Acceleration of Basic Health Access Not Deceleration

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Basic Health Access

For Most States, For Primary Care, and For Populations in Need: Workforce is Workfarce

- Instate focus lacking COGME 21/GME Reviews
- Primary care worst case scenario
- Lower concentrations 25 states, best for 8
- 2900 counties left behind with 68% of US pop
- Steenrod - no progress in rural health access
- Rural health problems now spread universally

How Can Continuity Longitudinal Training Help?

Accelerated FM facilitates such training

- Best for instate
- Most primary care visits
- Best for where Needed
- Most health access recovery/least grads
- Most relevant training specific to need
- Best support for front line clinicians
- Team focus of training

Continuity Longitudinal Training

- Optimal when integrated within the context of the community for training and practice
- Also helps to illustrate the importance of tens of thousands of visits that shape physicians after graduation – far more specifically than current training
- Self training specific to patient after patient after residency is much more important for FM where graduates are permanent to primary care and are highest probability where needed

Instate, Primary Care, Where Needed = Social Determinants Where Needed

- Health spending redistribution requires filled family practice positions – only pop based form
- Economic impact
- Social determinants shape cost, quality, access
- Equity vs inequity by health spending design
- Wrong workforce = inequity and higher cost by more graduates and more financial incentives

1990s Accelerated Family Medicine

- Traditional preparation, admission, 3 years MS
- Candidate commits to FM specific training
- FM Department/Program selects – not match
- Combination of MS-4 with PGY-1 year
- 4:3:3 design instead of 4:4:3
- 1 year less training, 1 year more practice

- Instate medical school and FM residency at the same site, and often instate origins

Accelerated FM Programs

- Little support and had opposition
- Expanded to over 15 sites with little support
- Same or superior academic outcomes
- Moratorium/termination before understanding, illustration of medical education failure to grasp continuity design crossing accreditation bounds
- Note COGME 21 suggests MS4th year for GME

Selection Criteria for the Study

- Accel grads in the Masterfile – Identified by 2 year difference in medical school and residency grad date – combined MS-4 with the PGY1 year
- 136 accelerated grads identified using 11 sites
- 1 known site (SC) was not identified using this
- About 70% from comparisons of numbers at programs with this method
- 2 Accels disappeared – no response from MMS

Comparison Groups – Specific to Class Year and State Environments

- Not FM - Same Class Years of Medical School
- For FM - Same Class Years of FM N = 22,705
- Most specific - Those from the same medical school and same residency as Accel Grads
- Same State Workforce - Same states with accelerated training – AL, KY, NC, NE, OH, TN, WV – 6 out of 7 states with major workforce issues from US medical ed design failure

Summary - Accelerated FM as Measured 9 – 16 Years After Graduation

- Stays like FM – in specialty and in same county
- Tens of thousands more PC visits like FM
- Likely better distribution than FM to locations with lowest physician concentrations

- Maximal instate, primary care, where needed, jobs and economic impact where needed

Accelerated States AL, KY, NC, NE, OH, TN, WV Have Greater Instate, PC, where needed

1994 – 2000 Medical School Graduates	US Pop / Accelerated State Pop			
Rural Practice (RUCA)	US 19% 22%			
Underserved High Poverty 2005	US 21.3% 26.3%		Even higher poverty now	
County < 150 Physicians per 100,000 in 2013	US 28.2% 42.9%		Less employed Less covered	
2900 Counties < 300 physicians per 100,000	US 68.4% 66.8%		Twice the Growth Rate	Elderly, Medicaid
40,000 Zips Outside of Physician Concentrations	US 65% 71.8%		Barriers to care	
Super Centers Over 200 Physicians at Zip	US 10.5% 8.3%		1100 zips in 1% of land area	

Comparisons of Docs Not FM in Accel States AL, KY, NC, NE, OH, TN, WV – Not much help

1994 – 2000 Medical School Graduates	US Pop / Accelerated State Pop			Physicians Not FM National / Accel States
Rural Practice (RUCA)	US 19% 22%	2 to 1 Ratio		US 8% 11.6%
Underserved High Poverty	US 21.3% 26.3%	3 to 1 Ratio		6% 8.2%
County < 150 Physicians per 100,000	US 28.2% 42.9%	3.5 to 1 Ratio		8.4% 12.2%
2900 Counties < 300 physicians per 100,000	US 68.4% 66.8%			43% 45.7%
40,000 Zips Outside of Physician Concentrations	US 65% 71.8%			26% 26%
Super Centers Over 200 Physicians at Zip	US 10.5% 8.3%	1 to 5 Ratio		48% 41%

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Failure by Design

Comparisons in Accelerated States
FM Matches Up

1994 – 2000 Medical School Graduates	US Pop / Accelerated State Pop		FM Grads National / Accel States	Physicians Not FM National / Accel States
Rural Practice (RUCA)	US 19% 22%	Equal	US 22% 26.9%	US 8% 11.6%
Underserved High Poverty	US 21.3% 26.3%		15% 18.6%	6% 8.2%
County < 150 Physicians per 100,000	US 28.2% 42.9%		22.4% 29.8%	8.4% 12.2%
2900 Counties < 300 physicians per 100,000	US 68.4% 66.8%	Equal	62.7% 64%	43% 45.7%
40,000 Zips Outside of Physician Concentrations	US 65% 71.8%		51% 56.8%	26% 26%
Super Centers Over 200 Physicians at Zip	US 10.5% 8.3%		20.4% 18.7%	48% 41%

Comparisons in Accelerated States
Accelerated Matches Up Better Where Needed

1994 – 2000 Medical School Graduates	US Pop / Accelerated State Pop	Accel FM 2005 & 2013	FM Grads National / Accel States	Physicians Not FM National / Accel States
Rural Practice (RUCA)	US 19% 22%	40%	US 22% 26.9%	US 8% 11.6%
Underserved High Poverty	US 21.3% 26.3%	19%	15% 18.6%	6% 8.2%
County < 150 Physicians per 100,000	US 28.2% 42.9%	44%	22.4% 29.8%	8.4% 12.2%
2900 Counties < 300 physicians per 100,000	US 68.4% 66.8%	67%	62.7% 64%	43% 45.7%
40,000 Zips Outside of Physician Concentrations	US 65% 71.8%	64.2%	51% 56.8%	26% 26%
Super Centers Over 200 Physicians at Zip	US 10.5% 8.3%	16%	20.4% 18.7%	48% 41%

Simple Solutions - Population Based Training, Population Based Distribution

- Medicare, Medicaid, poverty, less educated
- Uninsured and Underinsured (ACA)
- Fastest increasing US pops – 2900 counties with less than 300 physicians per 100,000, faster increase in primary care demand
- Top concentration focus fails

- Continuity, longitudinal, instate, family practice positions filled

Perhaps Familiarity Breeds – Distribution?

- Does familiarity before, during, and after training may lead to practice where needed
- Those not familiar with a state may not be as likely to go to a state, or where needed in a state

- Proper Controls Can Help

Is the Advantage the Result of Accelerated Programming?

- Examine same medical school and same residency but not accelerated
- Examine % Instate in the Masterfile and Logistic Regression with regard to Instate

FM Grads By Physician Concentration

Physicians per 100,000	450+	300 - 450	150 - 300	1 - 150
Accelerated Same MS/Residency	18.8%	14.3%	23.3%	43.6%
Same MS and FM Residency	14.6%	21.1%	24.7%	39.7%
Same FM Residency Diff MS	18.7%	23.3%	27.0%	30.9%
Same MS Diff FM Residency	13.3%	21.3%	36.7%	28.8%
Not Accelerated	13.7%	22.2%	41.7%	22.4%
Not Primary Care	32.5%	26.6%	30.5%	10.3%

Instate, Local for 2005 Locations Compared to 2013 Locations

After 9 – 16 years of practice	Same County	Same State	Different State
Same State Medical School and FM Residency n = 208	63.1%	18.9%	17.2%
Accelerated FM with same state for MS and GME n = 133	62.1%	24.2%	13.6%

It is difficult to show differences between any type of FM graduate – stay in family practice and in their practice locations – as demonstrated when matching up controls

Examine Instate Results for Accelerated States

- Instate Birth Origins or Not
- Instate Medical School or Not
- Instate GME or Not – regardless of FM

- Is it accelerated design – or continuity longitudinal design instate, primary care, where needed?

Instate Location % By Instate GME (All Specialties), Instate Med School, Instate Birth

Birth	Med Sch	GME	AL	KY	NC	NE	OH	TN	WV
Yes	Yes	Yes	77.6%	74.6%	74.3%	69.2%	74.3%	72.6%	61.3%
Yes	No	Yes	66.3%	50.3%	57.2%	57.5%	57.2%	56.3%	20.0%
No	Yes	Yes	63.3%	61.3%	56.3%	43.3%	56.3%	53.6%	48.4%
No	No	Yes	36.4%	30.9%	35.0%	31.7%	35.0%	35.6%	20.8%
Yes	Yes	No	35.4%	34.4%	37.1%	25.9%	37.1%	33.4%	20.7%
No	Yes	No	18.4%	18.4%	14.0%	6.9%	14.0%	10.0%	12.8%
Yes	No	No	8.0%	5.7%	7.4%	3.6%	7.4%	7.9%	2.0%
No	No	No	0.4%	0.4%	1.2%	0.1%	1.2%	0.7%	0.2%

National Data Odds Ratio Instate Practice

Logistic Regression	AL	KY	NC	NE	OH	TN	WV
Instate GME	72.89	46.031	30.512	62.178	30.032	44.29	27.79
Instate MedSchool	11.19	19.054	6.269	13.192	5.574	5.648	45.15
Instate Birth	6.574	4.065	4.168	8.576	2.687	5.284	1.956
TopMCATSch Grad	0.748	0.772	0.686	0.653	0.947	0.797	0.589
Internat MS Grad	0.836	0.639	1.276	0.696	0.575	1.039	0.342
Age 30 MS Grad	NS	0.802	0.891	0.719	0.838	0.953	0.995
Male	1.445	1.406	1.142	1.135	1.09	1.296	1.537
Family Practice	NS	1.133	1.099	1.258	0.895	1.032	1.121
Constant	0.003	0.004	0.009	0.002	0.017	0.005	0.002
Variance Explained	39%	37%	40%	44%	27%	32%	36%

Origins, Med School, GME Instate for Instate, FM for Primary Care and Where Needed

- What Matters is Medical School to Residency Instate linking origins, training, and GME
- Accelerated designs link instate determinants
- FM is key for retention in primary care and for primary care where needed, where linking up instate factors may help
- FM shapes retention in same county

But Accelerated and All Current FM Choices Are Voluntary

- Small tracks just lead to selection bias
- Current admissions inappropriate, current first and second year are inappropriate, current year 4 is a waste in many dimensions
- Incremental improvements are not enough

Specific to Instate and Most Americans

- Specific FM medical schools align preparation, medical school, residency, instate obligation – maximal instate, primary care, where needed
- Why not 3:3:3 all continuity and longitudinal?

- Maximal primary care recovery for minimal cost
- Maximal social determinants through family practice positions filled – and bigger and better teams and jobs and businesses where needed

Sufficient Primary Care for 2050 & Beyond

300,000 SPCYRs or 600 million visits per Class Yr	SPCYRs/Grad	Grads Required	Billions in Training Cost	% Rural
Specific FM 3:3:3	27.9	10,748	$9.67	35.0%
PA Permanent FP 4:2.5	14.6	20,481	$10.24	30.0%
Accelerated FM 4:3:3	26.5	11,306	$11.31	35.0%
Traditional FM 4:4:3	25.2	11,905	$13.69	22.0%
FM 4 Years GME 4:4:4	23.9	12,549	$15.69	18.0%
FNP Permanent FP 1:4:2	9.1	32,873	$15.78	28.0%
PA Traditional 4:2.5	7.0	42,669	$21.33	15.0%
NP Masters 1:4:2	5.3	56,461	$27.10	15.0%
NP Doctorate 1:4:4	4.7	63,550	$38.13	15.0%

Choices for Sufficient Primary Care

About 90 primary care physician equivalents per 100,000 people	SPCYRs/ Grad	Grads Required	Billions in Training Cost	Rural Incent
Specific FM 3:3:3	27.9	10,748	$9.7	Least
Current Training Expanded	6.1	49,500	$31.5	Most
Physician GME Design	4.7	64,400	$32.2	Most
Advanced Graduate Nursing	3.0	100,000	$50.0	Most
Current Generic Training Not Sufficient 200,000	7.0	33,000	$21.3	15.0%

Specific Designs for Specific Needs

- States in most need of primary care are paying 1 – 2 dollars more per person for locums, recruitment, retention – expense increases over 1 million dollars more each year in states in most need (State of Alaska)
- But no increase in primary care workforce
- Loan repayment/administrative costs for distribution are a part of the problem
- Solution is instate, primary care, where needed

The 4 Year FM GME Demo Will Decrease Primary Care Yield

- Increase cost and debt, decreased income and primary care yield at 3 – 5% loss
- Half of 3000 PGY3 residents take PGY4 for 1500 PGY4 positions. 500 lost PGY1 positions per year – 500 family physicians less per class year times 33 class years for this design change to be fully expressed – reduction from 91,000 FM to 75,000
- If increases of FM GME funding, then 1500 positions would be best spent on 500 more per class year for 500 more FM grads a year

Actual Instate, Primary Care, Where Needed By Design

- Theoretical is not reality, more health spending would be needed for primary care and for locations where needed to fund the family practice positions needed and their support
- Advantage - permanent family practice position
- Instate, primary care, where needed design forces accountability from other states and from institutions that steal what they need from most Americans, most states, and the rest of the world

Continuity Longitudinal

- Maximal boost to primary care delivery
  - More visits/health access efforts facilitated
  - Fewer transitions
  - Trainee is additional team care member
  - Training specific to populations in practice
- Additional support factor could aid site in
  - Decreased clinician and team member turnover
  - Life long learning
  - Trainees become colleagues and replacements

Class Year Considerations Are Important

- You cannot change primary care after a class year has graduated and has entered practice – if set points of graduate numbers and primary care retention are too low, it is too late
- If graduates leave primary care in later years, esp family practice positions – disastrous
- 2 chunks of 30,000 lost – NP/PA to teaching hospital, 30,000 to hospitalist (24,000 IM), other thousands to ER, urgent, retail
- Also losses to low volume primary care

Why FM? – See Primary Care Visit Result

2013 Grads	Years in Career	% Retained in Primary Care	% Active as Office Clinicians	% Volume per FTE	Standard Primary Care Years	Estimated Career PC Visits
Traditional FM 4:4:3	35	90.0%	80%	100%	25.20	50,400
Medicine Peds 4:4:4	34	44.0%	80%	95%	11.37	22,739
Pediatrics 4:4:3	35	40.0%	80%	95%	10.64	21,280
Internal Medicine 4:4:3	35	20.0%	80%	90%	5.04	10,080
NP No Doc 1:4:2	24	52.4%	65%	60%	4.90	9,809
PA Current 4:2.5	31	43.2%	70%	75%	5.62	11,249

Current Class Year Estimates of Primary Care Delivery and Training Costs	Estimated PC Visits in Career	Post HS Cost of Training (Millions)	Training $ per Primary Care Visit
Specific FM 3:3:3	55,800	0.9	$16.13
Accelerated FM 4:3:3	53,000	1.05	$19.81
Trad FM 4:4:3	50,400	1.2	$23.81
FM 4 Yr GME 4:4:4	47,800	1.35	$28.24
PA Current 4:2.5	11,249	0.52	$46.23
NP Masters 1:4:2	9,809	0.48	$48.93
Pediatrics 4:4:3	21,280	1.2	$56.39
Med Peds 4:4:4	22,739	1.35	$59.37
Internal Med 4:4:3	10,080	1.2	$119.05

Why Shorter FM Training?

- Less cost of training – 10 to 20%
- More years of practice 1 – 2 or 3 to 6% more
- More activity – 1 to 2% possible
- More distribution – better to much better

- Better ratio of cost of training per primary care visit over a career
- Can be even greater for ratio per primary care where needed – more visits, less cost of training

FM vs NP or PA

- FM is still 90% family practice position
- NP or PA is 25% family practice position
- NP is 33% not a clinician, 33% primary care clinician, 33% non-primary care clinician
- PA is 30% not, 30% PC, and 40% non-PC clinician

- NP and PA moving to more specialties with more in each specialty, with only 25% family practice result – critical for care where most needed
- such as 28 - 30% of FP PA or NP found in rural practice. But only when staying in family practice positions

Permanent Family Practice Result

- For MD, DO, and PA as low as $10 training cost per primary care visit, slightly higher for NP
- Flexible designs cost more due to low PC yield
- Increasing NP training by 2 years will result in 30% more costs and 8% less visits – for a higher $64 cost compared to $49 per visit
- FM, NP, PA for 50 years have had decreased PC result and distribution with longer training