

Factors that Influence State Written Pandemic Flu Plan Inclusion of Federal Recommendations

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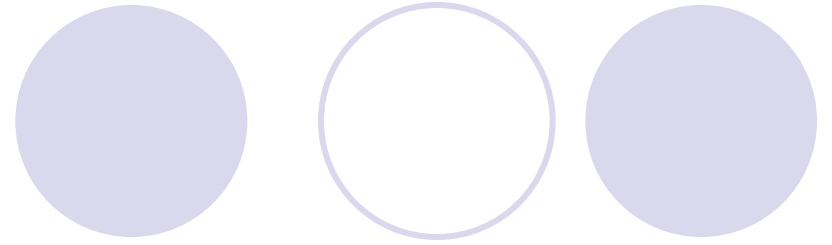


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Overview

- Two steps

- Measure state plan incorporation of federal recommendations
- Evaluate three political models to explain state plan integration of federal recommendations



Step 1

- Evaluating state written pandemic plan inclusion of federal recommendations

Plan Coding



- ❑ CDC State and Local Pandemic Influenza Planning Checklist operationalized:
 - 1 = no mention of the factor
 - 2 = brief mention but no description or action item associated with the factor
 - 3 = description of the item
- ❑ Factor scores added together and divided by possible score for domain and total scores
- ❑ Two scorers to evaluate ICC ($\alpha=.96$)

Advantages of This Tool

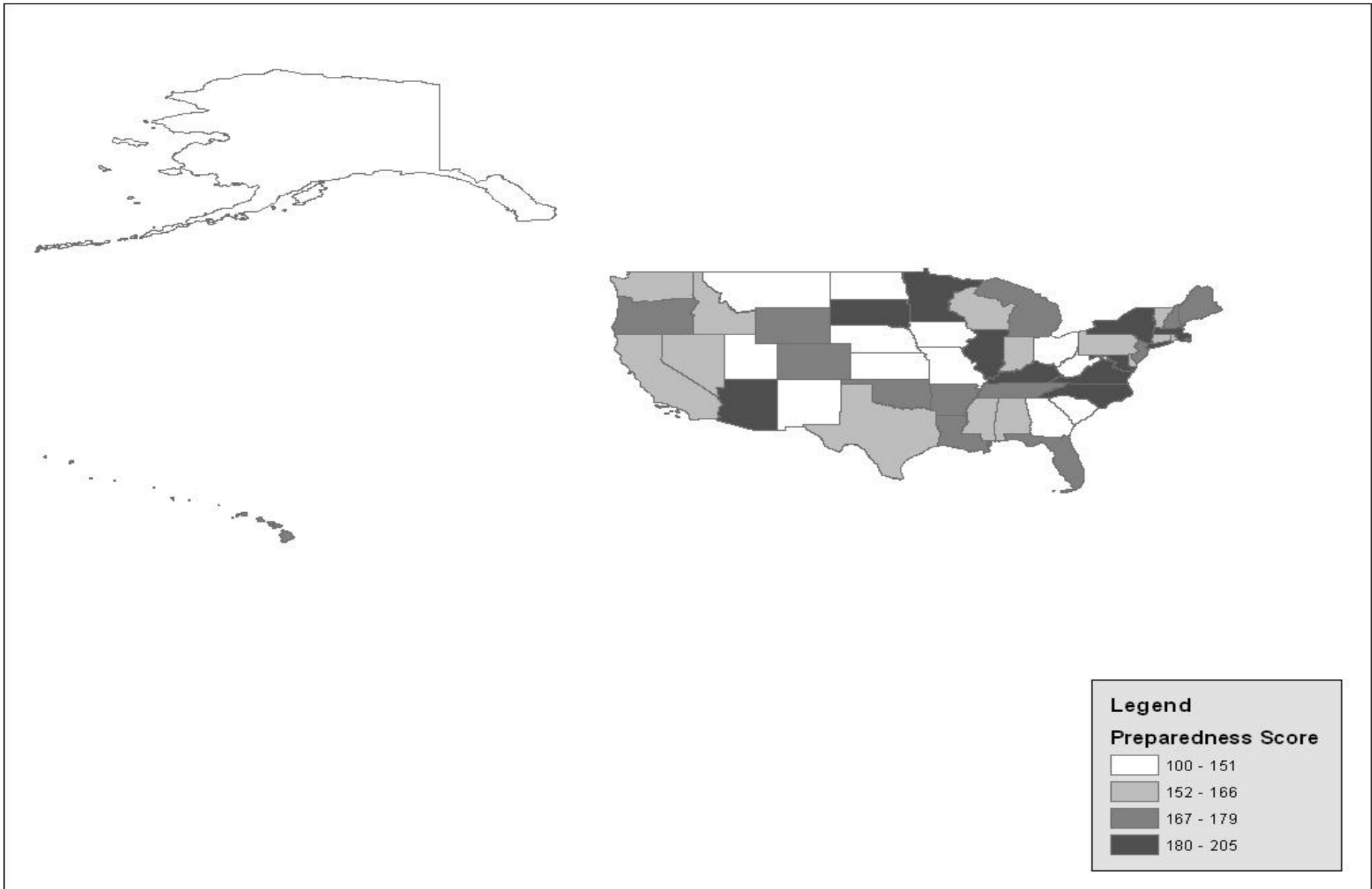


- Quantitative
- Replicable
- 3 point scale captures nuances
- Measures expertise based

Variation Measures and Scores by Domain

Domain Scores	Mean	Mode	Min.	Max.	Range
Leadership/Networking	71%	72%	41%	91%	50%
Surveillance	75%	73%	33%	100%	67%
PH/Clinical Labs	60%	42%	33%	92%	58%
HC/PH Partners	53%	52%	33%	76%	43%
Infection Control	57%	50%	33%	92%	58%
Vaccines	62%	64%	33%	90%	56%
Antiviral	59%	53%	40%	80%	40%
Community Disease Control	67%	77%	33%	97%	63%
Communications	66%	67%	38%	100%	63%
Psychosocial	60%	58%	33%	100%	67%
Total Score	63%	60%	39%	80%	41%

State Preparedness Scores by Quartiles





Step 2

- Evaluate three political models to explain pandemic plan integration of federal recommendations

Organizational Capacity

Variable*	Mean	Median	Standard Deviation	Range
Health Expenditures Per 1000+	\$166,846	\$151,470	\$83,377	\$331,800
Emergency Management Fund Expenditures Per 1000+	\$1,440	\$630	\$2,409	\$15,730
EMA FTE Per 1000+	0.19	0.16	0.15	0.80
2003 Cooperative Agreement Funds Per 1000+	\$4,428	\$3,500	\$2,281	\$9,840
2003 Disaster Aid Expenditures Per 1000+	\$7,683,100	\$3,234,300	\$19,268,600	\$13,400,000
2003 Federal Aid to State Emergency Management Planning Expenditures Per 1000+	\$2,534	\$890	\$8,179	\$58,030
Commissioner Salary Per 1000+	\$51	\$30	\$52	\$205
2003 Federal Expenditures on Salaries and Wages Per 1000+	\$28	\$3	\$84	\$472
Federal Expenditures on DHHS Grants per 1000+	\$912	\$864	\$292	\$1,689

* 2003 data adjusted to year before plan creation

+natural log transformation conducted on variables skewed to the right

Overhead Political Control

Variable	Mean	Median	Standard Deviation	Range
Governor Involved in EMA Appointment	Frequencies: No=21; Yes = 29			
Governor Involved in Health Commissioner Appointment	Frequencies: No=9; Yes = 41			
Voter Turnout *	55%	55%	10%	42%
Governor Salary+	\$116,928	\$117,000	\$25,530	\$109,000
Governor Staff	59	39	60	302
Governor Party	Democrats = 22; Republicans = 28			
House Democrats **	50%	51%	19%	1.02%
Senate Democrats **	59%	46%	17%	70%
Professionalism	0.26	0.25	0.15	0.84

* North Dakota and Wisconsin excluded; North Dakota has no registration and Wisconsin has same day registration

** Nebraska was excluded; the state has a unicameral legislature

+ natural log transformation conducted on variables skewed to the right

Task Environment

Variable	Mean	Median	Standard Deviation	Range
Population Density+	182	88	250	1133
% Urban	68%	69%	15%	60%
Medicaid Expenditures Per Capita	\$851	\$791	\$253	\$1,339
Medicare Expenditures Per Capita	\$986	\$981	\$188	\$891
Median Income	\$44,151	\$43,294	\$6,134	\$23,345
Revenue Per 1000	\$5,886	\$5,450	\$1,962	\$12,290
% uninsured	14%	14%	4%	16%
2003 Per Capita Income*	\$35,384	\$33,966	\$5,239	\$22,748

* 2003 data adjusted to year before plan creation

+ natural log transformation conducted on variables skewed to the right

Organizational Capacity Regression Results

Organizational Capacity Variables*+	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	74.872	115.832		.646	.522
Health Expenditures per 1,000	8.649	7.742	.187	1.117	.271
Emergency Management Funds per 1,000 (2003)	-1.725	3.228	-.091	-.534	.596
EMA FTE per 1,000	-4.116	9.085	-.115	-.453	.653
Disaster Aid per 1,000 (2003)	3.752	2.868	.223	1.308	.198
Federal Aid to State Emergency Planning per 1,000 (2003)	-3.247	4.124	-.141	-.787	.436
Health Commissioner Salary per 1,000	-.620	5.620	-.027	-.110	.913
Federal Expenditures on DHHS salaries and wages per 1,000 (2003)	-.265	1.821	-.022	-.145	.885
Federal Expenditures on DHHS grants per 1,000 (2003)	-6.467	14.012	-.085	-.462	.647

$R^2 = .140$; **Adjusted $R^2 = -.032$**

* Cooperative agreement funds was significantly and positively correlated with EMA FTE ($r=.733$; $p<.01$) and Health Commissioner Salary ($r=.932$; $p<.01$). Cooperative agreements funds were removed from all analyses.

+ Natural log transformation was performed on all variables in this model.

Overhead Political Control Regression Results

Overhead Political Control Variables*	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	75.078	35.726		2.102	.042
Governor Involved in EMA Appointment	8.861	6.487	.210	1.366	.180
Governor Involved in Health Commissioner Appointment	3.393	8.321	.062	.408	.686
Registered Voter Turnout (2000)	.749	.348	.353	2.151	.038
Governor Salary	-.0006	.000	-.078	-.379	.707
Governor Staff +	9.072	4.835	.337	1.877	.068
Governor Democrat	8.245	6.227	.199	1.324	.194
State Senate Democrats	4.878	19.586	.038	.249	.805
Professionalism Score	19.647	29.296	.143	.671	.507

R²=.252; Adjusted R²=.090

*Percentage of House Democrats and Percentage of Senate Democrats were significantly correlated ($r=.855$; $p<.01$). House Democrats was dropped from this model.

+ Natural log transformation was performed on this variable.

Task Environment Regression Results

Task Environment Variables*	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	96.548	38.195		2.528	.015
Population Density+	3.758	3.991	.243	.942	.352
% Urban	-.172	.293	-.115	-.589	.559
Medicare Expenditures Per Capita	-.008	.023	-.065	-.336	.739
Medicaid Expenditures Per Capita	-.005	.015	-.061	-.350	.728
Revenue per 1,000	.000	.002	-.033	-.174	.862
% Uninsured	.897	.947	.150	.948	.349
Per Capita Income (2003)	.002	.001	.417	2.02	.050

$R^2=.216$; **Adjusted $R^2=.085$**

*Median household was removed from the model. Median household income and per capita income were highly correlated ($r=0.887$, $p<0.000$).

+ Natural log transformation was performed on this variable.

Key Findings



- States still have areas to improve upon in pandemic plans
- None of the models offers a clear explain for pandemic plan integration of federal recommendations
- Organizational capacity is NOT related to state pandemic plan integration of federal recommendations
- Voter turnout, governor staff, and citizen income MAY be related to pandemic plans.

Areas for Future Research



- Correlation between pandemic scores here and in other studies
- Use of similar tool for other areas of preparedness
- Link between preparedness capacities and capabilities
- Internal health department structure and preparedness