## **Supplemental Digital Appendix 1**

**Search Strategy and Results** 

Search Stra	ategy and Results		N	A J J*4* 1
Database	Search terms	Limits	Number of articles July 2017	Additional January 31, 2018
Embase	'accreditation'/exp/mj OR accreditation:ab,ti AND ('undergraduate medical education'/exp OR 'undergraduate medical education':ab,ti OR 'medical school'/exp/mj OR 'medical school':ab,ti OR 'medical schools':ab,ti)	([article]/lim OR [article in press]/lim OR [review]/lim) AND ([embase]/lim OR [embase classic]/lim)	282	57
ERIC	( DE "Accreditation (Institutions)" OR accreditation ) AND ( DE "Medical Schools" OR "undergraduate medical education" )	Journal articles	36	0
PubMed	(((( "Accreditation"[mj] OR accreditation[tw]]))) AND (("Schools, Medical"[mj] OR "Education, Medical, Undergraduate"[Mj] OR "medical schools"[tw] OR "undergraduate medical education"[tw])))	(("journal article"[Publication Type] OR review[Publication Type]))	767	28
Scopus	TITLE-ABS- KEY ((accreditation) AND ("medical school" OR "medical schools" OR "undergraduate medical education")) AND (LIMIT- TO (DOCTYPE, "ar") OR LIMIT- TO (DOCTYPE, "re") OR LIMIT- TO (DOCTYPE, "ip")) AND (LIMIT- TO (SUBJAREA, "MEDI"))	Articles, Reviews, Articles in Press; Medicine	1019	17

## **Supplemental Digital Appendix 2**

List of Agencies Included in UME Accreditation Scholarship and Non-Scholarship Articles Included in This Study

Agency acronym	Agency name	Jurisdiction	•	Income <sup>a</sup>	Accreditation	Accreditation non-scholarship	Notes
ACCM	Accreditation Commission on Colleges of Medicine	Aruba, Cayman Islands, Federation of St. Kitts and Nevis, Sint Maarten	LAC	Н	1	1	Tives
AMC	Australian Medical Council	Australia	EAP	Н	1	6	
ASOFAMECH	Asociación de Facultades de Medicina de Chile	Chile	LAC	Н	0	3	Assisted in creating Comisión Nacional de Acreditación de Pregrado, which predated Comisión Nacional de Acreditación
BPE	Bureau of Professional Education	U.S.	NA	Н	0	4	Predated Commission on Osteopathic College Accreditation
CAAM-HP	Caribbean Accreditation Authority for Education in Medicine and Other Health Professions	13 member countries of Caribbean Community (CARICOM)	LAC	UM and H	1	3	
CACMS	Committee on Accreditation of Canadian Medical Schools	Canada	NA	Н	2	2	

CNA	Consejo Nacional de Acreditación	Colombia	LAC	UM	1	0	
CNA	Comisión Nacional de Acreditación	Chile	LAC	Н	0	0	
CNAP	Comisión Nacional de Acreditación de Pregrado	Chile	LAC	Н	1	1	Predated Comisión Nacional de Acreditación
COCA	Commission on Osteopathic College Accreditation	U.S.	NA	Н	0	8	Osteopathic medicine
COMAEM	Consejo Mexicano para la Acreditación de la Educación Médica	Mexico	LAC	UM	2	2	
CONEAU	Comisión Nacional de Evaluación y Acreditación Universitaria	Argentina	LAC	Н	1	0	
GMC	General Medical Council	U.K.	ECA	Н	1	2	
HPCSA	Health Professions Council of South Africa	South Africa	SSA	UM	2	0	
IMC	Irish Medical Council	Ireland	ECA	Н	0	1	
JACME	Japan Accreditation Council for Medical Education	Japan	EAP	Н	1	1	
JAN	Junta de Acreditación Nacional	Cuba	LAC	UM	1	0	
KIMEE	Korean Institute of Medical Education and Evaluation	Korea	EAP	Н	4	3	
LCME	Liaison Committee on U.S. NA H 13 Medical Education		32	Allopathic medicine			

MCI	Medical Council of India	India	SA	LM	2	1	
MDCN	Medical and Dental Council of Nigeria	Nigeria	SSA	LM	2	0	
MQA	Malaysian Qualifications Agency	Malaysia	EAP	UM	1	2	
MPDB	Medical Practitioners and Dentists Board	Kenya	SSA	LM	1	0	
NAA	National Accreditation Agency	Russia	ECA	UM	0	1	Non-scholarship article written about NAA predecessor
NAAC	National Assessment and Accreditation Council	India	SA	LM	2	1	
NCAAA	National Commission for Academic Accreditation and Assessment	Saudi Arabia	MEN	Н	2	2	
NCHEA	National Council for Higher Education Accreditation	Mongolia	EAP	LM	1	0	Part of the Mongolian National Council for Education Accreditation
NUC	National Universities Commission	Nigeria	SSA	LM	1	0	
NVAO	The Netherlands- Flemish Accreditation Organization	Netherlands, Belgium (Flanders only)	ECA	Н	0	1	
OAQ	Organ für Akkreditierung und Qualitätssicherung der schweizerischen Hochschulen	Switzerland	ECA	Н	0	1	Predated Swiss Agency for Accreditation and Quality Assurance

PAASCU	Philippine Accrediting Association of Schools, Colleges and Universities	Philippines	EAP	LM	4	0	
PMDC	Pakistan Medical and Dental Council	Pakistan	SA	LM	2	0	
SCUME	Secretariat of the Council for Undergraduate Medical Education	Iran	MEN	UM	1	0	Scholarship was on organization predating SCUME
TEPDAD	Association for Evaluation and Accreditation of Medical Education Programs	Turkey	ECA	UM	0	1	
TMAC	Taiwan Medical Accreditation Council	Taiwan	EAP	Н	1	2	
WCAME	Working Committee for the Accreditation of Medical Education	China	EAP	UM	0	1	
WFME	World Federation for International n/a n/a 8 19 Medical Education					19	

<sup>&</sup>lt;sup>a</sup>Region and Income level taken from World Bank 2019 fiscal year classifications.

Abbreviations for Region: EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MEN = Middle East and North Africa; NA = North America; SA = South Asia; SSA = Sub-Saharan Africa

Abbreviations for Income level: LM = Low-Middle Income; UM = Upper-Middle Income; H = High Income (No articles discussing agencies from Low Income countries were included)

## **Supplemental Digital Appendix 3**

**Summary of 85 UME Accreditation Non-Scholarship Articles** 

	Year	Origin(s) of		Article category	Article description
First author Cordova, J. A. <sup>82</sup>	1996	author(s) Mexico	Agency Accreditation commission (predated COMAEM)	National agency structure and/or function	Describes development and function of accreditation in Mexico
Hamilton, J. D. <sup>93</sup>	1990	Australia	AMC	National agency structure and/or function	Describes AMC origins, structure, and function
Hamilton, J. D. <sup>104</sup>	1995	Australia	AMC	National agency structure and/or function	Describes AMC development and function and notes importance of accreditation's relevance to local context
Breen, K. <sup>115</sup>	2001	Australia	AMC	National agency structure and/or function	Describes AMC structure and function
Pumerantz, P. <sup>126</sup>	1975	U.S.	BPE (predated COCA)	National agency structure and/or function	Describes accreditation for osteopathic colleges
Pumerantz, P. <sup>137</sup>	1975	U.S.	BPE (predated COCA)	National agency structure and/or function	Describes the purpose and process of the institutional self- study
Sweet, S. 143	2001	U.S.	BPE (predated COCA)	National agency structure and/or function	Describes AOA BPE structure and processes
Miskowicz-Retz, K. C. <sup>62</sup>	2008	U.S.	COCA	National agency structure and/or function	Part 1 of 3 part series of articles describing main activities of COCA; focuses on accreditation criteria for new schools
Williams, A. <sup>63</sup>	2009	U.S.	COCA	National agency structure and/or function	Part 2 of 3 part series of articles describing main activities of COCA; focuses on substantive changes requests
Williams, A. <sup>64</sup>	2010	U.S.	COCA	National agency structure and/or function	Part 3 of 3 part series of articles describing main activities of COCA; focuses on class sizes
Ching, L. M. <sup>65</sup>	2011	U.S.	COCA	National agency structure and/or function	Describes osteopathic distinctiveness and accreditation processes
Getz, R. <sup>66</sup>	2014	U.S.	COCA	National agency structure and/or function	Describes function of accreditation in the context of growing number of osteopathic medical schools
Williams, A. <sup>67</sup>	2015	U.S.	COCA	National agency structure and/or function	Describes COCA criteria for new schools and branch campuses
Bury, G. <sup>68</sup>	2005	Ireland	IMC	National agency structure and/or function	Describes IMC standards and processes
Yoshioka, T. <sup>69</sup>	2013	Japan	JACME	National agency structure and/or function	Describes JACME development [Text in Japanese]
Egan, R. L. <sup>70</sup>	1985	U.S.	LCME	National agency structure and/or function	After a short preamble, lists LCME standards that were revised shortly before this publication
Shomaker, T. S. <sup>71</sup>	2001	U.S.	LCME	National agency structure and/or function	Describes LCME function in preparation for the author's school's LCME full survey
Wilson, E. A. <sup>72</sup>	2007	U.S.	LCME	National agency structure and/or function	Describes LCME structure and function focusing on its formative quality improvement role

Severyanova, L. <sup>73</sup>	2005	Russia	Ministry of Education (predated NAA)	National agency structure and/or function	Describes medical school recognition in Russia
Azila, N. M. <sup>74</sup>	2005	Malaysia	Joint Technical Committee on Accreditation (predated MQA)	National agency structure and/or function	Describes MMC, focusing on its processes
Mahmud Mohd, M. N. <sup>75</sup>	2005	Malaysia	Joint Technical Committee on Accreditation (predated MQA)	National agency structure and/or function	Describes development and function of MMC
Hillen, H. F. <sup>76</sup>	2010	Netherlands	NVAO	National agency structure and/or function	Describes UME in Netherlands
Schirlo, C. <sup>77</sup>	2010	Switzerland	OAQ (predated Swiss Agency for Accreditation and Quality Assurance)	National agency structure and/or function	Describes development and processes for UME accreditation in Switzerland
Lai, C. W. <sup>78</sup>	2009	Taiwan	TMAC	National agency structure and/or function	Describes TMAC development and function
Kassebaum, D. G. <sup>79</sup>	1992	U.S.	LCME	Historical development of a national agency	Describes origins of LCME
Schwarz, M. R.80	1992	U.S.	LCME	Historical development of a national agency	Describes LCME at 50 years of age
Ward, W. D. <sup>24</sup>	1997	U.S.	BPE (predated COCA)	Historical development of a national agency	Describes historical development of osteopathic accreditation
Verheyden, C. N. <sup>81</sup>	2016	U.S.	LCME	Historical development of a national agency	Describes development and function of accreditation of medical programs in the U.S., focusing on UME and GME
Rosselot, E.83	2001	Chile	CNAP (predated CNA)	School reports on accreditation activities	Describes one school's experience with a full survey [Text in Spanish]
Berlin, A. <sup>84</sup>	2006	U.K.	GMC	School reports on accreditation activities	Describes one school's experience with a GMC inspection
Middleton, A. L.85	2009	U.S.	LCME	School reports on accreditation activities	Describes medical student survey as part of an LCME full survey
MacCarrick, G.86	2010	Ireland	WFME	School reports on accreditation activities	Describes one school's experience with preparation and two site visits against WFME standards
Sakai, D. H. <sup>87</sup>	2013	U.S.	LCME	School reports on accreditation activities	Describes what medical school teachers should know in preparation for an upcoming LCME full survey
Miller, B. <sup>88</sup>	2014	U.S.	LCME	School reports on accreditation activities	Describes one school's experience being put on probation by LCME and coming off probation
Sakai, D. H. <sup>89</sup>	2015	U.S.	LCME	School reports on accreditation activities	Part 1 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on accreditation process in general

Fong, S. F. <sup>90</sup>	2015	U.S.	LCME	School reports on accreditation activities	Part 2 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on graduation objectives
Fong, S. F. <sup>91</sup>	2015	U.S.	LCME	School reports on accreditation activities	Part 3 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on curriculum content, management, and assessment
Fong, S. F. <sup>92</sup>	2016	U.S.	LCME	School reports on accreditation activities	Part 4 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on pre-clerkship education
Len, K. A. 94	2016	U.S.	LCME	School reports on accreditation activities	Part 5 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on clerkship education
Smerz, R. W. <sup>95</sup>	2016	U.S.	LCME	School reports on accreditation activities	Part 6 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on advising, counseling, and well-being
Lee, W. K. <sup>96</sup>	2016	U.S.	LCME	School reports on accreditation activities	Part 7 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on diversity
Sakai, D. <sup>97</sup>	2016	U.S.	LCME	School reports on accreditation activities	Part 8 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; focuses on faculty development
Blanchette, P. L. <sup>98</sup>	2016	U.S.	LCME	School reports on accreditation activities	Part 9 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; summarizes strengths and challenges from the self-study
Connolly, K. K. <sup>99</sup>	2017	U.S.	LCME	School reports on accreditation activities	Part 10 of a 10 part series of articles describing one U.S. medical school's experience with LCME full survey; reports LCME full survey results
Blumberg, P. <sup>100</sup>	2003	U.S.	LCME	Advice for complying with accreditation standards	Describes ways to evaluate program effectiveness in order to meet LCME requirements
McLaughlin, S. A. <sup>101</sup>	2005	U.S.	LCME	Advice for complying with accreditation standards	Lists LCME standards most relevant to emergency medicine and evidence for compliance
MacCarrick, G. <sup>102</sup>	2010	Ireland	WFME	Advice for complying with accreditation standards	Describes evidence that can be used to demonstrate compliance with WFME Standard 1: Mission and Objectives
MacCarrick, G. <sup>103</sup>	2010	Ireland	WFME	Advice for complying with accreditation standards	Describes evidence that can be used to demonstrate compliance with WFME Standard 2: Educational Programme
MacCarrick, G. <sup>105</sup>	2011	Ireland	WFME	Advice for complying with accreditation standards	Describes evidence that can be used to demonstrate compliance with WFME Standard 3: Assessment of Students
WFME <sup>106</sup>	1998	WFME was headquartered in Denmark but	WFME	WFME historical/descriptive papers	Position paper by WFME executive council describing plan to develop accreditation standards for medical schools

		there would be representation from each region and other executive council members			
WFME <sup>107</sup>	2000	Denmark is listed along with multiple others from the WFME working party: Bahrein, Switzerland, U.S., Australia, Japan, South Africa, Malaysia	WFME	WFME historical/descriptive papers	WFME standards working party report and standards for basic medical education first draft
Van Niekerk, J. P. <sup>108</sup>	2003	Denmark <sup>a</sup>	WFME	WFME historical/descriptive papers	Commentary on WFME standards after World Conference, description of conference and recommendations for third phase of standards project (similar to Van Niekerk article in same issue)
Van Niekerk, J. P. <sup>109</sup>	2003	South Africa <sup>a</sup>	WFME	WFME historical/descriptive papers	Commentary on WFME standards after World Conference, description of conference and recommendations for third phase of standards project (similar to Van Niekerk article in same issue)
Karle, H. <sup>110</sup>	2006	Denmark	WFME	WFME historical/descriptive papers	Describes WFME global standards trilogy and accreditation promotion program
Karle, H. <sup>111</sup>	2008	Denmark	WFME	WFME historical/descriptive papers	Describes WFME global standards trilogy, principles of accreditation, and Avicenna medical school database
Karle, H. <sup>112</sup>	2008	Denmark	WFME	WFME historical/descriptive papers	Describes medical school databases and WFME promotion of accreditation
Rezaeian, M. <sup>113</sup>	2013	Iran	WFME	WFME historical/descriptive papers	Describes WFME background and importance of having international accreditation standards
Stevens, D. P. <sup>114</sup>	2000	U.S.	LCME	Accreditation and quality	Describes 3 questions LCME should use for improvement, mostly focused on need for evidence
Maldonado, M. B. <sup>116</sup>	2003	Spain	WFME	Accreditation and quality	Describes accreditation's influence on quality improvement across the medical educational continuum [Text in Spanish]
Al Alwan, I. <sup>117</sup>	2012	Saudi Arabia	WFME, general	Accreditation and quality	Commentary on original research (van Zanten 2012), <sup>48</sup> discusses accreditation quality assurance issues
Al-Shehri, A. M. <sup>118</sup>	2013	Saudi Arabia	NCAAA	Accreditation and quality	Discusses accreditation and culture of quality, focusing on UME accreditation in Saudi Arabia

Ahn, E. <sup>119</sup>	2014	Korea	KIMEE	Accreditation and quality	Describe creation of "excellence" tier used for 33 areas starting in 2007 to supplement "must" and "should" standards model
Barzansky, B. <sup>120</sup>	2015	U.S., Canada, Korea, Taiwan	CACMS, KIMEE, LCME, TMAC	Accreditation and quality	Describes 5 cases where continuous quality improvement methods were adopted by agencies and schools within the context of accreditation
Blouin, D. <sup>121</sup>	2017	Canada, U.S.	ACCM, CAAM- HP, CACMS, KIMEE, LCME, TEPDAD	Accreditation and quality	Argues for CQI markers as part of evaluation of accreditation effectiveness
Schworer, B. <sup>122</sup>	2018	Germany	none mentioned	Accreditation and quality	Describes accreditation issues related to private medical education in Germany and argues for accreditation [Text in German]
Davis, D. J. <sup>21</sup>	2006	Denmark	LCME	Review papers focusing on accreditation	Narrative review that argues for accreditation of UME and GME to become more evidence- and outcomes-based
Boulet, J. <sup>20</sup>	2014	U.S.	CAAM-HP, COCA, LCME, MCI, NAAC, WFME, references DORA	Review papers focusing on accreditation	Narrative review that describes accreditation, licensure, and certification internationally
Simpson, I. <sup>123</sup>	2005	Australia	AMC	Assorted accreditation non- scholarship	Describes AMC activities and includes comparison of AMC and WFME standards
Field, M. J. <sup>124</sup>	2011	Australia	AMC	Assorted accreditation non- scholarship	Describes AMC accreditation issues important for new schools and proposed major changes to existing programs, identifying 6 issues common among new medical schools
Geffen, L. <sup>125</sup>	2014	Australia, China	AMC, WCAME	Assorted accreditation non- scholarship	Describes how AMC evolved and is working with China to develop their UME accreditation system
Hosseini, F. <sup>127</sup>	2002	Not listed <sup>b</sup>	AMFEM (predated COMAEM), WFME	Assorted accreditation non- scholarship	Describes Asociación Mexicana de Facultades y Escuelas de Medicina (AMFEM) and WFME standards and their development in order to guide Iranian development
Goic, A. <sup>128</sup>	1995	Chile	ASOFAMECH	Assorted accreditation non- scholarship	Discusses importance of UME accreditation and balancing workforce distribution across the country [Text in Spanish]
Rosselot, E. <sup>129</sup>	1999	Chile	ASOFAMECH	Assorted accreditation non- scholarship	Discusses UME accreditation role in assuring quality in healthcare in context of other healthcare accreditation (e.g. clinical facilities) [Text in Spanish]
Rosselot, E. <sup>130</sup>	2002	Chile	ASOFAMECH	Assorted accreditation non- scholarship	Discusses UME accreditation importance [Text in Spanish]
van Zanten, M. <sup>131</sup>	2009	U.S., Jamaica, Denmark	CAAM-HP	Assorted accreditation non- scholarship	Describes CAAM-HP and Invitational Conference on Accreditation of Medical Education Programs in the Caribbean in May 2007
Wood, D. L. <sup>132</sup>	2009	U.S.	COCA, LCME	Assorted accreditation non- scholarship	Compares COCA and LCME standards

Leinster, S. <sup>133</sup>	2014	U.K.	GMC	Assorted accreditation non-scholarship	Describes positive influence of Tomorrow's Doctors and considers positive and negative aspects of UME accreditation
Cane, M. 134	1978	U.S.	LCME	Assorted accreditation non- scholarship	Describes legal basis for antitrust lawsuit against AMA for UME accreditation
Kassebaum, D. G. <sup>135</sup>	1994	U.S.	LCME	Assorted accreditation non- scholarship	Describes LCME issues relevant for a physiology educator audience
Kassebaum, D. G. <sup>136</sup>	1998	U.S.	LCME	Assorted accreditation non- scholarship	Commentary on Simpson article, describing keys to a successful self-study
Barzansky, B. <sup>138</sup>	2004	U.S.	LCME	Assorted accreditation non- scholarship	Describes development of accreditation in the U.S., makes comparisons between LCME and American Veterinary Medical Association Council on Education (COE)
Simon, F. A. <sup>139</sup>	2005	U.S.	LCME	Assorted accreditation non- scholarship	Describes LCME and CACMS structure and processes and argues for need to align with GME and CME
Tekian, A. S. <sup>140</sup>	2015	U.S., Saudi Arabia	NCAAA	Assorted accreditation non- scholarship	Compares NCAAA domains and SaudiMed competency framework
Hays, R. <sup>141</sup>	2004	Australia, Fiji	WFME	Assorted accreditation non- scholarship	Describes site visit for Fiji School of Medicine by international team against WFME standards
Lindgren, S. <sup>142</sup>	2011	Sweden, Denmark	WFME	Assorted accreditation non- scholarship	Describes principles for accreditation and importance of incorporating social accountability

<sup>&</sup>lt;sup>a</sup>While two articles appear in the same issue by the same author, country was listed differently. We used country listed in each article during analysis.

Abbreviations for accrediting authorities: ACCM (Aruba, Cayman Islands, Federation of St. Kitts and Nevis, Sint Maarten), AMC (Australia), BPE (U.S.), ASOFAMECH (Chile), CAAM-HP (13 member countries of Caribbean Community (CARICOM)), CACMS (Canada), CNA (Chile), CNAP (Chile), COCA (U.S.), COMAEM (Mexico), GMC (U.K.), IMC (Ireland), JACME (Japan), KIMEE (Korea), LCME (U.S.), MCI (India), MQA (Malaysia), NAA (Russia), NCAAA (Saudi Arabia), NVAO (Netherlands), OAQ (Switzerland), TEPDAD (Turkey), TMAC (Taiwan), WCAME (China), WFME (international)

<sup>&</sup>lt;sup>b</sup>No author affiliations were listed