of available staff
- In-service training and orientations
- Scheduling practices and replacement policies
- Personal opinion about quality of provided care and staffing issues in the facility

Evaluate how management practices contribute to the quantity and quality of staff. through provision of structure, clear guidance and resources.

6 Payroll Manager

Obtain information from the pay roll offices as instructed on the Payroll Questionnaire.

Procedure

1) Schedule time for an interview well in advance.
2) Complete each interview with staff as indicated per protocol. Use the Unit Topic List and Management Interviews Topic List for guidance
3) Formulate open-ended questions concerning relevant topics. Avoid 'feeding' information
4) Allow the respondent adequate time to answer thoroughly. Allow the respondent to formulate a response in his or her own terms.
5) Allow the interview to follow its own course. Formulate questions related to the topics advanced by the respondent. Ask the staff to elaborate. Direct only if needed
6) Be sensitive to staff responsibilities and time constraints. Schedule accordingly
7) Record the findings of each interview on the Data Collection Worksheet indicating date and time of interview in addition to the data source
8) Document the interview findings using terms used by the respondent. Record 'salient' remarks verbatim if at all possible
9) Record your evaluations in the designated columns on the Data Collection Worksheet.
10) Identify issues for verification and follow up in the designated space.

F. Summary

- To summarize the findings in a succinct report
- To rate the quality of care as observed in the facility
- To identify the staffing issues contributing to the quality of care

Procedure

1) Review the findings following completion of the data collection.

2) Summarize the relevant points in the provision of care to the selected residents and the related staffing issues

3) Rate the quality of care per investigated quality measure using a rating scale from 1-100

4) Elaborate on the rating if necessary

5) Identify all staffing factors contributing to the quality of care

6) Indicate, for each of the listed staffing issues, the importance in contributing to the quality of care

7) Record summary, quality ratings and identified staffing issues on the Facility Summary Report

8) Return completed case studies and all data collection materials to the Center on Aging Research Section as per Mailing Protocol

NURSING ASSISTANT TRAINING
TRAINING SITE OBSERVATION AND INTERVIEW PROTOCOL

Confidentiality Statement

The following statement would be written at the top of the questionnaire and discussed prior to beginning a group or individual interview to assure participants of the confidentiality of their responses (both verbal and written).
I/We are from Abt Associates, a private research firm, specializing in health policy research for the Federal government. We currently have a contract with the Health Care Financing Administration (the branch that administers the Medicare and Medicaid programs) to provide them with research that will help them determine whether or not they should pass a regulation to require minimum staffing levels in nursing facilities that care for residents receiving Medicare and Medicaid benefits.

We are conducting these interviews to learn more about the training that nursing assistants receive and whether or not that training adequately prepares them for the duties and responsibilities of the job. We ask that you be as honest and open as possible and provide us with responses based on your experience as a nursing assistant. Your name (or the name of the facility) will not be used in our report nor will your responses be shared with any of your supervisors at the facility.

This interview/discussion will last approximately _____ minutes and we greatly appreciate your willingness to give us your time and provide us with this valuable input to our study.

Training Site Program Observations and Interviews

1. Nursing Assistant Training Classroom Observation

Describe the training session (number of students, instructor and student activities, teaching methods employed):

Describe the environment where classes are held. Does there appear to be an adequate supply of materials, does the environment appear conducive to learning?

2. Program Curriculum
Obtain a copy of nursing aide training course curriculum with description of teaching methods used.

3. Instructor Interview

Instructor Qualifications
Instructor # 1
Obtain information on instructor educational level, experience and qualifications:

Is the instructor a nurse – RN, LPN
If not a nurse – what profession?
Highest educational level in nursing: Diploma Grad, Associates Degree, Bachelors Degree, Masters Degree, Doctorate Degree
Highest educational level outside nursing: HS, College, Graduate Degree, Area of Study _____
Certifications:

Length of time teaching nursing assistants:
Length of time teaching adults:
Nursing experience:
Geriatric nursing experience:

Instructor # 2
Is the instructor a nurse – RN, LPN
If not a nurse – what profession?
Highest educational level in nursing: Diploma Grad, Associates Degree,
Bachelors Degree, Masters Degree, Doctorate Degree
Highest educational level outside nursing: HS, College, Graduate Degree,
Area of Study _____
Certifications:
Length of time teaching nursing assistants:
Length of time teaching adults:
Nursing experience:
Geriatric nursing experience:

Personal Experience:
In his/her opinion is the length of training time adequate to prepare nursing assistants for employment? If no, what would be a more realistic time frame? What activities would be included in the additional time? (More practice, more lecture, etc.)

If the instructor has been teaching for more than two years, do they note any changes in the types of students coming through the classes? Prompts – Are the students - older/younger, English as primary language or ESL, more/fewer men, greater/less previous work experience, more/fewer students seeking to advance to nursing programs.

Does the instructor receive any comments from facilities regarding former students? If so, describe the content of comments?

Does the instructor receive comments from former students? If so, describe those comments.

4. Nursing Assistant Student Interview (Group or Individual)

Obtain the following information from nursing assistants participating in the interview:

Age: Under 25
26 – 45
Over 45

Sex: Male Female

Address:_____City _____State

Race/Ethnicity: How would you identify yourself? Please circle one or more of the following ethnic groups:

Non-Hispanic White
Black/African American
Hispanic/Latino
Asian & Pacific Islander
American Indian/Alaskan Native

Educational Background:

If educated in the United States: (circle appropriate level)
No High School Diploma/GED
HS Diploma
GED
Some College – Area of Study _____
College Degree - Area of Study ____
Graduate Degree – Area of Study ____

If educated outside the United States:
Number of years of schooling prior to university _____
Number of years of schooling at the university _____
Country_____

Last job-type prior to beginning training or if currently employed type of employer:

Retail – clothing store, grocery store, convenience store, etc.
Factory – assembly plants
Fast Food Industry – MacDonalds, Wendy's, Burger King, etc.
Service – hairdressers, dry cleaners, childcare, etc.
Health Care – hospitals, nursing homes, home health
Transportation – taxi cab drivers, subway workers, airline workers
Construction- building houses, building roads/bridges, remodeling
Other

What led you to decide to enroll in the nurse aide training program?

- Always wanted to be a nurse or nurse aide
- Previous experience taking care of an elderly family member/neighbor/friend
- Attractive wages, benefits
- Many job openings in the community
- Best opportunity based on current level of skill and experience
- Other _____

Are you confident that this program will adequately prepare you to get a job as a nursing assistant?

- Very confident
- Somewhat confident
- Not confident

Are you confident that this program will adequately prepare you to carry out the duties of a nursing assistant?

- Very confident
- Somewhat confident
- Not confident

NURSING ASSISTANT TRAINING
NURSING FACILITY STAFF INTERVIEW PROTOCOL

Confidentiality Statement

The following statement would be written at the top of the questionnaire and discussed prior to beginning a group or individual interview to assure participants of the confidentiality of their responses (both verbal and written).

I/We are from Abt Associates, a private research firm, specializing in health policy research for the Federal government. We currently have a contract with the Health Care Financing Administration (the branch that administers the Medicare and Medicaid programs) to provide them with research that will help them determine whether or not they should pass a regulation to require minimum staffing levels in nursing facilities that care for residents receiving Medicare and Medicaid benefits.

We are conducting these interviews to learn more about the training that nursing assistants receive and whether or not that training adequately prepares them for the duties and responsibilities of the job. We ask that you be as honest and open as possible and provide us with responses based on your experience as a nursing assistant. Your name (or the name of the facility) will not be used in our report nor will your responses be shared with any of your supervisors at the facility.

This interview/discussion will last approximately _____ minutes and we greatly appreciate your willingness to give us your time and provide us with this valuable input to our study.

1. Nursing Assistant Interviews (Group or Individual)

a. *Background Information*

This information would be obtained via a short questionnaire. See Confidentiality Statement at the end of this document.

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Obtain the following information from nursing assistants participating in the interview:

Age: Under 25
26 – 45
Over 45

Sex: Male Female

Address:_____City _____State

Race/Ethnicity: How would you identify yourself? Please circle one or more of the following ethnic groups:

Non-Hispanic White
Black/African American
Hispanic/Latino
Asian & Pacific Islander
American Indian/Alaskan Native

Educational Background:
If educated in the United States: No High School Diploma/GED

(circle appropriate level)

HS Diploma
GED
Some College – Area of Study _____
College Degree - Area of Study ____
Graduate Degree – Area of Study ____

If educated outside the United States:

Number of years of schooling prior to university _____
Number of years of schooling at the university _____
Country_____

Last job-type prior to training or prior to current position:

Retail – clothing store, grocery store, convenience store, etc.
Factory – Assembly plants
Fast Food Industry – MacDonalds, Wendy's, Burger King, etc.
Service – hairdressers, dry cleaners, child care
Health Care – hospitals, nursing homes, home care
Transportation – taxi cab drivers, subway workers, airline workers
Construction- building, remodeling

What led you to decide to become a nurse aide?

Always wanted to be a nurse or nurse aide
Previous experience taking care of an elderly family member/neighbor/friend
Attractive wages, benefits
Many job openings in the community
Best opportunity based on current skill and experience level
Other _____

NA Training Provider: Red Cross

High School Vocational School
Community College
Facility where currently employed
Other Facility
Other – Describe_____.

Training Length in hours or days/weeks:

75 hours/ 10 days
100 hours/ 12 days
120 hours/ 15 days
More than 120 hours/15 days – Describe _____
Other _____

b. Training Program Description

Did training include both classroom learning and laboratory practice (either in a lab setting or facility)? How was the training time divided between the two settings?

50% Classroom and 50 % Clinical laboratory practice
75% Classroom and 25% Clinical laboratory practice
25% Classroom and 75% Clinical laboratory practice
100% Classroom and no Clinical laboratory practice
No Classroom and 100% Clinical laboratory practice

Consider the following list of topics that may or may not have been included in your training program. Check the ones that your training program covered:

Resident Rights
Infection Control
Safety
Basic Resident Care
- Bathing
- Dressing
- Grooming
- Hygiene – Nail care, Mouth care, Incontinent care
- Feeding
- Transfers and ambulation
- Positioning
- Toileting

Vital Signs – Temperature
Vital Signs – Pulse
Vital Signs – Respiration
Vital Signs – Blood Pressure
Blood Glucose Testing
Care of the Geriatric Resident
Care of the Dementia/Alzheimer's Resident
Care of a resident with a Feeding Tube
Care of a resident with a Foley Catheter
Care of a resident with an IV (Central or peripheral)
Care of a terminally ill resident
Using the resident's care plan
Recognizing signs/symptoms of illness in elderly residents
Team work – nursing team (supervisor, charge nurse, med nurse, other NAs)
Team work – facility team (administrator, dietary, social service, activities, rehab)
Conflict resolution
Communicating with the resident's family

When you think about your training program, what areas/topics/procedures did you find most difficult to learn?

From the list above, which topics/procedures would you have liked to receive additional training/practice on?

When you completed your training program did you feel adequately prepared?
If no, how could your training program have been improved? Explain _____

How was material presented/studied/practiced in the training program? Mark/circle all that apply:

Lectures
Demonstration
Video Tapes
Text Book
Role Play
Class discussion
Team projects
Homework
Clinical practice (Return demonstration)
Computer program

Which method(s) did you find most helpful?

How many instructors were there in your training program?

1
2 or more

If only one instructor – was this person a nurse? Yes No

If no, what was their background, if known? _____

If there was more than one instructor – Describe the number of people and their professions.

c. Employment

How long between the time when you finished your training and your first job?

Less than 2 weeks
2 – 4 weeks
5– 8 weeks
More than 8 weeks

After you started working, did you feel that what you learned in class had prepared you for the responsibilities of the job?

Describe your first few weeks on the job:

At what point were you given the same number of residents to care for as your co-workers?

Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Day 7
Day 8 – 14
Day 15 – 21
After Day 21

What kinds of support were available to help you transition from training to work? Prompts - Met regularly with supervisor, assigned to work with a more experienced NA, given a lighter resident load, provided with additional training on the floor. Were there other ways that you were offered support during those first few weeks?

If you had a buddy or mentor (describe further if necessary) during the first few weeks of your employment, how long did that buddy/mentor stay with you?

First week of employment
First two weeks of employment
First three weeks of employment
First four weeks of employment
Longer than the four weeks – Explain _____

Describe the role of buddy/mentor. What did you learn from him/her? Was it helpful?
Describe_____

*Please describe your first few days on the job. Chose the statement that best describes your experience:

#1. I loved my job from day one; I couldn't wait to get back to work each day.
#2. I was nervous at first, but gradually felt more secure. I was eager to go back to work and practice/improve my skills.
#3. I was scared and uncomfortable and sometimes dreaded going to work.
#4. I was miserable and frequently considered not going back.

For those that answered the above question with responses # 3 and # 4 – What made those days so difficult, and what would have made those early days easier.

*Describe how you learned to care for the residents at the facility. Rank the following sources of information in the order in which you generally used them:

Charge nurse explained resident care needs
Other nursing assistant explained resident care needs
Read the care plan
Asked the resident
Asked the resident's family
Other- Describe _____

*When you think back over all the information and techniques that you learned as part of your nurse aide training, and the tasks that you now perform as part of your job, how much of what you actually do every day on the job was learned in the nurse aide training program and how much was learned on the job?

100% learned in the training program	0 % learned on the job
75% learned in the training program	25% learned on the job
50% learned in the training program	50% learned on the job
25% learned in the training program	75% learned on the job
0 % learned in the training program	100% learned on the job
Other _____	_____

Please list and describe any tasks or procedures that you learned on the job.

In view of your answers to the last two questions, would you like to make any suggestions about the way that nurse aide training is conducted?

Sometimes the way we learn to assistant the residents with their care (for example, bathing and grooming) in a training program is not the way we do them on the job. Would you say that the way you bathe your residents is the same as you were taught in the training program? Yes No
If no, describe the differences and how you feel about them.

Answer the same question as it applies to feeding residents –

Is your facility providing you with additional training or learning experiences? Does your facility currently have a system in place for nursing assistants to advance to a higher level of responsibility and/or recognition? Prompts – a career ladder program, advanced nursing assistant training, lead nurse aide or head nurse aide

Is there any thing else you would like to say about your nurse aide training program or about nurse aide training in general?

*Questions that are lengthy or require ranking of responses would be printed out for participants so that they could refer to them during the discussion.

2. Director of Nursing/Supervisor Interview

Have you hired newly trained and certified nursing assistants in the last 6 months? If yes,
Do you feel that the nursing assistants being hired as recent new-graduates are well prepared? If not, in what way(s) do you think their preparation could be improved?

Are there some programs that you are aware of that generally do a better than average job preparing the nursing assistants? Please identify these programs and why you feel they do a good job?

In what ways do you or your staff reinforce, support or provide additional learning to the nursing assistants. Prompts – buddy/mentor system, lighter resident assignment, skills assessment, orientation program, increased level of supervision during initial employment period, frequent feedback on job performance

Nursing Assistant Training Recommendations

The general thrust of these recommendations, which were written for this chapter by the Paraprofessional Healthcare Institute, is that training requirements for CNAs should be expanded.

Raising the bar for entrance into the nursing assistance field may seem counterintuitive at a time of widespread vacancies throughout the industry. However, these recommendations are based on the assessment that *retaining* nursing assistants once in the field—not simply attracting more new applicants only to lose most within months, if not weeks—is the most effective way to prevent vacancies. Central to improving retention is providing CNAs with the preparation and ongoing support they need to do the job with competence and confidence.

The recommendations are divided into four sections: recommendations for CMS, recommendations for states, recommendations for nursing facilities, and course content and testing recommendations.

Recommendations for CMS

Evaluate current state training programs. Regulations governing state-mandated training hours and curricular components vary widely across the states. A few states and provider organizations require at least 150 hours of pre-certification training, while others remain at 75 hours. CMS should undertake an evaluative study to determine the hours and content of training programs in the states and their efficacy. The CMS study should build on the current evaluation of state CNA training programs due in early 2002 from the Office of Inspector General of the Department of Health and Human Services.

Mandate more hours of training for CNAs. Because older adults and younger individuals with disabilities are living longer and those with less severe or more manageable disabilities are choosing to live in less restricted settings, the current cohort of nursing home residents are more acutely ill and likelier to suffer from some form of dementia or mental illness than residents of 14 years ago, when OBRA was enacted.

Many of the key informants interviewed for this chapter—whether they were trainers, providers, direct care workers or supervisors—suggested that CNAs need at least 160 hours of initial training to learn and practice the technical, cognitive and interpersonal skills needed to manage the physical and emotional demands of the job. Some recommended that at least 80 of these hours should be allocated to guided and specified clinical practice in both a lab and in a nursing home working with residents. They also recommended that all 50 states require clinical training in the program.

Standardize state training regulations and requirements. States vary in whether they accept certification status from CNAs who were trained, tested and certified in another state. Some require such people to test and train all over again. Standardizing training requirements and regulations would help ease the recruitment difficulties of providers

who are desperate to find qualified workers, and accommodate the needs of CNAs who were certified in one state and are seeking employment in another.

Incorporate cross-training to better prepare direct care workers to assume caregiving responsibilities across long term care settings. Due to low wages and few benefits, many CNAs must work more than one job to support their families. Often direct care workers hold two caregiving positions in different locations, perhaps employed privately as a home care worker while working in a nursing home, an assisted living facility or a county-based program with minimal training requirements.

A standardized curriculum would give caregivers a wider range of skills, enabling them to move easily between settings. With standardized requirements across the long-term care spectrum, providers would be able to hire certified employees secure in the knowledge that they are qualified to assist clients in various settings. A mandated cross-training certification curriculum would develop a cadre of direct care workers who could meet our society's growing need for caregivers to assist the quickly expanding population of older adults wherever they live.

Evaluating and standardizing state nurse delegation statutes may be a necessary first step to achieving standardized certification for nursing assistants across settings.

Build into nursing home rate structures financial incentives for specialized services, which in turn would require some broadly defined levels of additional competencies. This additional compensation would reward CNAs who expend the extra time and effort to gain competencies in new areas, such as Alzheimer's, pediatrics, geriatrics or AIDS.

Develop and sustain a multi-agency training task force across DOL, HHS, and DOE. As described in Sections 6.4, 6.12.1, and 6.12.2, candidates for certification training programs may need financial support while attending pre-certification training programs such as ESL or GED or certification programs. In addition, they may need assistance with managing transitions to full time work and access to subsidized childcare, transportation, housing or health care.

CMS, along with the Department of Labor, Department of Education and the welfare side of the Department of Health and Human Services, should establish and sustain a high-level standing taskforce to focus on direct care workers. The task force can address what is needed—in programs, linkages and funding—to support the success of both CNA trainees and incumbent employees.

Make funds available to ensure that prospective candidates can access certification and pre-certification training opportunities. CMS should publicize to potential trainees its existing policy of paying facilities to reimburse trainees for training expenses incurred elsewhere. This important benefit is not currently well known.

Since many CNAs apparently are not reimbursed for their training costs, scholarship funds should be available to support tuition costs of CNA certification programs. CMS should also collaborate with the agencies described above to support trainees with wages, living expenses and access to public assistance programs such as Medicaid, food stamps and child care while they are enrolled in these training programs.

All nursing assistants must be able to read and write at a minimum level, with a provision for remediation for those who are unable to do so. As described in Section 6.12.2, achieving fluency in reading, writing and speaking English is essential to following directions and delivering quality care, yet in many parts of the country prospective and incumbent employees do not have a good command of the English language. Many lack reading and writing skills in their first language as well. Furthermore, many who are native to America and fluent in English lack a high school diploma or equivalency degree.

Finding convenient and affordable access to GED and ESL programs is difficult in many communities. CMS should collaborate with the Department of Labor and the welfare division of the Department of Health and Human Services to ensure that funds are disseminated to communities to make these programs easily accessible. Interested students should also have access to scholarship funds for enrolling in GED and ESL training programs.

Develop a system to monitor NA trainers. CMS should develop standards for trainer qualifications and methods of training. Trainers should be experienced in and knowledgeable about adult training methods and incorporate variety in their teaching methods. Additionally, funding should be available to support the education of those preparing to become CNA trainers.

Recommendations for States

Abolish cost containment limits on facility Medicaid reimbursement for training. In order to encourage economic efficiencies, most state Medicaid programs limit training cost reimbursements to nursing facilities based on a comparison of the facility's costs with others in a grouping or class within a specific geographic area and size of facilities. (See Section 6.11.3.) To encourage facilities to develop and deliver good training programs that are responsive to the needs of both new and experienced CNAs, CMS and state Medicaid departments should pay facilities for the full costs of all allowable and required training expenses, including the wages and salaries of trainees and replacement workers.

Provide funding to assess existing curricula and training programs. Although for this report it was not possible to survey all state-level departments with oversight over CNA training and curriculum development, conversations with several indicated that they

have few staff available to oversee the development or implementation of CNA curricula. One state noted that a single staff person has oversight over more than 400 state-approved training programs, making it impossible to observe or evaluate the quality of each one over the course of a year, or to adequately evaluate proposed new programs. These departments need adequate funding to assess, critique and oversee curricula and actual training programs.

Establish a state-level task force linking the state Medicaid, Labor, Education and Health departments. Parallel to that described in Section 16.1 at the federal level, states should also create active linkages among departments with a focus on creating a stable, valued, well-trained direct care workforce. With representatives from cabinet-level agencies overseeing Medicaid, labor, education, and welfare, the task force can address what is needed — in programs, linkages and funding — to support the success of both CNA trainees and incumbent employees.

States should also help foster system-wide structures to connect all the constituency groups potentially involved in the recruitment, training and development of nursing assistants and other direct care workers. Partners could include advocates working with a welfare-to-work constituency, agencies assisting new immigrants in accessing training and jobs, workforce development organizations, community colleges, high schools with GED and ESL training programs, long-term care providers across settings, community development organizations, and disability and aging consumer advocates.

Make funds available to ensure that prospective candidates can access pre-certification and certification training opportunities. State Medicaid departments should collaborate with state Labor, Welfare and Education departments to coordinate programs that will ensure that scholarship funds are available to pay for training programs such as GED and ESL that would prepare a prospective worker to enter a certification training program, as well as for tuition for the certification training program.

States should also find ways to support trainees with wages, living expenses and access to public assistance programs such as Medicaid and child care while they are enrolled in these pre-employment training programs.

Provide incentives for larger nursing homes to train new and experienced employees at smaller and/or rural facilities. Many nursing homes are too small to afford the infrastructure or separate staff to develop and sustain a comprehensive training program. Others choose not to train because of the expense of losing newly trained employees to high rates of turnover. Yet, when larger facilities with adequate training capacity provide training to other facilities, they are not reimbursed for the cost of the training. State Medicaid departments should identify incentives for nursing homes to join together to share expenses and expertise for pre-certification and ongoing training.

Recommendations for Nursing Facilities

Create strong connections between facilities and community-based training providers. Candidates for training can access programs either at nursing homes, community colleges or through other community-based training providers such as the Red Cross. It is essential that communication between nursing facilities and these community-based training providers be active and ongoing if training programs are to reflect and teach good practices and keep abreast of ongoing practice changes in nursing homes.

If the training program is outside the nursing home, local providers should participate in the design, implementation and monitoring of the training process, contextualizing the training to ensure that both training content and performance expectations are consistent with what the participant will find when she first walks through the employer's door.

Assume a "Pioneer approach" to training. The Pioneer Network is a national organization dedicated to changing the culture of aging in America. Long term care employers who are active in the Network have designed training programs and a supportive workplace culture that is based on valuing individuals and their relationships. These efforts foster a "culture of retention."

From the first day of work, the Pioneer training emphasis is on building skills to enter into a caregiving relationship. Tasks are de-emphasized. For example, CNAs are taught to get to know an individual, learn their bathing habits, and then incorporate that information into the bathing experience they offer the resident. Pioneers seek to engage both elders and experienced CNAs in the training process, giving new nursing assistants a broader perspective than they would gain from a nurse alone.

Nursing assistants enter into long-term relationships with a primary group of residents whom they always care for, helping to shift the focus from tasks to caring relationships.

Many Pioneer organizations offer their own CNA certification courses, with curricula based on relationship and community building experiences within the institution. Many augment mandated content with on-the-job training and education in communication skills. Many also offer career ladder opportunities, which enable a CNA to advance in terms of both job responsibilities and wages.

Invest in workers for the long term. To ensure long-term retention, the employer should offer a range of opportunities for career and educational advancement. One key ingredient to a decent job is a clearly defined framework for advancement, as remaining in a job with no prospect of promotion deadens an employee's motivation. In addition to a clearly defined job ladder within the organization, advancement may take other forms:

- An employer may construct discrete steps of new competencies and new responsibilities for the entry-level worker—even within the entry-level job title. These steps should be compensated with both financial increases and other types of company recognition.

- The employer should facilitate access to other educational opportunities outside or within the walls of the facility. These may include GED programs, ESL courses or community college programs.

- Facilities should establish training programs that prepare experienced CNAs to become associate trainers or peer mentors, or to take on other roles as key members of the caregiving team. In order for training opportunities to be sustaining, facilities must accompany them with effective supervision, support and adequate compensation. In building these new "rungs" in the CNA's career ladder, two basic pathways should always be provided—one that occurs within the arena of direct-care work, the second into other health-care related fields. That is, high-quality CNAs should not be forced out of direct-care work as the only option for earning a sustainable wage.

- Career ladders should be developed based on standards of practice and a hierarchy of skills actually performed by nursing assistants.

Emphasize and train nursing assistants' supervisors. As noted in Section 6.9.2, the frontline supervisor is centrally important for successful transition of the new employee from a trainee to a long-tenured, experienced worker. Either through training and support in the facility or at a local college, supervisors need to develop an understanding and practice of their supervisory role. This should include cultural sensitivity, as LPNs and RNs are often of a different racial, ethnic or class background than the employees they are supervising. A coaching model of supervision is one promising way to emphasize a learner-centered approach to supporting new and experienced CNAs (for details, see Section 6.16.2).

Establish ongoing communication between the supervisor and the training program. Too often there is a disconnect between classroom training and on-the-job experience in the nursing home, whether the training is offered in the nursing home or elsewhere in the community. To ensure that classroom training reflects current practices and practice changes, trainers and supervisors should have ongoing communication in developing, implementing and reinforcing the training.

Develop effective and substantive orientation programs. Studies cited in this chapter note that many new employees leave the job within the first 90 days. A good orientation program and immediate connection to peers and a supervisor are important antidotes to

this mass exodus. The experiences of Apple Health Care and Providence Mount St. Vincent, both of which have established a buddy system of peer mentors to orient new employees for as long as they need, exemplify creative ways to reinforce a workplace culture that values employees and their individualized learning needs.

To be effective, the peer mentor needs to know what the CNA learned in class, what she is to work on in the clinical setting, and what to do if problems occur. A paid, on-the-job learning period or internship might also be established for the new CNA. During this time the new nursing assistant would be given increasingly complex work, getting to know the residents she will care for and learning about the care planning process and the culture and policies of the unit and facility.

Employ a full-time trainee/employee counselor to offer support and support services. In addition to using classroom training to prepare students for the workplace, training programs in facilities or community settings should also address supportive service issues. An on-site counselor can help trainees manage the transition to full-time work for those who have limited job experience. A counselor can assist trainees in accessing public benefits, in managing crises that might prevent successful completion of the program, and in acquiring life skills such as goal setting and time and money management. The counselor can play a key role in assessing trainees' progress and their ability to assume responsibilities as caregivers. In addition, both new and experienced employees may need help in managing their home responsibilities in order to be more stable, focused employees.

Peer support opportunities also offer important learning opportunities for CNAs. Facilities should offer support groups or other mechanisms for CNAs to meet with one another, exchange information on technical aspects of care, and provide opportunities for stress reduction and collegial support.

Offer training opportunities outside the traditional classroom. Nurses and other professional employees are offered continuing education opportunities and given credit for attendance. CNAs should be given the same opportunities to receive credit for their annual mandated hours of "in-service" training by attending conferences. Conferences specifically for CNAs provide excellent educational opportunities for nursing assistants to learn from one another and from a curriculum designed for their learning needs. Topics could include best practices, stress reduction, team building, leadership development, advanced information on specific diseases, cultural communication, leadership development, and other areas identified by CNAs. States can sponsor regional or statewide conferences, as Michigan and South Carolina already have.

Prepare the CNA trainers to be effective adult educators. Instead of assigning existing nursing staff as trainers, nursing facilities should hire dedicated trainers who want to lead the facility-wide training.

- Each member of the teaching team should meet a specified level of competency in areas such as: teaching methods for adult learners, methods of evaluation, fostering teamwork, and energizing trainees.

- Clinical trainers must be prepared with skills that will enable them to teach nursing assistants how to apply and adapt basic information to many different care situations.

- The new trainer needs a mentor, a period of internship as a trainer, and periodic competency evaluations.

To make the learning process more interesting and effective, facilities should not rely on a single person to do all the training, but should draw from other professions in the facility for designing and delivering specific curricular components. Additionally, they should develop experienced CNAs to become associate trainers or peer mentors who can become powerful peer models for new trainees and advance in their careers. Nursing assistants who teach or mentor should be trained, supervised and compensated for these responsibilities.

Create a safe, unintimidating learning environment. Training programs should offer a supportive, learner-centered environment that allows trainees to graduate as competent and confident health care paraprofessionals. Trainers must incorporate various styles of communication and types of experiences in order to help trainees become adept at managing not only clinical skills but also the sophisticated communication and negotiation skills essential to delivering good care. Since many women entering these training programs are intimidated by the idea of being in school, a training program's first priority should be creating a supportive and safe learning environment in which trainees can develop clinical competence in an atmosphere that reinforces self-confidence and self-esteem.

Recommendations for Course Content, Testing, and Teaching Methods

Teach trainees to understand the life experiences of nursing home residents. Too many training programs teach body systems, diseases of the elderly and other clinical information without the trainee even knowing an older or disabled person or the natural progression of the aging process. The training should begin with knowing who the older or disabled person is and developing a relationship with an older person. Without this experiential context, students may not understand what is taught in the classroom.

Understanding the aging process should include the medical, personal, psychological, social and sexual aspects of the individual.

The curriculum should also include residents and family members in the training process. Residents and families have much to teach CNAs about the experience of living in and caring for someone in a nursing home. Their perspective is invaluable to new CNAs. Having residents and family members in the classroom reinforces their value to CNAs.

Experiential learning, such as going to the grocery store in a wheelchair, being fed by someone else, eating nursing home food, or spending a day with cotton in one's ears or Vaseline on one's glasses are effective ways to teach trainees about the lives and experiences of older adults. Along with spending time with older people and developing a relationship with an older or disabled person, experiential learning is an important way to convey empathy for and understanding of the people who will be in the nursing assistant's care.

Teach CNAs to treat individuals, not diseases. Researchers Thomas Kitwood and Joanne Rader believe that early in a caregiver's training it is more important to know about an individual person than the details of their diseases. Different residents will have different manifestation of diseases, and CNAs will have to learn the specifics of caregiving for each. However, if the CNA brings a knowledge of problem solving, communication, conflict resolution and stress management to each resident she cares for, disease-specific information can be learned as needed, and tailored to the needs and preferences of individual residents.

Disease-specific information can be taught in a one-to-one supervisory situation, through peer mentoring, in in-services, or at conferences outside the facility.

Offer distance learning opportunities. It is often difficult for prospective CNAs to attend classes while balancing childcare and work responsibilities. Online learning lets students study at times that are convenient for them. For example, a new CNA curriculum in Idaho includes Internet courses designed to let high school students in rural areas receive credits by taking online classes. They must then arrange with a nearby facility for their clinical hours.

To ensure that students enrolled in this type of learning do not miss out on the important cultural and interpersonal learning, nursing home clinical hours should be extended to include time for students to experience the communication, problem solving and other experiential learning that is so essential.

Incorporate learner-centered training. Individuals who enter training programs to become a CNA are adults. Many of them have not had good experiences in the traditional

school system, and they will require adult methods of education to become engaged, active learners. New trainees who need more supports should be given the additional time, tutoring and support they need to succeed in the program.

Learner-centered education begins with the assumption that all people are capable of learning. Teaching is built on what the trainees already know by engaging them in critical thinking, and making the job come alive through role plays and other activities that relate the learning to the needs of the job. The training is dynamic and interactive, and does not rely solely on videos, lectures and reading. The interaction is not only from teacher to student, but between students and from student to teacher.

Examples of effective methods for teaching adults include:

- case studies
- small group discussions
- role plays, theatre and other simulations
- interactive lectures
- appropriate levels of homework
- presenting information in different forms and in different contexts
- using an appropriate text or easy-to-use study guide
- teaching students how to take tests
- practice clinical/personal care skill in as realistic a manner as possible
- saving time at the end of a training week to review clinical and soft-skills material.

Provide opportunities for students to develop skills in problem solving, critical thinking and conflict resolution. By developing critical-thinking and communication skills, trainees learn how to apply their knowledge and technical skills even in unpredictable situations with residents or family members, and how to participate as valued members of their health care teams. (See Paraprofessional Healthcare Institute's *A Guide to Creating an Employer Based Training Program for Home Health Aides* for more detail on how to teach these skills).

Coach CNAs in time management, stress management and self care. Phase I of this report described the minimal staffing levels under which many CNAs must work on a daily basis. Managing the various and intimate needs of many residents makes this a stressful and demanding job. In order to stay employed as caring caregivers, CNAs must learn to make decisions about prioritizing work and managing stress to the extent possible. These skills should be taught in class and reinforced in forums such as support groups.

Include diversity training in the curriculum. In addition to teaching about the cultural, racial and class differences in nursing homes, it is important to explore power dynamics—in society as a whole and with respect to the CNA's job in particular. Rather than gloss over some of the unfairness and injustice that is likely to affect the trainees' work lives, the training program should explore trainees' feelings about authority and appropriate responses to disrespectful attitudes and behaviors that allow the worker to maintain dignity while still keeping her job.

Provide opportunities for students to develop work readiness skills. An effective training program supports the concept of "work culture" by attending carefully to behavioral issues, integrating expectations of professional demeanor into all aspects of the training, and introducing the importance of following facility policies and procedures through case studies and role plays. A good training program must balance the desire to provide a supportive learning environment with the need to enforce high standards of behavior.

Incorporate extensive field experience into the training. When asked, most CNAs say that their first weeks and months on the job were markedly different from their classroom experience. Many leave during these first 90 days because they are unprepared for this jolt of reality. The training must incorporate extensive experience in the nursing home. Extending this field experience into a paid internship is also recommended.

Offer training in dementia care. Since more than half of nursing home residents have some form of dementia, CNAs must know how to communicate with and manage the behavioral aspects of this illness. Considerable research describes effective ways to feed, bathe and manage various activities for residents with dementia. All CNAs should have the benefit of this knowledge.

Offer training about death, dying and grief. Not only do CNAs need to learn about caring for residents who are dying or caring for the body after death, they need to understand the loss and grief that residents may be experiencing as they move to the nursing home or lose dear friends. Staff also need to be allowed time to grieve for a resident for whom they have cared. Facilities may choose to offer memorial services for residents, employees and families.

Design ongoing training opportunities that respond to the learning needs of CNAs. Through regular communication with formal or informal groups of residents, family members, supervisors and CNAs, administrators and trainers can identify CNA training needs. Facilities should ensure that this communication among different constituencies in the facility becomes comfortably embedded within the organization's culture.

In response to the information collected in these discussions, supervisors and trainers should be able to respond to CNA training needs with individualized training and group learning. Wherever possible, CNAs experienced in particular areas should be trained, supported and compensated as associate trainers.

Facilities should also have a skill lab available to allow nursing assistants to refresh their knowledge of skills.

Provide probationary period support and training. Providers should offer additional support and training during the standard three-month probationary period. Close supervision during these early months not only improves skills but also increases retention of new employees. Supervisors and coaches can spot problems early and intervene, helping new employees to overcome challenges related to the stress of taking on a new and often difficult job. During this three-month period, combine clinical supervision with in-service trainings and mentoring sessions. The latter will give new CNAs a chance to talk about their experiences in the field. The probationary period also provides a chance for the employer to do a final assessment of new employees and dismiss those who demonstrate that they cannot follow agency policies or provide the expected standard of care.

Certification tests should reflect what students learn in class and what they will need to do to apply that learning on the job. Tests should accurately assess the full range of learning experiences in the classroom and practicum settings. They should evaluate how nurse assistants make decisions about care practice and incorporate thinking skills to test the nurse assistant's ability to apply procedures learned in class to the specific characteristics and needs of an individual resident.

Recommendations for Further Study

Evaluate existing certification training programs for nursing assistants. Develop criteria with which to evaluate existing certification training programs for nursing home nursing assistants. Look for links between effectiveness and such criteria as amount and type of instructor training, amount and content of clinical training, number of classroom hours, number and type of adult education methods used, and location of classes (nursing home, community college, private school.)

Purpose: Determine whether certain types of content, training methods, minimum hours of instruction, etc. result in better outcomes, e.g., a higher percentages of students able to pass the certification test, or a higher percentage of graduates still working as nursing assistants a certain number of years after certification.

Evaluate provider practices aimed at improving recruitment or retention of nursing assistants. Develop criteria for evaluating programs instituted by nursing facilities in an

effort to improve recruitment and retention of direct care workers. Apply those criteria to existing programs in order to judge which methods are most and least effective. Programs evaluated may include, but are not limited to, the following:

- career ladders,
- in-service classes,
- efforts to link classroom training with on-the-job experience,
- efforts to recruit and prepare nontraditional workers for direct care jobs,
- peer mentoring and support groups,
- orientation programs for new NAs or for NAs transferred to a new unit, and
- management training for supervisors.

Purpose: Give providers tools to help them determine whether a current initiative is effective, and to allow them to build on the successes and avoid the failures of others when planning future initiatives.

Note: Some of this work will be done as part of a report due in late 2002 from the Paraprofessional Healthcare Institute and the American Association of Homes and Services for the Aging's Institute for the Future of Aging Services.

Find out what makes nursing assistants leave the field. Looking at several states with different demographic profiles, determine why people who are on the state nursing assistant registries but are not currently working as an NA left the profession. Provide not only a quantitative view (percent who leave within a certain time frame) but a qualitative one, asking respondents why they left the field, where they went next, and where they came from before they were trained as nursing assistants

Purpose: Recent studies in two states found that half of the people trained as nursing assistants left the field as little as one year after joining the state's registry. Some experts believe that the NA shortage would be solved if only more of the people who are recruited and trained every year as NAs would stay on the job. A study indicating what causes NAs to leave the profession could help those who want to convince more NAs to stay on the job by giving them useful information about what makes many NAs leave.

Identify effective ways of transferring learning from the classroom to the worksite. Interview nursing assistants as to their early employment experiences, what did and didn't work for them what they would recommend for others. Interview nursing facility staff that hired and oriented the NAs as well, to compare their beliefs about what works with the perceptions of the nursing assistants.

Purpose: Much, if not most, NA turnover takes place within the first six months on the job, and many of those who leave do so because they weren't prepared for the realities of

the job. Of those who stay, many survive by scrapping the routines they've been taught for shortcuts picked up from coworkers. Identifying the main discrepancies between the way the job of the nursing assistant is taught and the way it is practiced in nursing homes would help those who want to close that gap focus on the areas most in need of improvement.

Identify what nursing home nursing assistants do. Building on the OIG's upcoming study (due out in late 2001 or early 2002) of state-by-state educational requirements for nursing assistants, determine what these workers do on the job. Answer such questions as:

- What do all nursing assistants do on the job?
- What do some but not all NAs do?
- What determines whether an NA does clinical tasks such as drawing blood or passing meds?
- How common is the practice of assigning a NA to do just one task for all the residents in one unit, e.g., to give baths and showers or help at mealtimes? What are the pros and cons of such arrangements?
- What percentage of a NA's day is typically spent on personal care tasks? On clinical tasks such as helping residents with range of motion or taking vital signs? Communicating with residents? Communicating with supervisors, peers or other staff members? Communicating with residents' family members? Doing paperwork?
- What percentage of the care received by nursing home residents is delivered by nursing assistants?

Purpose: Establish an updated benchmark for what nursing assistants do on the job in order to ensure that training and support systems cover the necessary ground, as there have been significant changes in what NAs do since the introduction of training more than 10 years ago.

Explore what types of education, coaching and other supports are needed to prepare viable CNA candidates who have been out of the workforce for some time and/or who need to improve their basic educational or English skills. Survey existing programs aimed at recruiting and training such workers to identify methods that appear to be successful in identifying and supporting good candidates for the job of nursing assistant among these populations. Then construct a recruitment and training program based on the criteria identified as successful. Fund demonstration projects in several nursing homes to implement the program. Study its effectiveness and publish the results.

Purpose: People who have been on public assistance for years or who have poor English language skills may have the potential to become good workers for providers who often

face shortages of nursing assistant candidates. Conversely, nursing assistant work can offer a way into the workforce for many of these people, easing the strain on public assistance systems. These candidates are unlikely to succeed, however, if they enter a standard certification class with no extra preparation or support systems in place. This study could help establish what does and doesn't work in selecting the candidates most likely to succeed as nursing assistants and giving them the tools they need to become productive workers.

Name of facility employee completing this form _____ Title _____

Staffing Data Collection Instrument

Today's date ☐☐ ☐☐ ☐☐

Section I (Shaded areas are completed by the consultant data collector)

Facility contact person _____		Arrival time ☐☐ : ☐☐ am/pm	
SSI data collector's name _____		Departure time ☐☐ : ☐☐ am/pm	
Facility name	HCFA provider number ☐☐☐☐☐☐		County
Street address	City	State	Zip Code ☐☐☐☐☐
Telephone number ☐☐☐ ☐☐☐ ☐☐☐☐	Facsimile number ☐☐☐ ☐☐☐ ☐☐☐☐		
Facility e-mail address _____			

Certification type and number of beds

Skilled nursing facility (SNF) (Medicare-only) beds ☐☐☐		Nursing facility (NF) (Medicaid-only) beds ☐☐☐	
SNF/NF (Medicare/Medicaid dually-certified beds) ☐☐☐		Total number of beds in facility ☐☐☐	

Section 2

Resident RUG Groupings

Information for Resident Groupings was obtained from: Today's census ☐☐☐

(Check all that apply)

- ☐ MDS software - name _____
- ☐ Business office source (name of source) _____
- ☐ Other (specify source of information _____

Line 1	Total number of residents grouped	☐☐☐
Line 2	Total weight for all residents grouped	☐☐☐☐ . ☐☐☐☐
Line 3	Divide line 2 by line 1 = Average case mix index score	☐☐ . ☐☐☐☐

If above calculations are not possible, attach a report of the number of residents by RUG groups.

7-12-01

STAFFING DATA COLLECTION INSTRUMENT

General Instructions

READ THESE INSTRUCTIONS CAREFULLY **BEFORE** COMPLETING THIS FORM.

This form may require participation by various facility staff members, including the Administrator, Director of Nursing, MDS Coordinator, and/or Business Office personnel. The following source documents will be needed:

- Payroll journals
- Invoices from Nursing Service Contracted Services Agencies
- Daily resident census tracking records
- Staffing schedules
- Activity Department log of volunteer hours worked

Follow the instructions and complete each section as accurately as possible. **Make copies of this form before filling it out**. Page 3 may need to be duplicated to record information from multiple agencies.

Block F1 – Exit date of last annual or extended survey
Block F2 – Today's date is the date the Staffing Data Collection Instrument is completed.

Page 1 – Section A

- **Name of facility** – Use the official name of the facility for business and mailing purposes. This includes components or units of a larger institution.
- **Provider number** – Insert the facility's assigned six-digit provider code and other HCFA provider and identifier codes.
- **Street address** – Street name and number refer to physical location, not mailing address, if the two addresses differ.
- **City** – Rural addresses should include the city of the nearest post office.
- **County** – County refers to parish name in Louisiana and township name where appropriate in the New England States.
- **State** – For U.S. possessions and trust territories, name is included in lieu of the State.
- **Zip Code** – Zip Code refers to the "Zip-plus-four" code, if available, otherwise the standard five-digit Zip Code.
- **Telephone number** – Include area code
- **Facsimile number** – Use the business office's fax number
- **Facility e-mail address** – Use the facility's e-mail address rather than that of an individual facility employee.
- Blocks F3 – F8 - **Certification type and number of beds** – Record number of Medicare or Medicaid-certified beds (not residents) in the data blocks.

Page 1 – Section B

Block F9 – F10 – The quarter dates should be from the quarter following the facility's last state survey or the most recent full quarter available. For example, if the facility's last state survey was in February, collect data from the quarter beginning in April (April – June).

Block F11 – F13 - The Administrator / Director of Nursing / MDS Coordinator's "date hired for this position" should be the date this person assumed the applicable position at the facility. For example, if the MDS Coordinator's actual date of hire at the facility as a staff nurse was 5-5-93 but she did not assume the MDS Coordinator's position until 9-23-00, then record 9-23-00 in this section.

Blocks F14 – F16 – Record sources used to obtain the information for Blocks F11 – F13.

Blocks F17 – 20 – Record sources used to obtain the data for Staff Turnover such as payroll journals, staffing schedule, etc.

Blocks F21 – F24 – Line 1 – Record the number of applicable employees whose employment ended during the quarter (e.g., 25).

Block F25 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Blocks F26 – F29 – Line 2 – Record the total number of applicable employees (those working in a certified nursing home in Nursing Service Department) on the last day of the quarter or the average number of applicable employees during the quarter (e.g., 100).

Block F30 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Block F31 – F34 – Record sources used to obtain the data for Staff Stability such as payroll journals, staffing schedule, etc.

Blocks F35 – F38 – Line 1 - Record the number of certified nursing home employees on the last day of the quarter with one or more years of service at the facility (e.g., 10).

Block F39 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Blocks F40 – F43 – Line 2 – Record the total number of certified nursing home employees (in Nursing Service Department).

Block F44 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Page 2 – Section C

Block F45 - Provide data for this section from payroll journals for the pay period ending 30 days prior to the date this form is completed. If the facility's pay period frequency is not every 2 weeks, select the last 14 days of the applicable pay period. For example, if employees are paid every week, use 2 pay periods to comprise the 14 days. If employees are paid every 4 weeks, use the last 14 days of the applicable pay period.

Blocks F46 – F48 – Record all sources used to collect the information for Section C.

Blocks F49, F51, F53, F55 and F57 – Record gross wages paid which includes vacation, personal time, sick time, etc. for RNs, LPN/LVNs, Certified Nursing Assistants, Nursing Assistants in Training and Medication Aides/Technicians.

Blocks F50, F52, F54, F56 and F58 - Record total hours actually worked by RNs, LPN/LVNs, Certified Nursing Assistants, Nursing Assistants in Training and Medication Aides/Technicians. These hours are the actual hours the employee worked during the pay period. Do not include vacation days, sick days, or other personal time off. Do not include hours for the Director of Nursing, Assistant Director of Nursing or MDS Coordinator in these totals.

Blocks F59 – F72 - Record the resident census for each day of the designated 14-day pay period.

Blocks F73 – F75 – Record the sources from which the Daily Resident Census was obtained such as the Midnight census sheet, 24-hour report sheet.

Blocks F76 – F77 –Check either "yes" or "no" to the question: "Does facility regularly use volunteers?"

Block F78 - If volunteers are regularly used by the facility, record the number of volunteer hours worked during the designated pay period. Refer to Activity Department records for this data.

Blocks F79 – F82 – Record the sources used to obtain the data for "Other Hours Worked During This Pay Period".

Blocks F83 – F85 - Some facilities utilize "borrowed labor" to fulfill their staffing needs. For example, a group of facilities may borrow personnel from one facility within its group to work at a sister facility in the group. In such a case, the actual payroll entries for these employees may not be reflected in the payroll journal of the facility where they actually worked. In these blocks, record the "borrowed labor" hours for RNs, LPN/LVNs and CNAs.

Blocks F86 – F87 - Record the number of nursing home employees that are salaried employees. Estimate the total number of hours these employees worked for the designated pay period (14 days). For example, the MDS Coordinator is paid for 40 hours of pay each week, but may work an additional 10 hours in order to complete his/her job. Therefore, actual time worked should be recorded as 50 hours per week, and then multiplied by two (2) for the 14-day designated pay period.

Page 3 –Section D

To complete this section, you will need the invoices from Nursing Service contracted services agencies (sometimes referred to as "pool" or "temporary" agencies).

Block F86 - Use staffing data from the pay period ending 30 days prior to the date you are completing this form. The dates of the invoices MUST cover the same dates as the pay period dates used in Section 3.

Record data as completely and accurately as possible. If you are unable to collect some of the requested data, continue on to the next line.

Blocks F89 – F108 – Record hours worked by Contracted Services Agency RNs, LPN/LVNs, Certified Nursing Assistants, Nursing Assistants in Training and Medication Aides/Technicians. This page will accommodate data from only four (4) agencies. Please make copies of this page as necessary to record staffing from all agencies.

Thank you for your time and attention to accurately completing this important Staffing Data Collection Instrument.

HCFA Staffing Data Collection
Consultant Training

AGENDA

Conference Call
July 11, 2001

1-800-816-7467

2:00 p.m. – 4:00 p.m.

Roll call/Introductions	Beth Klitch	2:00-2:05 p.m.
History and objectives of HCFA staffing project	Beth Klitch	2:05-2:15 p.m.
The *Staffing Data Collection Instrument*	Kay Webb	2:15-3:00 p.m.
Data Collector's Instructions	Kay Webb	3:00-3:45 p.m.
Question and answer session	Open to all	3:45-4:00 p.m.

General Instructions
Review of all sections

Pre-visit tasks
Day of visit
- Entrance conference
- Review of completed form
- *Provider Interview Questionnaire*
- Exit conference
- End of visit tasks

(italicized words refer to form titles)

Staffing Data Collection Instrument
Provider Interview Questionnaire

Please complete to the best of your ability.

1. The following facility employees participated in the completion of this form.

___Administrator ___Payroll staff
___Director of Nursing ___Business office staff
___MDS Coordinator ___Other_____

2. The documents used to complete this form were:

	Very easy to locate	Easy to locate	Neither easy/hard to locate	Hard to locate	Very hard to locate
Section 2 - Resident RUG Groupings	1	2	3	4	5
Section 3 - Facility Payroll System	1	2	3	4	5
Section 4 - Facility Staffing Information	1	2	3	4	5
Section 5 - Average Hourly Wage Rates	1	2	3	4	5
Section 6 - Nursing Service Staffing	1	2	3	4	5
Section 7 - Recording Temporary Agency Staff Hours	1	2	3	4	5
Section 8A - Nursing Services Contracted Services Agencies	1	2	3	4	5
Section 8B - Contracted Services Agency Worksheet	1	2	3	4	5

3. The length of time it took to complete each section was:

	< 15 min.	16-30 min.	31-45 min.	46-60 min.	60+ min.
Section 2 - Resident RUG Groupings	1	2	3	4	5
Section 3 - Facility Payroll System	1	2	3	4	5
Section 4 - Facility Staffing Information	1	2	3	4	5
Section 5 - Average Hourly Wage Rates	1	2	3	4	5
Section 6 - Nursing Service Staffing	1	2	3	4	5
Section 7 - Recording Temporary Agency Staff Hours	1	2	3	4	5
Section 8A - Nursing Services Contracted Services Agencies	1	2	3	4	5
Section 8B - Contracted Services Agency Worksheet	1	2	3	4	5

4. Describe the extent to which the sections were easy/hard to complete.

	Very easy	Easy	Neither easy/hard	Hard	Very hard
Section 2 - Resident RUG Groupings	1	2	3	4	5
Section 3 - Facility Payroll System	1	2	3	4	5
Section 4 - Facility Staffing Information	1	2	3	4	5
Section 5 - Average Hourly Wage Rates	1	2	3	4	5
Section 6 - Nursing Service Staffing	1	2	3	4	5
Section 7 - Recording Temporary Agency Staff Hours	1	2	3	4	5
Section 8A - Nursing Services Contracted Services Agencies	1	2	3	4	5
Section 8B - Contracted Services Agency Worksheet	1	2	3	4	5

5. Describe specific items you would add to the form to capture nursing staff information.

Section 2 - Resident RUG Groupings _____
Section 3 - Facility Payroll System _____
Section 4 - Facility Staffing Information _____
Section 5 - Average Hourly Wage Rates _____
Section 6 - Nursing Service Staffing _____
Section 7 - Recording Temporary Agency Staff Hours _____
Section 8A - Nursing Services Contracted Services Agencies _____
Section 8B - Contracted Services Agency Worksheet _____

6. Describe specific items you would eliminate from the form to capture nursing staff information.

Section 2 - Resident RUG Groupings _____
Section 3 - Facility Payroll System _____
Section 4 - Facility Staffing Information _____
Section 5 - Average Hourly Wage Rates _____
Section 6 - Nursing Service Staffing _____
Section 7 - Recording Temporary Agency Staff Hours _____
Section 8A - Nursing Services Contracted Services Agencies _____
Section 8B - Contracted Services Agency Worksheet _____

7. List any comments/questions/ideas to improve the form and/or data collection process to capture nursing staff information.

_____
_____
_____
_____

Name of facility employee completing this form _____ Title _____

Staffing Data Collection Instrument

Exit date of last annual or extended survey F1 M M D D Y Y Today's date F2 M M D D Y Y

Section A

Facility name	HCFA provider number Other 6 digit HCFA provider number	County
	Any other identifier numbers	
Street address	City / State	Zip Code
Telephone number	Facsimile number	
Facility e-mail address _____		

Certification type and number of beds

Skilled nursing facility (SNF) (Medicare-only) beds	F3	Nursing facility (NF) (Medicaid-only) beds	F6
SNF/NF (Medicare/Medicaid dually-certified beds)	F4	Total number of licensed SNF/NF beds in facility	F7
Total number of uncertified beds in facility	F5	Total number of beds set up in facility	F8

Section B

Nursing Service Staffing Information

Collect data **from the quarter following the facility's last state survey** or the most recent full quarter available.

Beginning date of quarter F9 Ending date of quarter F10

Please provide the date of hire for the following positions:

Administrator F11 Director of Nursing F12

MDS Coordinator F13

Source of this data:
F14 ☐ Payroll journal
F15 ☐ Staffing schedule
F16 ☐ Other_____

Staff Turnover Calculation

Source of this data:
F17 ☐ Payroll journal F19 ☐ Other_____
F18 ☐ Staffing schedule F20 ☐ Other_____

		RN	LPN/LVN	Medication Aides & Technicians	CNAs	Non-Certified & Non-Direct Care
Line 1	Number of applicable employees whose employment ended during the quarter (e.g., 25)	F21	F22	F23	F24	F25
Line 2	Total number of applicable employees on the last day of the quarter or the average number of applicable employees during the quarter (e.g., 100)	F26	F27	F28	F29	F30

Staff Stability Calculation

Source of this data:
F31 ☐ Payroll journal F33 ☐ Other_____
F32 ☐ Staffing schedule F34 ☐ Other_____

		RN	LPN/LVN	Medication Aides & Technicians	CNAs	Non-Certified & Non-Direct Care
Line 1	Number of certified nursing home employees on the last day of the quarter with one or more years of service (e.g. 10)	F35	F36	F37	F38	F39
Line 2	Total number of certified nursing home employees (e.g., 100)	F40	F41	F42	F43	F44

Section C

Average Hourly Wage Rates

Record information below using staffing information <u>from pay period ending 30 days prior to today's date</u>

F45 **Pay Period data collected** : From _____/_____/_____ to _____/_____/_____**

Source(s) used to collect this information: F46 ☐ Payroll journals F47 ☐ Staffing schedules F48 ☐ Other_____

Registered Nurses

Line 1 Total RN wages paid for this pay period (gross) F49 $,.

Line 2 Total RN hours worked for this pay period F50 ,.

Licensed Practical Nurses/LVNs

Line 1 Total LPN/LVN wages paid for this pay period (gross) F51 $,.

Line 2 Total LPN/LVN hours worked for this pay period F52 ,.

Certified Nursing Assistants

Line 1 Total CNA wages paid for this pay period (gross) F53 $,.

Line 2 Total CNA hours worked for this pay period F54 ,.

Nursing Assistants in Training

Line 1 Total NA in training wages paid for this pay period (gross) F55 $,.

Line 2 Total NA in training hours worked for this pay period F56 ,.

Medication Aides/Technicians

Line 1 Total Med. Aide/Tech wages paid this pay period (gross) F57 $,.

Line 2 Total Med Aide/Tech hours worked this pay period F58 ,.

***If the facility's pay period is not every 2 weeks, select 14 days of the pay period. For example, if employees are paid every week, use 2 pay periods to make 14 days. If employees are paid every 4 weeks, use the last 14 days of that pay period.*

Daily Resident Census - Record the census **for each day of the designated 14-day pay period** for this section.

F59	1	F63	5	F67	9	F71	13	Source of documentation				
F60	2	F64	6	F68	10	F72	14	F73 ☐	Midnight census sheet			
F61	3	F65	7	F69	11			F74 ☐	24-hr. Report Sheet			
F62	4	F66	8	F70	12			F75 ☐	Other_____			

Volunteers

Does facility regularly use volunteers? F76 ☐ Yes F77 ☐ No (Check Activity Department records)

Total number of volunteer hours recorded during this designated payroll period F78 .

Other Hours Worked During This Pay Period (e.g., borrowed labor)

Source of documentation

F79 ☐ Payroll journals F81 ☐ Other_____

F80 ☐ Staffing schedules F82 ☐ Other_____

F83 RN .

F84 LPN/LVN .

F85 CNA. .

Salaried Employees

Number of employees working in salaried positions F86 .

Estimated total hours worked by salaried employees this pay period F87 .

Section D

Nursing Service Contracted Services Agencies

To complete this section, you will need the invoices from Nursing Service contracted services agencies. Use staffing information **from pay period ending 30 days prior to today's date**. The dates of the invoices must be the same as the pay period used in Section 3. (Certified Nursing Assistant data should include Medication Aides/Technicians and Nurse Aides in Training, if applicable). Record information from each contracted service agency used.

F88 **Pay Period data collected** : From _____/_____/_____ to _____/_____/_____**

Agency name: _____

Total Registered Nurse (RN) hours worked for this pay period	F89	
Total Licensed Practical/Vocational Nurse (LPN/LVN) hours worked this pay period	F90	
Total Certified Nursing Assistant (CNA) hours worked for this pay period	F91	
Total NA in Training hours worked for this pay period	F92	
Total Medication Aides/Technician hours worked for this pay perioc	F93	

Agency name: _____

Total Registered Nurse (RN) hours worked for this pay period	F94	
Total Licensed Practical/Vocational Nurse (LPN/LVN) hours worked this pay period	F95	
Total Certified Nursing Assistant (CNA) hours worked for this pay period	F96	
Total NA in Training hours worked for this pay period	F97	
Total Medication Aides/Technician hours worked for this pay perioc	F98	

Agency name: _____

Total Registered Nurse (RN) hours worked for this pay period	F99	
Total Licensed Practical/Vocational Nurse (LPN/LVN) hrs worked this pay period	F100	
Total Certified Nursing Assistant (CNA) hours worked for this pay period	F101	
Total NA in Training hours worked for this pay period	F102	
Total Medication Aides/Technician hours worked for this pay perioc	F103	

Agency name: _____

Total Registered Nurse (RN) hours worked for this pay period	F104	
Total Licensed Practical/Vocational Nurse (LPN/LVN) hrs worked this pay period	F105	
Total Certified Nursing Assistant (CNA) hours worked for this pay period	F106	
Total NA in Training hours worked for this pay period	F107	
Total Medication Aides/Technician hours worked for this pay perioc	F108	

***If the facility's pay period is not every 2 weeks, select 14 days of the pay period. For example, if employees are paid every week, use 2 pay periods to make 14 days. If employees are paid every 4 weeks, use the last 14 days of that pay period.*

MAKE COPIES OF THIS FORM AS NEEDED TO ACCOMMODATE DATA FROM ALL AGENCIES USED.

STAFFING DATA COLLECTION INSTRUMENT

General Instructions

READ THESE INSTRUCTIONS CAREFULLY **BEFORE** COMPLETING THIS FORM.

This form may require participation by various facility staff members, including the Administrator, Director of Nursing, MDS Coordinator, and/or Business Office personnel. The following source documents will be needed:

- Payroll journals
- Invoices from Nursing Service Contracted Services Agencies
- Daily resident census tracking records
- Staffing schedules
- Activity Department log of volunteer hours worked

Follow the instructions and complete each section as accurately as possible. **Make copies of this form before filling it out**. Page 3 may need to be duplicated to record information from multiple agencies.

Block F1 – Exit date of last annual or extended survey
Block F2 – Today's date is the date the Staffing Data Collection Instrument is completed.

Page 1 – Section A

- **Name of facility** – Use the official name of the facility for business and mailing purposes. This includes components or units of a larger institution.
- **Provider number** – Insert the facility's assigned six-digit provider code and other HCFA provider and identifier codes.
- **Street address** – Street name and number refer to physical location, not mailing address, if the two addresses differ.
- **City** – Rural addresses should include the city of the nearest post office.
- **County** – County refers to parish name in Louisiana and township name where appropriate in the New England States.
- **State** – For U.S. possessions and trust territories, name is included in lieu of the State.
- **Zip Code** – Zip Code refers to the "Zip-plus-four" code, if available, otherwise the standard five-digit Zip Code.
- **Telephone number** – Include area code
- **Facsimile number** – Use the business office's fax number
- **Facility e-mail address** – Use the facility's e-mail address rather than that of an individual facility employee.
- Blocks F3 – F8 - **Certification type and number of beds** – Record number of Medicare or Medicaid-certified beds (not residents) in the data blocks.

Page 1 – Section B

Block F9 – F10 – The quarter dates should be from the quarter following the facility's last state survey or the most recent full quarter available. For example, if the facility's last state survey was in February, collect data from the quarter beginning in April (April – June).

Block F11 – F13 - The Administrator / Director of Nursing / MDS Coordinator's "date hired for this position" should be the date this person assumed the applicable position at the facility. For example, if the MDS Coordinator's actual date of hire at the facility as a staff nurse was 5-5-93 but she did not assume the MDS Coordinator's position until 9-23-00, then record 9-23-00 in this section.

Blocks F14 – F16 – Record sources used to obtain the information for Blocks F11 – F13.

Blocks F17 – 20 – Record sources used to obtain the data for Staff Turnover such as payroll journals, staffing schedule, etc.

Blocks F21 – F24 – Line 1 – Record the number of applicable employees whose employment ended during the quarter (e.g., 25).

Block F25 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Blocks F26 – F29 – Line 2 – Record the total number of applicable employees (those working in a certified nursing home in Nursing Service Department) on the last day of the quarter or the average number of applicable employees during the quarter (e.g., 100).

Block F30 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Block F31 – F34 – Record sources used to obtain the data for Staff Stability such as payroll journals, staffing schedule, etc.

Blocks F35 – F38 – Line 1 - Record the number of certified nursing home employees on the last day of the quarter with one or more years of service at the facility (e.g., 10).

Block F39 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Blocks F40 – F43 – Line 2 – Record the total number of certified nursing home employees (in Nursing Service Department).

Block F44 - "Non-certified and Non-Direct Care" includes volunteers, hospitality aides, or other personnel who do not give direct resident care and/or are not certified nursing assistants.

Page 2 – Section C

Block F45 - Provide data for this section from payroll journals for the pay period ending 30 days prior to the date this form is completed. If the facility's pay period frequency is not every 2 weeks, select the last 14 days of the applicable pay period. For example, if employees are paid every week, use 2 pay periods to comprise the 14 days. If employees are paid every 4 weeks, use the last 14 days of the applicable pay period.

Blocks F46 – F48 – Record all sources used to collect the information for Section C.

Blocks F49, F51, F53, F55 and F57 – Record gross wages paid which includes vacation, personal time, sick time, etc. for RNs, LPN/LVNs, Certified Nursing Assistants, Nursing Assistants in Training and Medication Aides/Technicians.

Blocks F50, F52, F54, F56 and F58 - Record total hours actually worked by RNs, LPN/LVNs, Certified Nursing Assistants, Nursing Assistants in Training and Medication Aides/Technicians. These hours are the actual hours the employee worked during the pay period. Do not include vacation days, sick days, or other personal time off. Do not include hours for the Director of Nursing, Assistant Director of Nursing or MDS Coordinator in these totals.

Blocks F59 – F72 - Record the resident census for each day of the designated 14-day pay period.

Blocks F73 – F75 – Record the sources from which the Daily Resident Census was obtained such as the Midnight census sheet, 24-hour report sheet.

Blocks F76 – F77 –Check either "yes" or "no" to the question: "Does facility regularly use volunteers?"

Block F78 - If volunteers are regularly used by the facility, record the number of volunteer hours worked during the designated pay period. Refer to Activity Department records for this data.

Blocks F79 – F82 – Record the sources used to obtain the data for "Other Hours Worked During This Pay Period".

Blocks F83 – F85 - Some facilities utilize "borrowed labor" to fulfill their staffing needs. For example, a group of facilities may borrow personnel from one facility within its group to work at a sister facility in the group. In such a case, the actual payroll entries for these employees may not be reflected in the payroll journal of the facility where they actually worked. In these blocks, record the "borrowed labor" hours for RNs, LPN/LVNs and CNAs.

Blocks F86 – F87 - Record the number of nursing home employees that are salaried employees. Estimate the total number of hours these employees worked for the designated pay period (14 days). For example, the MDS Coordinator is paid for 40 hours of pay each week, but may work an additional 10 hours in order to complete his/her job. Therefore, actual time worked should be recorded as 50 hours per week, and then multiplied by two (2) for the 14-day designated pay period.

Page 3 –Section D

To complete this section, you will need the invoices from Nursing Service contracted services agencies (sometimes referred to as "pool" or "temporary" agencies).

Block F86 - Use staffing data from the pay period ending 30 days prior to the date you are completing this form. The dates of the invoices MUST cover the same dates as the pay period dates used in Section 3.

Record data as completely and accurately as possible. If you are unable to collect some of the requested data, continue on to the next line.

Blocks F89 – F108 – Record hours worked by Contracted Services Agency RNs, LPN/LVNs, Certified Nursing Assistants, Nursing Assistants in Training and Medication Aides/Technicians. This page will accommodate data from only four (4) agencies. Please make copies of this page as necessary to record staffing from all agencies.

Thank you for your time and attention to accurately completing this important Staffing Data Collection Instrument.

Description of the RUG-III Classification System

RUG-III is a 44-group model for classifying nursing home residents into homogenous groups according to common health characteristics and the amount and type of resources they use (see Table A-1 for a description of the 44 groups). Residents are classified based on residents' clinical conditions, extent of services used, and functional status. The groups are in seven general categories (in general order of costs associated with caring for residents): rehabilitation, extensive services, special care, clinically complex, impaired cognition, behavior problems, and reduced physical function.

The RUG-III system was developed as part of the multi-state Nursing Home Case Mix and Quality (NHCMQ) demonstration project. The classification system was designed using resident characteristics from the Minimum Data Set (MDS) and wage-weighted staff time. It was developed based on analysis of the 1990 and 1995 Staff Time Measurement studies conducted by CMS.

The first level of the RUG-III system is a hierarchy of major resident types, representing groups of residents with certain clinical conditions. These include rehabilitation, extensive services, special care, clinically complex, impaired cognition, behavior only, and reduced physical functioning (See Table A-1 for definitions of these categories). The rehabilitation category, which includes those with the most intensive need for services, is divided into five levels of intensity, based on the total minutes of therapy received per week, the days of therapy per week, and the number of different types of therapy received. Residents whose clinical conditions do not require skilled therapy are classified into lower categories, which descend in order of severity, the number of services used, and the amount of time and resources required to care for the resident. The seven major groups are further split based on the ADLs that the residents accomplish or other end splits (e.g., presence of nursing rehabilitation.)

Table A-1
The RUG-III classification system

Category	ADL index[A]	End splits	RUG-III group
1) Rehabilitation			
Ultra high rehabilitation (At least 720 minutes of therapy received per week with 5 or more days for one type of therapy and at least 3 days for a second type)	16-18	Not used	RUC
	9-15	Not used	RUB
	4-8	Not used	RUA
Very high rehabilitation (At least 500 minutes of therapy received per week with 5 or more days for one type of therapy)	16-18	Not used	RVC
	9-15	Not used	RVB
	4-8	Not used	RVA
High rehabilitation (At least 325 minutes of therapy received per week with 5 or more days per week for one type of therapy)	13-18	Not used	RHC
	8-12	Not used	RHB
	4-7	Not used	RHA
Medium rehabilitation (At least 150 minutes of therapy received per week with 5 or more days of some type of therapy)	15-18	Not used	RMC
	8-14	Not used	RMB
	4-7	Not used	RMA
Low rehabilitation (At least 45 minutes of therapy received per week with 3 or more days of some type of therapy and 2 or more nursing rehabilitation activities at least 6 days per week each.	14-18	Not used	RLB
	4-13	Not used	RLA
Extensive services (Resident qualifies for extensive services on the basis of clinical indicators. Qualifications include receipt of parenteral/IV feeding, IV medication, the special care category, the clinically complex category, and the impaired cognitition category. ADL index score must be 7 or higher– otherwise classify resident into special care)	7-18	Count of other categories code into plus IV medications + feeding	SE3
	7-18		SE2
	7-18		SE1

Table A-1
The RUG-III classification system

Category	ADL index[A]	End splits	RUG-III group
2.) Special care (Resident qualifies for extensive services on the basis of clinical indicators. Qualifications include an ADL score of 7 or more plus any of the following: • Two or more ulcers of any type or a stage 3 or 4 pressure ulcer and two or more selected skin care treatments; • Feeding tube with parenteral/enteral intake and aphasia; • Surgical wounds or open lesions other than ulcers, rashes, or cuts and surgical wound care or application of dressings or ointments; • Respiratory therapy for 7 days; • Cerebral palsy and an ADL score of 10 or more; • Fever and vomiting or weight loss or tube feeding with high; parenteral/enteral intake, pneumonia, or dehydration; • Multiple sclerosis and an ADL score of 10 or more; • Quadriplegia and an ADL score of 10 or more; and • Radiation therapy	17-18 15-16 7-14	Not used Not used Not used	SSC SSB SSA
3.) Clinically complex (Resident qualifies for extensive services on the basis of clinical indicators. Qualifications include any of the following: feeding tube with high parenteral/enteral intake; comatose and not awake and ADL dependent; septicemia; second or third degree burns; dehydration; hemiplegia/hemiparesis and an ADL score of ten or more; internal bleeding; pneumonia; end stage disease; chemotherapy; dialysis; physician order changes on 4 or more days and physicians visits on 1 or more day; physician order changes on 2 or more days and physician visits on 7 days; diabetes and injections on 7 days and physician order changes on 2 or more days; transfusions; oxygen therapy; application of dressing to foot and injection on foot or open lesion on foot)	17-18D 17-18 12-16D 12-16 4-11D 4-11	Signs of depression	CC2 CC1 CB2 CB1 CA2 CA1
4.) Impaired cognition (Resident must have an ADL index of ten or less and a Cognitive Performance Scale of 3 or more, indicating moderate, moderately severe, severe, or very severe impairment)	6-10 6-10 4-5 4-5	Receiving nursing rehabilitation Not receiving Receiving nursing rehabilitation Not receiving	IB2 IB1 IA2 IA1

Table A-1
The RUG-III classification system

Category	ADL index[A]	End splits	RUG-III group
5.) Behavior problems only (Resident must have an ADL index of 10 or less and the presence of delusions, hallucinations, or one of more of the following 4 or more days per week: wandering, verbally abusive behavior, physically abusive behavior, socially inappropriate/disruptive behavior, resisting care.	6-10	Receiving nursing rehabilitation	BB
	6-10		BB1
	4-5	Not receiving	BA2
	4-5	Receiving nursing rehabilitation	BA1
		Not receiving	
6.) Physical functioning reduced (Split into physical functioning groups is based on the ADL index and whether the number of nursing rehab activities is 2 or more)	16-18	Receiving nursing rehabilitation	PE2
	16-18		PE1
	11-15	Not receiving	PD2
	11-15	Receiving nursing rehabilitation	PD1
	9-10		PC2
	9-10	Not receiving	PC1
	6-8	Receiving nursing rehabilitation	PB2
	6-8		PB1
	4-5	Not receiving	PA2
	4-5	Receiving nursing rehabilitation	PA1
		Not receiving	
		Receiving nursing rehabilitation	
		Not receiving	

A: The ADL index is based on the amount of support required for the following ADL activities: bed mobility, transferring, toilet use, and eating. It ranges from 4 (fully independent) to 18 (totally dependent, needs two-person assistance where applicable).

DATE: April 19, 2001

FROM: Nursing Home Initiative Estimating Team

SUBJECT: Economic Effects of Three Alternative Nursing Home Staffing Standards

TO: Richard S. Foster
Chief Actuary

NOTE: This is an internal CMS memorandum that describes work performed by the CMS Office of the Actuary to estimate costs associated with the Phase I thresholds. A more extensive analysis, based on the Phase II thresholds, is currently underway.

This memorandum presents estimates of the economic effects associated with three alternative nursing home staffing standards.

- Certified Nurse Aide (CNA) Standard: 2.0 CNA hours per resident per day
- Minimum Standard: 2.0 CNA hours per resident per day, 0.55 licensed practical nurse (LPN) hours per resident per day, 0.2 registered nurse (RN) hours per resident per day.
- Preferred Minimum Standard: 2.0 CNA hours per resident per day, 0.55 LPN hours per resident per day, 0.45 RN hours per resident per day.

These estimates reflect a state-by-state analysis of four types of nursing homes: 1) facilities which have no Medicaid patients, 2) facilities which have no Medicare patients, 3) facilities which have both Medicare and Medicaid patients, and 4) facilities which have neither Medicare nor Medicaid patients.[1]

Cost Estimates. The results are summarized in Table 1, which shows the additional costs incurred by nursing home and non-nursing home sectors adjusted for savings attributable to reduced hospitalizations. (Incremental hours per patient day by state, occupation, and facility type; and additional costs by state are shown in Appendix A. Appendix B gives a more detailed discussion of the cost estimation methodology.)

[1] The analysis of incremental labor requirements by facility type was prepared by Dr. Alan White of Abt Associates and is based on 1998 data from the Online Survey Certification and Reporting (OSCAR) system covering approximately 15,000 facilities (of which about 2,000 were excluded for data quality reasons).

Table 1: Estimated CY 2001 Incremental Labor Costs (Billions)

	Nursing Home Sector	Non-Nursing Home Sector	Reduced Hospitalizations	Total Cost
CNA Standard	$2.6	$0.2	-$0.2	$2.6
Minimum Standard	$4.6	$0.6	-$0.4	$4.8
Preferred Minimum	$7.6	$1.9	-$0.5	$9.0

In the non-nursing home sector, incremental costs arise because the proposed standards will likely raise labor costs in all industries that employ CNA, LPN, and RN. In our analysis, incremental costs depend on the responsiveness of prospective CNA, LPN, and RN to changes in compensation rates. The distribution of costs between nursing home and non-nursing home sectors depends on the responsiveness of workers to changes in the relative levels of compensation between these sectors.

Three points are worth emphasizing. First, these cost estimates are constructed so that the net employment change in the non-nursing home sector is zero. In other words, we do not assume that nursing home staffing shortfalls are met by reducing staff in other health care industries. Similarly, we do not assume that existing labor shortages must be resolved before the nursing home requirements can be met.

Second, incremental costs reflect the direct costs associated with hiring additional workers and the indirect effects that result from the higher general levels of labor compensation faced by all health care providers. Therefore, it is likely that all facilities (and all patient types) will incur incremental costs even if they currently meet the proposed minima.

Finally, as we noted in our memorandum of January 8, these estimates are based on the assumption that workers and firms have fully adjusted to the new requirements and compensation levels. In fact, this adjustment would likely occur over a period of several years.

Allocation of Costs by Patient Type. Incremental labor requirements were estimated by comparing, for each facility, the observed 1998 staffing levels with the levels that would be required under each standard. Combining the calculated incremental labor requirement by facility type, with the observed patient distribution by facility type allows us to infer incremental labor requirements and costs by patient type.[2] The results are shown in Tables 2a (incremental costs in billions, in 2001 dollars) and 2b (percent distribution of incremental costs).

Table 2a: Distribution of Incremental Costs by Patient Type (Medicare, Medicaid, Other)
(Billions, (Includes hospitalization savings adjustment)

	Medicare	Medicaid	Other	Total
CNA Standard	$0.2	$1.8	$0.6	$2.6
Minimum Standard	$0.4	$3.3	$1.1	$4.8
Preferred Minimum	$0.9	$5.8	$2.3	$9.0

[2] This calculation assumes that the per-patient labor requirement for each of the three types of patients is similar across facility types.

Table 2b: Distribution of Incremental Costs by Patient Type (Medicare, Medicaid, Other)
(Percent, (Includes hospitalization savings adjustment)

	Medicare	Medicaid	Other	Total
CNA Standard	7.2%	69.9%	22.9%	100.0
Minimum Standard	8.0%	68.5%	23.5%	100.0
Preferred Minimum	9.5%	64.7%	25.8%	100.0

Economic and Policy Considerations. Our analysis suggests that the way in which the proposed standards are implemented can have significant economic and welfare consequences. The team does not necessarily advocate the policy ideas discussed below--in some cases their implications extend beyond economic theory. Rather, our intent is to bring to light economic considerations associated with certain implementation strategies.

Near Term Transition Costs. Our analysis indicates that relative compensation levels will need to increase the most in states with the greatest incremental labor requirement. However, the magnitude of these requirements implies that, at least in the near term (2-4 years), many localities will be unable to meet the proposed staffing requirements--even assuming higher compensation rates. *In fact, some research suggests that large increases in wages could exacerbate existing labor shortages in the short run*.[3] This is especially true for the minimum and preferred minimum standards. In the absence of waivers, some facilities may be forced to reduce the number of residents served.[4] We therefore recommend that waivers and/or a phase-in provision be considered as part of any implementation plan.

Labor Shortages/Cost Increases in the Non-Nursing Home Sector. As noted earlier, the cost estimates above assume a change in labor market conditions that brings about the desired employment changes in the nursing home industry *without affecting net employment in the non-nursing home sector*. We conclude that this cannot be accomplished without compensation increases in the non-nursing home sector--particularly in areas where there are already labor shortages and where incremental nursing home labor requirements are large. Thus, a change in policy, which does not address compensation issues across industries, is likely to exacerbate existing labor shortages in the non-nursing home sector, especially for registered nurses and particularly in the South.

[3] For example, Chiha and Link estimate that short-run RN labor supply own wage elasticities range from -0.12 to -0.24 for married RN and from 0.05 to 0.09 for single RN. These results suggest that it will be virtually impossible to meet the RN minima in the short run with wage increases alone. Chiha, Yvana A. and Link, Charles R., "The Shortage of Registered Nurses and Some New Estimates of the Effects of Wages on RN Labor Supply: A Look at the Past, and a Preview of What's to Come in the 21st Century?", draft manuscript , University of Delaware, January 26, 2001.

[4] This study does not account for the welfare impacts associated with reductions in nursing home capacity in particular localities.

Contract Nursing. As noted above, our cost estimates consider two types of costs: the direct costs of recruiting, training, and paying new workers, and the indirect costs associated with the higher general levels of compensation paid to current workers in the affected occupations. It is possible, however, that the use of contract staffing could permit different rates of compensation for new and existing workers, thereby mitigating the indirect cost effects of the proposed standards. We conclude that contract nursing has limited potential to lessen indirect costs for two reasons. First, in the long run, we would expect wage differentials between contract nursing home staff and permanent staff to be reduced to a point that reflects a premium for the presumed disadvantages associated with contract employment. Second, current participation rates are so high that it is difficult to envision contract labor meeting the incremental demand (again, particularly in states with existing shortages and larger incremental labor requirements).[5]

Caveats. Ideally, the evaluation of a proposed policy change compares two conditions: 1) the state of the world assuming the specific policy change is implemented, and 2) a baseline condition assuming that the specific policy change is not implemented. In practice, however, projecting costs into the future is problematic owing to the difficulties in forecasting baseline conditions. In the absence of government regulation, will existing labor shortages worsen in the future? How might relative compensation levels respond to deepening labor shortages? How will changes in the population affect the (baseline) demand for nursing home services?

The cost estimates above use current (CY 2001) labor market conditions and nursing home resident populations as a baseline. What follows is a discussion of variables that could affect the baseline assumptions.

Alternative Employment. Estimates of the long-run own-wage elasticity of RN labor supply control for changes in compensation for alternative employment. Our analysis implicitly assumes that, on average, real compensation for alternative work is constant. In fact, rising (falling) real average wages of alternative employment, *ceteris paribus*, would likely increase (decrease) the costs of hiring additional nursing home RN staff.

Foreign Nurses. Currently, the U.S. government grants working papers to 500 foreign nurses per year to address shortages.[6] Liberalizing the restrictions on foreign nurses would tend to reduce the incremental costs associated with the proposed standards (assuming that there are no other costs associated with this change in policy).

Labor Supply Demographics. It is also possible that changes in the population of potential CNA, LPN and RN could affect future costs. For example, Chiha and Link found a statistically significant relationship between RN school admissions and the population of 18-24 year old

[5] "...participation rates for married and single female nurses have increased consistently over the years, and in 1996 exceeded 88% for married female RNs and 90% for single female RNs....Not only are RNs likely to work, but also when they do work they tend to work full-time. In both years, more than two-thirds of married female RNs, the group with the lowest participation rates, worked more than 1,500 hours per year. More than 40% percent of married nurses worked at least 2,000 hours annually. The numbers are even higher for single female RNs, where about 85% worked at least 1,500 hours and more than 55% worked at least 2,000 hours." Chiha and Link, *op. cit*.

[6] *Ibid*.

women. The long run incremental costs associated with the proposed RN staffing standards could increase as the size of this population decreases over time.

Resident Population. Growth in the population demanding nursing home services, all other things constant, would tend to increase nursing home labor costs. If one postulates that current (baseline) staff per resident/day proportions are maintained in the future in the absence of any government regulation, then incremental costs associated with the proposed standards would grow at a rate equal to the growth rate of the resident population. It is possible, however, that in the absence of regulation, even today's staff per patient/day ratios would not be maintained. In this case, the costs estimated here would grow faster than the growth of the resident population.

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Appendix A: State Level Cost Estimates

Table A.1: CNA and LPN Costs by State
(Billions, CY2001 $

	CNA			LPN		
State	NH	Non-NH	Total	NH	Non-NH	Total
Alaska	$0.000	$0.000	$0.000	$0.001	$0.000	$0.001
Alabama	$0.007	$0.000	$0.007	$0.001	$0.000	$0.001
Arkansas	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Arizona	$0.015	$0.001	$0.015	$0.004	$0.001	$0.004
California	$0.109	$0.005	$0.114	$0.113	$0.015	$0.128
Colorado	$0.034	$0.001	$0.035	$0.010	$0.001	$0.011
Connecticut	$0.048	$0.002	$0.051	$0.053	$0.013	$0.065
District of Columbia	$0.001	$0.000	$0.001	$0.001	$0.000	$0.001
Delaware	$0.001	$0.000	$0.001	$0.002	$0.000	$0.003
Florida	$0.100	$0.004	$0.104	$0.018	$0.003	$0.021
Georgia	$0.046	$0.002	$0.048	$0.004	$0.001	$0.005
Hawaii	$0.000	$0.000	$0.000	$0.008	$0.003	$0.011
Iowa	$0.102	$0.011	$0.113	$0.043	$0.010	$0.053
Idaho	$0.002	$0.000	$0.002	$0.003	$0.000	$0.003
Illinois	$0.329	$0.036	$0.364	$0.198	$0.054	$0.252
Indiana	$0.188	$0.026	$0.214	$0.013	$0.002	$0.015
Kansas	$0.093	$0.012	$0.106	$0.029	$0.006	$0.035
Kentucky	$0.036	$0.001	$0.038	$0.008	$0.001	$0.010
Louisiana	$0.035	$0.001	$0.036	$0.006	$0.001	$0.006
Massachusetts	$0.035	$0.002	$0.036	$0.049	$0.006	$0.055
Maryland	$0.035	$0.002	$0.037	$0.024	$0.004	$0.028
Maine	$0.001	$0.000	$0.001	$0.013	$0.004	$0.016
Michigan	$0.031	$0.002	$0.033	$0.032	$0.004	$0.037
Minnesota	$0.092	$0.003	$0.095	$0.021	$0.003	$0.024
Missouri	$0.132	$0.020	$0.152	$0.028	$0.004	$0.031
Mississippi	$0.026	$0.001	$0.027	$0.001	$0.000	$0.002
Montana	$0.002	$0.000	$0.002	$0.006	$0.001	$0.008
North Carolina	$0.033	$0.002	$0.034	$0.018	$0.002	$0.020
North Dakota	$0.003	$0.000	$0.004	$0.006	$0.001	$0.007
Nebraska	$0.044	$0.003	$0.048	$0.012	$0.002	$0.014
New Hampshire	$0.004	$0.000	$0.004	$0.010	$0.002	$0.013
New Jersey	$0.059	$0.003	$0.061	$0.066	$0.014	$0.080
New Mexico	$0.008	$0.000	$0.008	$0.007	$0.002	$0.009
Nevada	$0.013	$0.001	$0.014	$0.004	$0.001	$0.005
New York	$0.189	$0.008	$0.198	$0.094	$0.012	$0.106
Ohio	$0.120	$0.005	$0.125	$0.031	$0.004	$0.036
Oklahoma	$0.074	$0.014	$0.089	$0.016	$0.003	$0.019
Oregon	$0.012	$0.001	$0.013	$0.027	$0.009	$0.036
Pennsylvania	$0.098	$0.004	$0.103	$0.055	$0.007	$0.062
Rhode Island	$0.018	$0.001	$0.018	$0.031	$0.011	$0.042
South Carolina	$0.011	$0.001	$0.011	$0.002	$0.000	$0.002
South Dakota	$0.009	$0.000	$0.009	$0.014	$0.004	$0.018
Tennessee	$0.079	$0.002	$0.081	$0.011	$0.002	$0.012
Texas	$0.196	$0.017	$0.213	$0.031	$0.004	$0.035
Utah	$0.011	$0.000	$0.012	$0.005	$0.001	$0.007
Virginia	$0.037	$0.002	$0.039	$0.004	$0.001	$0.004
Vermont	$0.002	$0.000	$0.002	$0.002	$0.000	$0.003
Washington	$0.010	$0.001	$0.011	$0.025	$0.005	$0.029
Wisconsin	$0.036	$0.002	$0.037	$0.076	$0.020	$0.096
West Virginia	$0.003	$0.000	$0.003	$0.002	$0.000	$0.003
Wyoming	$0.003	$0.000	$0.003	$0.003	$0.001	$0.004
Total	$2.575	$0.199	$2.774	$1.242	$0.245	$1.487

Table A.2: RN Costs by Scenario and State
(Billions, CY2001 $

	RN (0.2 hrs per resident/day)			RN (0.45 hrs per resident/day)		
State	**NH**	**Non-NH**	**Total**	**NH**	**Non-NH**	**Total**
Alaska	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
Alabama	$0.016	$0.000	$0.016	$0.073	$0.037	$0.110
Arkansas	$0.031	$0.016	$0.046	$0.092	$0.055	$0.147
Arizona	$0.001	$0.000	$0.001	$0.021	$0.005	$0.026
California	$0.061	$0.002	$0.064	$0.324	$0.098	$0.422
Colorado	$0.001	$0.000	$0.001	$0.022	$0.006	$0.028
Connecticut	$0.002	$0.000	$0.002	$0.028	$0.008	$0.036
District of Columbia	$0.001	$0.000	$0.001	$0.006	$0.002	$0.009
Delaware	$0.001	$0.000	$0.001	$0.003	$0.001	$0.004
Florida	$0.027	$0.001	$0.028	$0.174	$0.060	$0.234
Georgia	$0.046	$0.018	$0.064	$0.153	$0.092	$0.245
Hawaii	$0.000	$0.000	$0.001	$0.005	$0.002	$0.007
Iowa	$0.007	$0.000	$0.007	$0.059	$0.015	$0.074
Idaho	$0.001	$0.000	$0.001	$0.008	$0.002	$0.010
Illinois	$0.038	$0.001	$0.040	$0.205	$0.046	$0.251
Indiana	$0.024	$0.001	$0.024	$0.127	$0.050	$0.177
Kansas	$0.012	$0.000	$0.012	$0.067	$0.024	$0.092
Kentucky	$0.015	$0.000	$0.016	$0.069	$0.029	$0.098
Louisiana	$0.058	$0.032	$0.090	$0.162	$0.100	$0.262
Massachusetts	$0.005	$0.000	$0.006	$0.069	$0.020	$0.089
Maryland	$0.004	$0.000	$0.005	$0.045	$0.011	$0.056
Maine	$0.001	$0.000	$0.001	$0.005	$0.002	$0.007
Michigan	$0.011	$0.001	$0.012	$0.091	$0.024	$0.115
Minnesota	$0.012	$0.001	$0.013	$0.105	$0.028	$0.133
Missouri	$0.034	$0.000	$0.034	$0.127	$0.059	$0.186
Mississippi	$0.016	$0.000	$0.016	$0.059	$0.029	$0.088
Montana	$0.002	$0.000	$0.002	$0.009	$0.002	$0.011
North Carolina	$0.009	$0.000	$0.010	$0.088	$0.020	$0.108
North Dakota	$0.001	$0.000	$0.001	$0.015	$0.005	$0.020
Nebraska	$0.004	$0.000	$0.004	$0.034	$0.009	$0.043
New Hampshire	$0.000	$0.000	$0.001	$0.005	$0.001	$0.006
New Jersey	$0.004	$0.000	$0.004	$0.066	$0.019	$0.084
New Mexico	$0.002	$0.000	$0.002	$0.012	$0.004	$0.016
Nevada	$0.000	$0.000	$0.000	$0.007	$0.002	$0.009
New York	$0.051	$0.002	$0.053	$0.296	$0.096	$0.392
Ohio	$0.016	$0.001	$0.017	$0.150	$0.037	$0.187
Oklahoma	$0.030	$0.015	$0.046	$0.091	$0.055	$0.146
Oregon	$0.001	$0.000	$0.001	$0.017	$0.005	$0.022
Pennsylvania	$0.009	$0.000	$0.009	$0.140	$0.038	$0.178
Rhode Island	$0.001	$0.000	$0.001	$0.012	$0.003	$0.015
South Carolina	$0.011	$0.000	$0.011	$0.044	$0.022	$0.066
South Dakota	$0.000	$0.000	$0.000	$0.004	$0.001	$0.005
Tennessee	$0.037	$0.007	$0.044	$0.133	$0.070	$0.203
Texas	$0.114	$0.038	$0.152	$0.353	$0.204	$0.557
Utah	$0.003	$0.000	$0.003	$0.014	$0.004	$0.018
Virginia	$0.015	$0.000	$0.016	$0.071	$0.031	$0.102
Vermont	$0.001	$0.000	$0.001	$0.005	$0.001	$0.006
Washington	$0.001	$0.000	$0.001	$0.015	$0.005	$0.020
Wisconsin	$0.001	$0.000	$0.001	$0.033	$0.010	$0.042
West Virginia	$0.006	$0.000	$0.007	$0.019	$0.010	$0.030
Wyoming	$0.000	$0.000	$0.000	$0.003	$0.001	$0.003
Total	$0.745	$0.140	$0.885	$3.735	$1.461	$5.196

Table A.3: Minimum and Preferred Minimum Costs by State
(Billions, CY2001 $

	Minimum Scenario			Preferred Minimum Scenario		
State	**NH**	**Non-NH**	**Total**	**NH**	**Non-NH**	**Total**
Alaska	$0.001	$0.000	$0.001	$0.001	$0.000	$0.001
Alabama	$0.023	$0.000	$0.024	$0.081	$0.038	$0.118
Arkansas	$0.031	$0.016	$0.046	$0.092	$0.055	$0.147
Arizona	$0.020	$0.001	$0.021	$0.039	$0.007	$0.046
California	$0.284	$0.023	$0.307	$0.546	$0.118	$0.665
Colorado	$0.045	$0.003	$0.048	$0.066	$0.009	$0.074
Connecticut	$0.103	$0.015	$0.118	$0.129	$0.023	$0.152
District of Columbia	$0.003	$0.000	$0.003	$0.008	$0.002	$0.011
Delaware	$0.004	$0.000	$0.005	$0.007	$0.001	$0.008
Florida	$0.145	$0.008	$0.153	$0.292	$0.067	$0.360
Georgia	$0.096	$0.021	$0.116	$0.203	$0.095	$0.297
Hawaii	$0.009	$0.003	$0.012	$0.014	$0.004	$0.018
Iowa	$0.152	$0.021	$0.173	$0.204	$0.036	$0.240
Idaho	$0.006	$0.001	$0.006	$0.013	$0.002	$0.015
Illinois	$0.565	$0.091	$0.656	$0.732	$0.136	$0.868
Indiana	$0.225	$0.028	$0.253	$0.328	$0.077	$0.405
Kansas	$0.135	$0.018	$0.153	$0.190	$0.042	$0.232
Kentucky	$0.060	$0.003	$0.063	$0.113	$0.032	$0.145
Louisiana	$0.098	$0.034	$0.132	$0.202	$0.102	$0.304
Massachusetts	$0.089	$0.008	$0.097	$0.152	$0.028	$0.180
Maryland	$0.063	$0.006	$0.069	$0.104	$0.016	$0.120
Maine	$0.014	$0.004	$0.018	$0.019	$0.005	$0.025
Michigan	$0.075	$0.006	$0.082	$0.155	$0.029	$0.185
Minnesota	$0.125	$0.006	$0.132	$0.219	$0.034	$0.252
Missouri	$0.194	$0.023	$0.217	$0.287	$0.082	$0.369
Mississippi	$0.043	$0.001	$0.044	$0.086	$0.030	$0.116
Montana	$0.010	$0.002	$0.012	$0.018	$0.004	$0.021
North Carolina	$0.060	$0.005	$0.064	$0.138	$0.025	$0.163
North Dakota	$0.011	$0.001	$0.012	$0.024	$0.006	$0.030
Nebraska	$0.060	$0.005	$0.065	$0.091	$0.014	$0.105
New Hampshire	$0.015	$0.003	$0.018	$0.019	$0.004	$0.023
New Jersey	$0.129	$0.017	$0.146	$0.191	$0.036	$0.226
New Mexico	$0.016	$0.003	$0.019	$0.026	$0.007	$0.033
Nevada	$0.017	$0.002	$0.019	$0.024	$0.004	$0.028
New York	$0.334	$0.022	$0.357	$0.580	$0.116	$0.696
Ohio	$0.167	$0.010	$0.177	$0.301	$0.046	$0.347
Oklahoma	$0.121	$0.032	$0.153	$0.182	$0.072	$0.254
Oregon	$0.040	$0.010	$0.050	$0.056	$0.014	$0.071
Pennsylvania	$0.161	$0.012	$0.174	$0.293	$0.049	$0.342
Rhode Island	$0.050	$0.012	$0.062	$0.061	$0.015	$0.076
South Carolina	$0.023	$0.001	$0.024	$0.057	$0.022	$0.079
South Dakota	$0.023	$0.005	$0.028	$0.027	$0.006	$0.033
Tennessee	$0.127	$0.011	$0.138	$0.222	$0.074	$0.296
Texas	$0.340	$0.060	$0.400	$0.579	$0.225	$0.805
Utah	$0.019	$0.002	$0.021	$0.031	$0.005	$0.037
Virginia	$0.056	$0.003	$0.059	$0.112	$0.034	$0.145
Vermont	$0.005	$0.000	$0.005	$0.009	$0.002	$0.011
Washington	$0.036	$0.005	$0.041	$0.050	$0.010	$0.060
Wisconsin	$0.114	$0.022	$0.135	$0.145	$0.031	$0.176
West Virginia	$0.011	$0.001	$0.012	$0.025	$0.011	$0.036
Wyoming	$0.006	$0.001	$0.007	$0.009	$0.002	$0.010
Total	$4.562	$0.585	$5.146	$7.551	$1.906	$9.457

Table A.4: Incremental Hours Per Day by State

State	CNA	LPN	RN(0.2)	RN(0.45)
Alaska	-	33	-	-
Alabama	949	49	745	5,031
Arkansas	3,981	483	2,160	6,523
Arizona	1,718	282	59	1,121
California	12,088	6,992	2,220	14,352
Colorado	3,736	732	56	1,177
Connecticut	3,891	3,067	78	1,369
District of Columbia	126	37	38	323
Delaware	157	164	30	169
Florida	11,600	1,344	1,201	9,899
Georgia	5,691	358	2,851	10,593
Hawaii	41	618	17	213
Iowa	12,203	3,801	384	3,906
Idaho	275	230	33	441
Illinois	38,948	15,912	1,822	11,250
Indiana	23,218	1,018	1,143	8,066
Kansas	11,733	2,555	595	4,255
Kentucky	4,487	721	724	4,420
Louisiana	5,102	489	3,710	10,372
Massachusetts	3,419	2,943	206	3,258
Maryland	3,728	1,552	189	2,263
Maine	146	1,100	36	333
Michigan	3,426	2,282	487	4,628
Minnesota	9,251	1,632	490	5,003
Missouri	17,857	2,323	1,584	8,390
Mississippi	3,506	132	727	3,853
Montana	257	625	98	585
North Carolina	4,020	1,387	422	4,600
North Dakota	443	559	71	917
Nebraska	5,172	1,043	196	2,083
New Hampshire	427	811	24	293
New Jersey	5,573	4,356	149	3,077
New Mexico	961	616	78	713
Nevada	1,338	274	10	354
New York	16,983	6,364	1,921	13,881
Ohio	13,646	2,363	768	8,376
Oklahoma	11,347	1,470	2,164	6,663
Oregon	1,392	2,108	60	891
Pennsylvania	10,216	3,991	402	7,571
Rhode Island	1,844	2,091	36	578
South Carolina	1,408	133	512	2,961
South Dakota	1,113	1,312	7	263
Tennessee	9,490	949	2,050	9,052
Texas	27,659	2,359	6,463	23,067
Utah	1,302	475	114	764
Virginia	4,558	312	701	4,437
Vermont	198	175	46	287
Washington	1,126	1,787	35	779
Wisconsin	3,911	6,107	68	1,954
West Virginia	404	218	313	1,406
Wyoming	393	301	1	169
Total	306,457	93,036	38,295	216,928

Table A.5: Incremental Hours Per Day
(As a percent of total nursing home hours per day)

State	CNA	LPN	RN(0.2)	RN(0.45)
Alaska	0.0%	9.9%	0.0%	0.0%
Alabama	1.7%	0.2%	14.2%	96.1%
Arkansas	11.5%	3.7%	87.2%	263.3%
Arizona	8.1%	3.7%	1.2%	22.3%
California	6.1%	11.9%	5.9%	38.0%
Colorado	13.0%	7.2%	0.7%	15.5%
Connecticut	7.6%	25.4%	0.6%	10.7%
District of Columbia	2.5%	2.1%	5.0%	42.3%
Delaware	2.1%	8.4%	1.4%	8.0%
Florida	9.9%	2.8%	5.3%	43.8%
Georgia	8.3%	1.3%	48.4%	179.8%
Hawaii	0.5%	37.2%	0.8%	10.7%
Iowa	27.8%	29.7%	3.6%	36.8%
Idaho	2.7%	8.3%	1.8%	24.4%
Illinois	29.5%	46.3%	4.9%	30.6%
Indiana	37.1%	3.0%	8.3%	58.8%
Kansas	33.3%	21.0%	7.6%	54.5%
Kentucky	10.7%	4.4%	10.4%	63.3%
Louisiana	9.5%	2.5%	98.0%	274.0%
Massachusetts	3.2%	10.6%	0.8%	12.6%
Maryland	9.9%	14.0%	2.2%	26.9%
Maine	0.8%	37.3%	0.8%	7.8%
Michigan	4.1%	10.1%	3.4%	32.6%
Minnesota	13.6%	6.8%	3.6%	36.4%
Missouri	30.4%	9.9%	15.0%	79.7%
Mississippi	11.5%	1.1%	16.7%	88.7%
Montana	2.1%	21.5%	3.7%	22.3%
North Carolina	5.1%	5.0%	2.8%	30.7%
North Dakota	3.1%	17.3%	3.4%	44.7%
Nebraska	21.1%	12.3%	3.5%	36.9%
New Hampshire	2.6%	23.4%	0.6%	7.1%
New Jersey	6.7%	20.1%	0.7%	14.9%
New Mexico	10.6%	29.1%	4.8%	43.6%
Nevada	21.9%	12.1%	0.5%	18.7%
New York	9.0%	11.0%	5.7%	41.0%
Ohio	9.0%	4.2%	2.3%	25.5%
Oklahoma	40.3%	12.9%	76.1%	234.4%
Oregon	6.4%	52.0%	1.2%	17.3%
Pennsylvania	5.9%	7.0%	1.0%	18.5%
Rhode Island	10.3%	72.9%	0.8%	13.3%
South Carolina	4.8%	1.2%	13.0%	74.9%
South Dakota	10.0%	63.2%	0.2%	8.3%
Tennessee	15.3%	3.8%	26.4%	116.5%
Texas	20.5%	4.1%	39.7%	141.6%
Utah	12.4%	15.6%	4.9%	32.4%
Virginia	9.9%	1.7%	9.7%	61.4%
Vermont	3.3%	9.7%	4.2%	26.6%
Washington	2.3%	15.5%	0.3%	6.2%
Wisconsin	4.8%	37.6%	0.3%	9.7%
West Virginia	3.2%	5.0%	19.2%	86.2%
Wyoming	7.8%	25.7%	0.1%	13.7%
Total (Average)	11.6%	10.6%	7.4%	41.8%

Table A.6: Nursing Home Direct Hiring (Recruiting, Training, and Compensation) Costs (Billions, CY2001 $)

State	CNA	LPN	RN(0.2)	RN(0.45)
Alaska	$ -	$ 0.000	$ -	$ -
Alabama	$ 0.004	$ 0.000	$ 0.009	$ 0.062
Arkansas	$ -	$ -	$ 0.026	$ 0.085
Arizona	$ 0.009	$ 0.002	$ 0.001	$ 0.014
California	$ 0.065	$ 0.074	$ 0.032	$ 0.234
Colorado	$ 0.021	$ 0.006	$ 0.001	$ 0.014
Connecticut	$ 0.029	$ 0.038	$ 0.001	$ 0.018
District of Columbia	$ 0.001	$ 0.000	$ 0.000	$ 0.005
Delaware	$ 0.001	$ 0.002	$ 0.000	$ 0.002
Florida	$ 0.061	$ 0.012	$ 0.014	$ 0.130
Georgia	$ 0.028	$ 0.003	$ 0.035	$ 0.139
Hawaii	$ 0.000	$ 0.006	$ 0.000	$ 0.003
Iowa	$ 0.069	$ 0.032	$ 0.003	$ 0.041
Idaho	$ 0.001	$ 0.002	$ 0.000	$ 0.005
Illinois	$ 0.224	$ 0.152	$ 0.020	$ 0.139
Indiana	$ 0.133	$ 0.008	$ 0.012	$ 0.099
Kansas	$ 0.065	$ 0.021	$ 0.006	$ 0.051
Kentucky	$ 0.022	$ 0.005	$ 0.008	$ 0.055
Louisiana	$ 0.021	$ 0.004	$ 0.050	$ 0.151
Massachusetts	$ 0.021	$ 0.032	$ 0.003	$ 0.045
Maryland	$ 0.021	$ 0.016	$ 0.002	$ 0.030
Maine	$ 0.001	$ 0.010	$ 0.000	$ 0.004
Michigan	$ 0.019	$ 0.021	$ 0.006	$ 0.063
Minnesota	$ 0.056	$ 0.014	$ 0.006	$ 0.074
Missouri	$ 0.093	$ 0.018	$ 0.018	$ 0.104
Mississippi	$ 0.016	$ 0.001	$ 0.009	$ 0.050
Montana	$ 0.001	$ 0.005	$ 0.001	$ 0.006
North Carolina	$ 0.019	$ 0.011	$ 0.005	$ 0.060
North Dakota	$ 0.002	$ 0.004	$ 0.001	$ 0.011
Nebraska	$ 0.029	$ 0.008	$ 0.002	$ 0.024
New Hampshire	$ 0.002	$ 0.007	$ 0.000	$ 0.003
New Jersey	$ 0.035	$ 0.047	$ 0.002	$ 0.043
New Mexico	$ 0.005	$ 0.005	$ 0.001	$ 0.009
Nevada	$ 0.009	$ 0.003	$ 0.000	$ 0.005
New York	$ 0.114	$ 0.061	$ 0.026	$ 0.217
Ohio	$ 0.072	$ 0.020	$ 0.008	$ 0.101
Oklahoma	$ 0.054	$ 0.011	$ 0.025	$ 0.084
Oregon	$ 0.007	$ 0.022	$ 0.001	$ 0.011
Pennsylvania	$ 0.059	$ 0.035	$ 0.004	$ 0.093
Rhode Island	$ 0.011	$ 0.025	$ 0.000	$ 0.008
South Carolina	$ 0.006	$ 0.001	$ 0.006	$ 0.037
South Dakota	$ 0.005	$ 0.011	$ 0.000	$ 0.003
Tennessee	$ 0.049	$ 0.007	$ 0.024	$ 0.115
Texas	$ 0.128	$ 0.020	$ 0.083	$ 0.313
Utah	$ 0.007	$ 0.004	$ 0.001	$ 0.010
Virginia	$ 0.022	$ 0.002	$ 0.008	$ 0.057
Vermont	$ 0.001	$ 0.001	$ 0.000	$ 0.003
Washington	$ 0.006	$ 0.017	$ 0.000	$ 0.010
Wisconsin	$ 0.021	$ 0.058	$ 0.001	$ 0.021
West Virginia	$ 0.002	$ 0.001	$ 0.004	$ 0.016
Wyoming	$ 0.002	$ 0.002	$ 0.000	$ 0.002
Total	$ 1.649	$ 0.868	$ 0.468	$ 2.878

Table A.7: Nursing Home InDirect Costs
(Billions, CY2001 $)

State	CNA	LPN	RN(0.2)	RN(0.45)
Alaska	$ -	$ 0.000	$ -	$ -
Alabama	$ 0.003	$ 0.000	$ 0.007	$ 0.011
Arkansas	$ -	$ -	$ 0.005	$ 0.007
Arizona	$ 0.006	$ 0.001	$ 0.001	$ 0.007
California	$ 0.044	$ 0.039	$ 0.030	$ 0.091
Colorado	$ 0.013	$ 0.003	$ 0.001	$ 0.007
Connecticut	$ 0.019	$ 0.014	$ 0.001	$ 0.010
District of Columbia	$ 0.000	$ 0.000	$ 0.000	$ 0.002
Delaware	$ 0.001	$ 0.001	$ 0.000	$ 0.001
Florida	$ 0.040	$ 0.007	$ 0.013	$ 0.044
Georgia	$ 0.018	$ 0.001	$ 0.011	$ 0.014
Hawaii	$ 0.000	$ 0.002	$ 0.000	$ 0.002
Iowa	$ 0.033	$ 0.012	$ 0.003	$ 0.018
Idaho	$ 0.001	$ 0.001	$ 0.000	$ 0.003
Illinois	$ 0.105	$ 0.046	$ 0.019	$ 0.066
Indiana	$ 0.056	$ 0.005	$ 0.011	$ 0.028
Kansas	$ 0.028	$ 0.009	$ 0.006	$ 0.016
Kentucky	$ 0.014	$ 0.003	$ 0.007	$ 0.014
Louisiana	$ 0.014	$ 0.002	$ 0.008	$ 0.012
Massachusetts	$ 0.014	$ 0.017	$ 0.003	$ 0.024
Maryland	$ 0.014	$ 0.008	$ 0.002	$ 0.015
Maine	$ 0.000	$ 0.003	$ 0.000	$ 0.002
Michigan	$ 0.013	$ 0.011	$ 0.005	$ 0.028
Minnesota	$ 0.036	$ 0.008	$ 0.006	$ 0.031
Missouri	$ 0.040	$ 0.010	$ 0.016	$ 0.022
Mississippi	$ 0.010	$ 0.001	$ 0.007	$ 0.010
Montana	$ 0.001	$ 0.002	$ 0.001	$ 0.003
North Carolina	$ 0.013	$ 0.006	$ 0.005	$ 0.028
North Dakota	$ 0.001	$ 0.002	$ 0.001	$ 0.004
Nebraska	$ 0.015	$ 0.004	$ 0.002	$ 0.010
New Hampshire	$ 0.002	$ 0.003	$ 0.000	$ 0.002
New Jersey	$ 0.024	$ 0.019	$ 0.002	$ 0.022
New Mexico	$ 0.003	$ 0.002	$ 0.001	$ 0.003
Nevada	$ 0.004	$ 0.001	$ 0.000	$ 0.002
New York	$ 0.075	$ 0.033	$ 0.025	$ 0.079
Ohio	$ 0.047	$ 0.011	$ 0.008	$ 0.049
Oklahoma	$ 0.020	$ 0.005	$ 0.005	$ 0.007
Oregon	$ 0.005	$ 0.005	$ 0.001	$ 0.006
Pennsylvania	$ 0.039	$ 0.020	$ 0.004	$ 0.047
Rhode Island	$ 0.007	$ 0.006	$ 0.000	$ 0.004
South Carolina	$ 0.004	$ 0.001	$ 0.005	$ 0.008
South Dakota	$ 0.004	$ 0.003	$ 0.000	$ 0.001
Tennessee	$ 0.030	$ 0.004	$ 0.013	$ 0.018
Texas	$ 0.068	$ 0.011	$ 0.030	$ 0.039
Utah	$ 0.004	$ 0.002	$ 0.001	$ 0.004
Virginia	$ 0.015	$ 0.001	$ 0.007	$ 0.014
Vermont	$ 0.001	$ 0.001	$ 0.000	$ 0.002
Washington	$ 0.004	$ 0.008	$ 0.000	$ 0.005
Wisconsin	$ 0.014	$ 0.019	$ 0.001	$ 0.011
West Virginia	$ 0.001	$ 0.001	$ 0.003	$ 0.003
Wyoming	$ 0.001	$ 0.001	$ 0.000	$ 0.001
Total	$ 0.925	$ 0.374	$ 0.277	$ 0.856

Table A.8: Non-Nursing Home InDirect Costs
(Billions, CY2001 $)

State	CNA	LPN	RN(0.2)	RN(0.45)
Alaska	$ -	$ 0.000	$ -	$ -
Alabama	$ 0.000	$ 0.000	$ 0.000	$ 0.037
Arkansas	$ -	$ -	$ 0.016	$ 0.055
Arizona	$ 0.001	$ 0.001	$ 0.000	$ 0.005
California	$ 0.005	$ 0.015	$ 0.002	$ 0.098
Colorado	$ 0.001	$ 0.001	$ 0.000	$ 0.006
Connecticut	$ 0.002	$ 0.013	$ 0.000	$ 0.008
District of Columbia	$ 0.000	$ 0.000	$ 0.000	$ 0.002
Delaware	$ 0.000	$ 0.000	$ 0.000	$ 0.001
Florida	$ 0.004	$ 0.003	$ 0.001	$ 0.060
Georgia	$ 0.002	$ 0.001	$ 0.018	$ 0.092
Hawaii	$ 0.000	$ 0.003	$ 0.000	$ 0.002
Iowa	$ 0.011	$ 0.010	$ 0.000	$ 0.015
Idaho	$ 0.000	$ 0.000	$ 0.000	$ 0.002
Illinois	$ 0.036	$ 0.054	$ 0.001	$ 0.046
Indiana	$ 0.026	$ 0.002	$ 0.001	$ 0.050
Kansas	$ 0.012	$ 0.006	$ 0.000	$ 0.024
Kentucky	$ 0.001	$ 0.001	$ 0.000	$ 0.029
Louisiana	$ 0.001	$ 0.001	$ 0.032	$ 0.100
Massachusetts	$ 0.002	$ 0.006	$ 0.000	$ 0.020
Maryland	$ 0.002	$ 0.004	$ 0.000	$ 0.011
Maine	$ 0.000	$ 0.004	$ 0.000	$ 0.002
Michigan	$ 0.002	$ 0.004	$ 0.001	$ 0.024
Minnesota	$ 0.003	$ 0.003	$ 0.001	$ 0.028
Missouri	$ 0.020	$ 0.004	$ -	$ 0.059
Mississippi	$ 0.001	$ 0.000	$ 0.000	$ 0.029
Montana	$ 0.000	$ 0.001	$ 0.000	$ 0.002
North Carolina	$ 0.002	$ 0.002	$ 0.000	$ 0.020
North Dakota	$ 0.000	$ 0.001	$ 0.000	$ 0.005
Nebraska	$ 0.003	$ 0.002	$ 0.000	$ 0.009
New Hampshire	$ 0.000	$ 0.002	$ 0.000	$ 0.001
New Jersey	$ 0.003	$ 0.014	$ 0.000	$ 0.019
New Mexico	$ 0.000	$ 0.002	$ 0.000	$ 0.004
Nevada	$ 0.001	$ 0.001	$ 0.000	$ 0.002
New York	$ 0.008	$ 0.012	$ 0.002	$ 0.096
Ohio	$ 0.005	$ 0.004	$ 0.001	$ 0.037
Oklahoma	$ 0.014	$ 0.003	$ 0.015	$ 0.055
Oregon	$ 0.001	$ 0.009	$ 0.000	$ 0.005
Pennsylvania	$ 0.004	$ 0.007	$ 0.000	$ 0.038
Rhode Island	$ 0.001	$ 0.011	$ 0.000	$ 0.003
South Carolina	$ 0.001	$ 0.000	$ 0.000	$ 0.022
South Dakota	$ 0.000	$ 0.004	$ 0.000	$ 0.001
Tennessee	$ 0.002	$ 0.002	$ 0.007	$ 0.070
Texas	$ 0.017	$ 0.004	$ 0.038	$ 0.204
Utah	$ 0.000	$ 0.001	$ 0.000	$ 0.004
Virginia	$ 0.002	$ 0.001	$ 0.000	$ 0.031
Vermont	$ 0.000	$ 0.000	$ 0.000	$ 0.001
Washington	$ 0.001	$ 0.005	$ 0.000	$ 0.005
Wisconsin	$ 0.002	$ 0.020	$ 0.000	$ 0.010
West Virginia	$ 0.000	$ 0.000	$ 0.000	$ 0.010
Wyoming	$ 0.000	$ 0.001	$ 0.000	$ 0.001
Total	$ 0.199	$ 0.245	$ 0.140	$ 1.461

Appendix B: Methodogy

Incremental costs are estimated in three steps:

- Total incremental costs
- The distribution of costs between nursing home and non-nursing home sectors
- The distribution of costs between patient type for each sector

Total incremental costs. Total costs depend (primarily) on the incremental quantity of labor and the increase in compensation needed to attract that labor.[*] Dr. Alan White, using data from the OSCAR system, estimated the additional labor required to meet the proposed standards by occupation, facility type, and state. Estimates of the own-wage elasticity of labor supply for each occupation were then used to estimate the change in compensation necessary to meet the labor requirement projected by Dr. White.

As noted above, a review of the literature shows a wide range of elasticity estimates for RN. In the short run, elasticity estimates approach zero; long-run supply elasticity estimates, measured by the sensitivity of nursing school admissions to observed (one-year lagged) wages, approach one. Our RN long-run own-wage elasticity assumption is a weighted average of baccalaureate degree, associate degree, and diploma degree nursing programs estimated by Chiha and Link (see footnote 3). Our CNA long-run elasticity assumption is based on estimates for unskilled labor found in the literature (ranging from 0.4 to 1.6) combined with our expectations about different occupations; namely, that workers in occupations with substantial educational requirements would be relatively less responsive to wage changes than workers in low-skilled occupations. The LPN labor supply elasticity is estimated as the mid-point between the RN and CNA estimates.

Distribution of Costs Between Nursing Home and Non-Nursing Home Sectors. Estimates of the distribution of costs between nursing home and non-nursing home sectors involves six compensation (W) and six employment (Q) variables:

W_{toto} = Compensation for all sectors before implementation of the standards (known)
W_{tot1} = Compensation for all sectors after implementation of the standards (known)
W_{nho} = Nursing home compensation before implementation of the standards (known)
W_{nh1} = Nursing home compensation after implementation (unknown)
W_{otho} = Non-nursing home compensation before implementation (known)
W_{oth1} = Non nursing home compensation after implementation (unknown)

Q_{toto} = Total hours/day for all sectors before implementation (known)
Q_{tot1} = Total hours/day for all sectors after implementation (known)
Q_{nho} = Nursing home hours/day before implementation (known)

[*] Our estimate also considers the costs of recruiting and training the additional labor. However, these costs are estimated as a proportion of compensation, so the effects of turnover rates are not included.

Q_{nh1} = Nursing home hours/day after implementation (known)
Q_{otho} = Non-nursing home sector hours/day before implementation (known)
Q_{oth1} = Non-nursing home sector hours/day after implementation (known)

The *ex ante* or "before" values--Q_{toto}, Q_{nho}, Q_{otho}, W_{toto}, W_{nho}, and W_{otho}--are known, as is the desired number of hours per day in the nursing home sector, Q_{nh1}. If we want to construct our estimates such that employment (hours/day) in the non-nursing home sector is unchanged, then Q_{otho} and Q_{oth1} are equal and, therefore, *ex post* hours/day, Q_{tot1}, is also known.

Thus, we solve for *ex post* nursing home and non-nursing home compensation (the variables in bold above) so that the nursing home sector meets its employment target, and the net change in employment in the non-nursing home sector is zero. Theory suggests that, in order accomplish this, non-nursing home compensation must rise. This follows since increases in nursing home compensation would tend to bid away staff from the non-nursing home sector requiring a countering compensation increase. Also, an increase in the average compensation of a particular sub-specialty (e.g., nursing home RN) might put pressure on wages in other sub-specialties (e.g., nurse practitioner) in order to preserve the prevailing hierarchy of wages across sub-specialties within a given occupation.

The distribution of costs between nursing home and non-nursing home sectors, therefore, is a function "inter-industry" or "switching" elasticities of labor supply for each occupation; that is, the willingness of workers in a particular occupation to change work settings given a change in relative compensation. If the "switching" elasticity is high, then, *ceteris paribus*, we would expect the non-nursing home share of costs to be high as non-nursing home workers shift settings in pursuit of higher wages.[†]

Ex post relative compensation levels (or elasticities), W_{nh1} and W_{oth1}, are subject to the following constraints:

- Let η_i equal own-wage labor supply elasticity for occupation i, where i = {CNA, LPN, RN}. Then $\eta_{CNA} > \eta_{LPN} > \eta_{RN}$.

- For any occupation, the own-wage total labor supply elasticity, η, must be smaller than the switching labor supply elasticity, ε. In words, once a worker has chosen a particular occupation, he/she is more willing to change settings within that occupation (given a change in relative compensation).

- Relative wages are determined by the switching elasticities, but cannot result in negative changes to non-nursing home sector compensation.

[†] We are assuming that some fraction of the additional nursing home staff will be new hires (i.e., new RN, LPN, CNA) and some fraction will be existing workers who are drawn from the non-nursing home sector. These fractions depend on the switching elasticities of labor supply. Non-nursing home wages will have to increase in order for the non-nursing home sector to replace workers who go to the nursing home sector. The degree to which non-nursing home sector wages must increase depends, again, on the switching elasticities.

- Nursing home sector and non-nursing home sector wage changes cannot result in nursing home/non-nursing home compensation ratios greater than one. According to BLS data, compensation levels for all three affected occupations are lower in the nursing home sector compared to non-nursing home industries (on average).‡

- After the implementation of the new standards, RN compensation must be greater than LPN compensation, which in turn must be greater than CNA compensation (in the long-run, for any given state).

The formulas used to compute the constraints are as follows:

Relative compensation is determined by own-wage and switching elasticities. In this case, W_{nh1} and W_{oth1} are directly computed from η and ε.

The target change in hours/day is computed by Abt:

$$\Delta Qnh = Qnh1 - Qnho.$$

Since $\Delta Qoth = 0$, then

$$\Delta Qnh = \Delta Qtot.$$

So, *ex post* average compensation for all sectors is:

$$\text{(Eq. 1)} \qquad W_{tot_1} = \left[1 + \left(\frac{\Delta Q_{tot}}{Q_{tot_o}} \div \eta\right)\right] \times W_{tot_o}$$

Ex post average compensation for the nursing home sector is:

$$\text{(Eq. 2)} \qquad W_{nh_1} = \left[1 + \left(\frac{\Delta Q_{nh}}{Q_{nh_o}} \div \varepsilon\right)\right] \times W_{nh_o}$$

Total labor costs for all sectors equals the sum of labor costs for each sector:

‡ Note that this is different from the "wage parity" assumption used in the American Health Care Association (AHCA) study. AHCA assumed that non-nursing home sector (SIC 806 Hospitals) wages were "fixed" and that the proposed staffing standards would require nursing home wages to rise to the non-nursing home level. In our analysis, neither nursing home sector nor non-nursing home sector wages are fixed; each wage is solved simultaneously so that, in the new equilibrium, although wages may be equal, they may both be higher after the implementation of the proposed standards. In our approach, "wage parity" was not always a binding constraint; *ex post* nursing home compensation was often lower than *ex post* non-nursing home compensation.

$$\left(Q_{nh_1} \times W_{nh_1}\right) + \left(Q_{oth_1} \times W_{oth_1}\right) = \left(Q_{tot_1} \times W_{tot_1}\right)$$

Therefore,

$$\text{(Eq. 3)} \qquad W_{oth_1} = \frac{\left(Q_{tot_1} \times W_{tot_1}\right) - \left(Q_{nh_1} \times W_{nh_1}\right)}{Q_{oth_1}}$$

Nursing home/non-nursing home compensation ratio must be no greater than a given target level. Under this constraint, nursing home and non-nursing home compensation is such that:

$$\frac{W_{nh_1}}{W_{oth_1}} \leq N$$

Setting the nursing home/non-nursing home compensation equal to N and solving for the non-nursing home sector yields:

$$W_{oth_1} = \frac{W_{nh_1}}{N}$$

Substituting this into Eq. 3 and solving for W_{nh1} yields:

$$\text{(Eq. 4)} \qquad W_{nh_1} = \frac{\left(Q_{tot_1} \times W_{tot_1}\right)}{Q_{oth_1}} \times \left[\frac{1}{N} + \frac{Q_{nh_1}}{Q_{oth_1}}\right]^{-1}$$

Therefore, if the ratio of nursing home/non-nursing home compensation can be no greater than N, W_{nh1} can be no greater than the RHS of Eq. 4.

The change in non-nursing home compensation must be non-negative. Equations 1 - 3 show that our methodology computes nursing home wages first; non-nursing home wages are then a residual. In other words, given nursing home compensation, non-nursing home compensation must be such that the sum of nursing home and non-nursing home labor costs equal total (all sector) labor costs.

Theoretically, then, it is possible that if nursing home compensation is computed strictly from η and ε, the change in non-nursing home compensation would be negative. To avoid this, we introduce another constraint on nursing home wages. Specifically, the change in non-nursing home compensation can only be negative if nursing home compensation is greater than:

$$\frac{\left(Q_{nh_o} \times W_{nh_o}\right) + \left[\left(Q_{tot_1} \times W_{tot_1}\right) - \left(Q_{tot_o} \times W_{tot_o}\right)\right]}{Q_{nh_1}}$$

Example: California LPN calculations assuming nursing home/non-nursing compensation cannot exceed 1.0. In this case:

Q_{toto} = 174,873 (hours per day)
Q_{tot1} = 181,865
Q_{nho} = 58,935
Q_{nh1} = 65,927 (target hours/day)
Q_{otho} = 115,938
Q_{oth1} = 115,938
W_{toto} = $23.37 (per hour)
W_{tot1} = Unknown
W_{nho} = $22.41
W_{nh1} = Unknown
W_{otho} = $23.86
W_{oth1} = Unknown

Note that the change in total LPN hours equals the change in nursing home LPN hours and that the change in non-nursing home LPN hours is zero. The change in total LPN wages is computed using the own-wage labor supply elasticity for LPN (1.1), W_{tot1} = $24.22.

Nursing home LPN compensation computed strictly from the switching elasticity assumption (1.4) is $24.26. This implies a non-nursing home LPN compensation level of $24.19. (Nursing home compensation greater than non-nursing home compensation.)

The "non-negative non-nursing home compensation change" constraint for LPN nursing home compensation is $24.85. The nursing home/non-nursing home compensation constraint for LPN nursing home compensation is (trivially) $24.22. In this case, the nursing home/non-nursing home compensation constraint is binding and estimated *ex post* nursing home and non-nursing compensation levels are $24.22.

As an exercise, we estimated the hypothetical impact to the non-nursing home sector if non-nursing home wages do not increase. The results are shown in Table B.1. It is important to emphasize that these results are speculative, but they do indicate which regions of the country would be most affected by the proposed standards.

Distribution of Costs Between Patient-Types. As noted above, we don't have direct knowledge of costs by patient type. However, Alan White was able to compute incremental labor requirements for each occupation, by state, and by facility type (Medicare-only, Medicaid-only, Medicare and Medicaid, neither Medicare nor Medicaid). I.e., a vector **B** = $\{b_i\}$, where i ={MCR, MCD, both MCR/MCD, neither MCR/MCD} We also know the distribution of patient types by facility type (again for each state): i.e. the matrix **A** = $\{a_{ij}\}$where the rows, i, are as defined above, and j = the patient types {Medicare, Medicaid, Other}.

If we throw out the "both MCR/MCD" equation and assume that costs for a particular patient type are similar regardless of the facility type, we can infer per-patient costs by solving the

system of equations: $\mathbf{X} = \mathbf{A}^{-1}\mathbf{B}$ where $\mathbf{X}$ is the (unknown) vector of incremental per patient staffing by patient-type.

Table B.1: Estimated Reduction in Non-Nursing Home Sector Hours per Day
As a Percent of Current Non-Nursing Home Sector Hours
(Assuming non-nursing home sector compensation does not change.)

Region	CNA	LPN	RN(0.2 hrs ppd)	RN(0.45 hrs ppd)
Midwest	3.5%	4.3%	0.0%	2.4%
Northeast	0.6%	2.7%	0.0%	1.4%
South	1.3%	0.5%	0.87%	4.6%
West	0.6%	2.4%	0.0%	1.3%

The Honorable Charles Grassley
Ranking Minority Member
Committee on Finance
United States Senate
Washington, D.C. 20510

Dear Senator Grassley:

As required by the Omnibus Budget Reconciliation Act of 1990, a study was performed on the appropriateness of establishing minimum staffing ratios in nursing homes. The enclosed study reflects the conclusions of Abt Associates, Inc., which prepared the work under a contractual relationship begun by the previous administration in 1998.

This Phase II study was designed to respond to the current public concern about inadequate nursing home staffing and a long-standing requirement for a study and report to Congress on the "appropriateness" of establishing minimum nurse staffing ratios in nursing homes. As you know, the Phase I report was delivered to Congress in July 2000.

The question of the relationship between the number of staff and quality of care is complex and the Phase I and Phase II studies made good faith efforts at addressing the question. However, the Department has concluded that these studies are insufficient for determining the appropriateness of staffing ratios in a number of respects. Specifically, we have serious reservations about the reliability of staffing data at the nursing home level and with the feasibility of establishing staff ratios to improve quality given the variety of quality measures used and the perpetual shifting of such measures.

In addition, the studies do not fully address important related issues such as:

- the relative importance of other factors, such as management, tenure, and training of staff, in determining nursing home quality;
- the reality of current nursing shortages; and
- other operational details such as the difference between new nurses and experienced nurses, staff mix, retention and turnover rates, staff organization, etc.

For these reasons and others, it would be improper to conclude that the staffing thresholds described in this Phase II study should be used as staffing standards. Most important, the Phase I and Phase II studies do not provide enough information to address the question posed by Congress regarding the appropriateness of establishing minimum ratios. We will continue to work to address critical knowledge gaps. For example, one project that we are currently funding will develop a method to more accurately collect nurse-staffing information.

Apart from this report, the Department has taken and continues to take several important actions toward fulfilling this Administration's commitment to achieving high-quality nursing home care and providing reliable, understandable information to the public. Last November, we announced an initiative that will help Medicare and Medicaid beneficiaries find those nursing homes that consistently provide high-quality care using risk-adjusted, valid quality measures. Under the initiative, CMS is developing reliable, straightforward information on the quality of nursing homes, to help beneficiaries find the best facility for their needs. In order to accomplish this, CMS is conducting a pilot program in six states using Quality Improvement Organizations (QIOs), formerly known as Peer Review Organizations, to help disseminate and publish this information. The six states in the pilot program are Colorado, Florida, Maryland, Ohio, Rhode Island, and Washington. Following successful implementation of the pilot project, CMS will refine and expand the initiative to provide risk-adjusted quality information for nursing homes in every state. Importantly, the QIOs will work with the nursing home industry on quality improvement efforts based on the publicly reported measures and will actively help people to better use quality information.

While we implement this nursing home quality initiative, CMS will continue to move forward with our Nursing Home Oversight Improvement Program. This program is a multi-pronged approach designed to improve our oversight of nursing homes and to build consistency and accountability into the survey and certification process. The Nursing Home Data Compendium for 2000 that we recently forwarded to Congress is a direct result of this initiative. This report, the first comprehensive aggregation of individual-level data will serve as a valuable resource for policy makers concerned with nursing home care.

I look forward to working closely with you as we strive to improve nursing home quality in America. I am also sending a copy of this report to other Congressional leaders.

Sincerely,

Tommy G. Thompson

Enclosures

The Honorable J. Dennis Hastert
Speaker of the House of Representatives
Washington, D.C. 20510

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