



الجامعة الإسلامية العالمية ماليزيا  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
وَتَبَرَّكْتُ بِإِسْلَامِهِ أَنْبَاءُ رَجَائِبِنَا مَلِكِنَا

ETHICAL AND LEGAL ISSUES IN  
TELEMEDICINE: PROSPECTS AND CHALLENGES

BY

TIJANI FATAI ABDUL

A dissertation submitted in partial fulfillment of the  
requirements for the degree of Master of  
Comparative Law

Ahmad Ibrahim Kulliyah of Laws

International Islamic University  
Malaysia

JULY 2010

## ABSTRACT

The advancement in technology plays a major role in the development of medical profession. Benefits of telemedicine include quick delivery of healthcare services to the people in rural communities, as well as the exchange of healthcare information services across different geographical locations in the world. It reduces healthcare costs, improves the dissemination of information and training for healthcare providers and patients. However, the encroachment of technology into medical practice creates a range of new opportunities and challenges for policy makers, lawyers, patients, healthcare providers and other stakeholders in the healthcare industry. Therefore, the drawbacks from the advent of this new technology cannot be overlooked. Further, the ethical and legal issues such as physician-patient relationship, patient informed consent, privacy, confidentiality and security, issues of licensing, duty of care, standard of care and conflict of laws affecting the development of telemedicine must be considered. This thesis analyses some of the advantages and disadvantages of telemedicine, as well as ethical and legal issues affecting telemedicine and recommends solutions to the problems. Also, the research analyses the views of the Islamic medical ethics that must be observed by healthcare providers for the benefit of *Ummah*.

## ملخص البحث

لقد لعبت تقدم التكنولوجيا دورا هاما في تطور المهنة الطبية. ومن منافع التي وفرتها برنامج *تليمدين* (برنامج التطبيب عن بعد) هي سرعة التوصيل للخدمات الطبية إلى سكان الأرياف والقرى، وكذلك إمكانية تبادل المعلومات والخدمات الصحية من مختلف النواحي الجغرافية في العالم. وقد ساعد هذا البرنامج في تخفيض تكاليف الرعاية الطبية، وتحسين نشر المعلومات وتدريب المسؤولين في مجال الرعاية الصحية والمرضى كذلك. ومع ذلك، فإن كانت زحف تكنولوجيا في مجال الطب بهذه الصورة قد أدت إلى إتاحة الفرص إلا أنه قد اندمجت معها المخاطر، وذلك في جانب كل من المقررين، والمحامين والمرضى أنفسهم، وحتى مقدمي في جانب الرعاية الصحية. وعلى هذا فلا يمكن التغافل عن العيوب الناتجة من هذا التكنولوجيا الجديدة. وبناء على ذلك وجب البحث في هذا المجال الجديد، وذلك من جانب قضايا الأخلاقية والالقانونية المؤثرة على تقدم و تطور برنامج الطب-عن-البعد. فمثلا، يجب البحث في مجال علاقة الطبيب مع المرضى، وموافقة المريض وإذنه على تفخيص، وكذا خصوصية سرية التعامل، والأمن الطبي، ومنها قضايا الترخيص، وواجب الرعاية ومستواها، وتنازع القوانين فيما يتعلق بتطور برنامج الطب-عن-بعد. فقد سلقت هذه الرسالة طريقة دراسة تحليلية لبعض المحاسن والمساوئ الموجودة في برنامج الرعاية الصحية عن بعد وكذلك القضايا الأخلاقية والقانونية الناتجة المؤثرة على الرعاية الصحية عن بعد. وفي الأخير، قدّم الباحث بعض الإقتراحات لمعالجة هذه المسائل. ولم تقتصر البحث على اهتمام بجانب القوانين الوضعية فحسب بل اخذ العير من جانب الشرعي كذلك، وخاصة في الأمور التي يجب مراعاتها من قبل مقدمي خدمات الرعاية الصحية لصالح الأمة أجمع.

## APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Comparative Law.

.....  
Puteri Nemie Jahn Kassim  
Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Comparative Law.

.....  
Majdah Zawawi  
Examiner

This dissertation was submitted to the Department of Private Law and is accepted as a partial fulfilment of the requirements for the degree of Master of Comparative Law.

.....  
Zuraidah Ali  
Head, Department of  
Private Law

This dissertation was submitted to the Ahmad Ibrahim Kulliyah of Laws and is accepted as a partial fulfilment of the requirements for the degree of Master of Comparative Law.

.....  
Mohd Akram Shair  
Mohamad  
Dean, Ahmad Ibrahim  
Kulliyah of Law

## DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Tijani, Fatai Abdul

Signature .....

Date .....

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

**DECLARATION OF COPYRIGHT AND AFFIRMATION  
OF FAIR USE OF UNPUBLISHED RESEARCH**

Copyright © 2010 by Tijani, Fatai Abdul. All rights reserved.

**ETHICAL AND LEGAL ISSUES CREATED BY TELEMEDICINE:  
PROSPECTS AND CHALLENGES**

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below.

1. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.
2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
3. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

Affirmed by Tijani, Fatai Abdul.

.....  
Signature

.....  
Date

*In the Name of Allah, the Most Beneficent, the Most Merciful*

*This work is dedicated to my lovely wife Adijat Iyabode, for her perseverance and cooperation and to my son Ibrahim.*

## ACKNOWLEDGEMENTS

My utmost gratitude is due to Allah, who in His infinite Mercy gave me sound health and strength to complete this programme.

It is with great respect that I register my deep appreciation to my supervisor, Ass. Prof. Dr. Puteri Nemie Jahn Kassim, head of the Medical Law and Ethics Unit at the Ahmad Ibrahim Kulliyah of Laws, IIUM. I am extremely grateful for her academic guidance during my research. I learnt a great deal from her academic excellence and sterling qualities. I humbly consider myself very privileged to have benefited from her academic expertise. Similarly, my heartfelt appreciation and sincere thanks to the efficient Staff of the IIUM Library for assisting me with many inter-library loans requests.

My profound appreciation and sincere thanks to my immediate families here in IIUM for their financial, moral, and spiritual support. They include: Bro. Maruf Olayemi, Alhaji Abdul-Azzez Ajidele, Alhaji Ismail Yunus, Bro. Abdul-Lateef Adeyemo. Alhaji Musa Alongbija and, host of others too numerous to mention.

Back home in Nigeria, I wish to seize this opportunity to express my sincere thanks to Mr. Osunfisan, Permanent Secretary (PS) Ogun State Ministry of Justice, and my immediate boss, Mrs. Osunfisan (Director of Citizens' Rights Department in the Ministry) for her invaluable advice to undergo this programme. Thanks to all my senior colleagues, my colleagues and all the administrative staffs for their prayer, concern and love during my absence from the Ministry.

I am greatly indebted to those who took over the responsibility of my domestic affairs in my absence. Particularly Alhaji Afeez Opebiyi & his wife Mrs. Sekinat Opebiyi, Mr. Monsur Abimbola, Mr. Lukman Osanyin, Mr. Saheed Popoola, Mr. Thabit Lanre, Bro Ahmed Falola, Mr. Mikail Akinlawon as well as many others who could not be mentioned as a resort of space.

Finally, I thank and specifically acknowledged the patience, endurance, valuable support, love and cooperation of my wife, Adijat Iyabode and my son, Ibrahim. I love you all from the bottom of my heart. May the Almighty Allah reward you all. Lastly but not the least, my deep appreciation is certainly expressed to my father, Tijani Alabi and to my step mother, Fadeke and to my family at large for their understanding, support, patience and prayer throughout this master's programme. The list is inexhaustible, but for those whose name could not be mentioned owing to space, it is my prayer that Allah reward you all abundantly. Thanks and God bless!



## TABLE OF CONTENTS

Abstract .....	ii
Abstract in Arabic .....	iii
Approval Page .....	iv
Declaration Page .....	v
Copyright Page .....	vi
Dedication .....	vii
Acknowledgements .....	viii
List of Cases .....	xii
List of Statutes .....	xiii
List of Abbreviations .....	xiv
<b>CHAPTER ONE: GENERAL INTRODUCTION .....</b>	<b>1</b>
1.1 Introduction.....	1
1.2 Statement of Problem .....	2
1.3 Hypothesis.....	3
1.4 Literature Review.....	3
1.5 Scope and Limitations .....	11
1.6 Methodology of the Study .....	12
1.7 Chapterization .....	12
<b>CHAPTER TWO: INTRODUCTION TO TELEMEDICINE.....</b>	<b>14</b>
2.1 Introduction.....	14
2.2 Nature and Scope of Telemedicine .....	15
2.3 The Scope of Telemedicine.....	16
2.4 Semantic Variations on General Theme of Telemedicine.....	17
2.4.1 Telemedicine .....	17
2.4.2 Telemedicine and Medical Informatics.....	19
2.4.3 Telemedicine and Telehealth .....	21
2.4.4 Telemedicine and E - Health.....	21
2.4.5 Telemedicine and Cyber Medicine .....	22
2.4.6 Telemedicine and Telecare .....	23
2.5 Historical Development of Telemedicine .....	24
2.5.1 Postal Services in the 20 <sup>th</sup> Century in Europe.....	24
2.5.2 Telegraphic Period .....	26
2.5.3 Telephone Period .....	27
2.5.4 Radio Period.....	27
2.5.5 Digital Communication Period .....	28
2.5.6 Television and Video Period.....	29
2.5.7 Audiovisual Microwave Circuit Period .....	29
2.5.8 Mobile Phones and Satellite Communications.....	30
2.5.9 1996 Mountain Everest Adventure .....	31
2.6 Workings of Telemedicine.....	32
2.6.1 Patient with Chest Pain as a Case Study .....	32
2.6.2 Patient with Brain Tumor at the Wilson Hospital .....	33
2.6.3 A Woman with Ectopic Pregnancy in Kotzebue.....	33

2.7 Advantages of Telemedicine .....	34
2.7.1 Economic Development and Quality of Life Perspective.....	34
2.7.2 Benefits for Patients .....	37
2.7.3 The Health Care Providers Perspectives .....	39
2.8 Disadvantages of Telemedicine .....	42
2.8.1 Relationship between Health Professional and The Patients .....	42
2.8.2 Physical and Mental Factors .....	43
2.8.3 Depersonalization.....	43
2.8.4 Problem of Consultation .....	44
2.8.5 Inability to perform the whole Consultation .....	44
2.8.6 Lack of Confidence between Patients and Health Professionals .....	45
2.8.7 Malfunctioning of Medical Equipments .....	45
2.8.8 Breakdown in the Relationship between Health Professionals .....	45
2.8.9 Quality of Health Information Issues.....	46
2.8.9.1 Organizational and Bureaucratic Difficulties.....	46
2.9 Conclusion .....	47

**CHAPTER THREE: ETHICAL CONSIDERATIONS IN TELEMEDICINE..... 49**

3.1 Introduction .....	49
3.2 General Meaning of Ethics.....	50
3.3 Medical Ethics.....	51
3.4 Ethical Principles .....	52
3.4.1 Principle of Beneficence .....	53
3.4.2 Principle of Autonomy.....	53
3.4.3 Principal of Non - Maleficence.....	56
3.4.4 Principle of Justice.....	57
3.4.5 Principle of Confidentiality.....	58
3.4.6 Principle of Fidelity / Veracity .....	59
3.5 Ethical Issues in Telemedicine.....	60
3.6 Ethical Problems Affecting Telemedicine.....	60
3.6.1 Threatening the Doctor-Patient Relationship.....	60
3.6.2 Encroachment on the Rights of Privacy.....	62
3.6.3 Breach of Confidentiality.....	64
3.6.4 Principle of Informed Consent.....	65
3.6.4.1 Informed Consent in Telemedicine.....	66
3.6.4.2 Sufficient Information in Informed Consent.....	67
3.6.4.3 Circumstances in Informed Consent .....	68
3.6.4.4 Documentation of Informed Consent.....	69
3.6.4.5 Duty to obtain Informed Consent.....	69
3.7 Ethical Obligations of Doctors to Patient under Section 2 MMA.....	70
3.7.1 Malaysian Medical Association Code of Ethics .....	71
3.7.2 Duties of Doctors to Patients Under MMA .....	72
3.7.3 Professional Confidence Under Sub-Section 2 MMA .....	72
3.7.4 Other MMA Code of Medical Ethics.....	74
3.8 Conclusion.....	74

**CHAPTER FOUR: LEGAL ISSUES IN TELEMEDICINE..... 76**

4.1 Introduction.....	76
-----------------------	----

4.2 Selected Legal issues in Telemedicine.....	76
4.2.1 Issues in Licensing .....	77
4.2.2 The Need for License in Practice of Telemedicine.....	82
4.3 Legal Considerations Arising from Physician/Patient relationship .....	83
4.3.1 Nexus between the Physician and the Patient.....	84
4.3.2 Confidentiality issues in Telemedicine.....	86
4.3.3 Privacy issues in Telemedicine .....	90
4.3.4 Malaysian Personal Data Protection 1998 .....	97
4.3.5 Data Principles .....	98
4.4 Medical Negligence Issues in Telemedicine .....	102
4.4.1 Duty of care.....	104
4.4.2 Duty of care for Telemedicine Doctors.....	105
4.4.3 Circumstances of Duty of Care in Telemedicine .....	106
4.4.4 Doctor's Liability in Telemedicine Malpractices .....	107
4.5 Standard of Care for Telemedicine.....	108
4.5.1 The Reasonable Telemedical Doctor Standard of Care .....	109
4.5.2 Current Standard of Care in Telemedicine.....	111
4.5.3 Same Locality Rule .....	111
4.5.4 Similar Locality Rule .....	112
4.5.5 National Standard Rule .....	112
4.5.6 The Need for the Rule .....	113
4.6 Conflict of Laws in Telemedicine .....	115
4.6.1 Jurisdictional Problems in Telemedicine .....	116
4.6.2 Personal Jurisdiction .....	117
4.6.3 Choice of Law .....	118
4.6.4 Recognition and Enforcement of Judgement.....	119
4.7 Conclusion .....	121

## **CHAPTER FIVE: ISLAM AND DEVELOPMENT OF TELEMEDICINE... 123**

5.1 Introduction.....	123
5.2 What is Shari'ah?.....	124
5.2.1 The nature of Shari'ah.....	125
5.2.2 The primary Sources of Shari'ah .....	126
5.2.2.1. The Holy Qur'an .....	126
5.2.2.2. The Sunnah .....	128
5.2.3 Secondary Sources of Shari'ah.....	128
5.2.3.1 Ijma-Consensus of Opinion .....	128
5.2.3.2 Principle of Qiyas-Analogical deduction.....	129
5.2.3.3 Istihsan -Juristic Preference .....	130
5.2.3.4 Maslaha-Unrestricted Public Interest.....	131
5.2.3.5 Istishab-Presumption of Continuity .....	131
5.2.3.6 Shaddu al-Dharai-Blocking the means .....	131
5.2.3.7 Uruf-Custom .....	132
5.3 Maqasid al-Shari'ah-The Objectives of Islamic Law .....	132
5.4 Classification of Hukmu .....	133
5.4.1 Preservation of Religion.....	134
5.4.2 Preservation of Life.....	134
5.4.3 Preservation of Intellect .....	134
5.4.4 Preservation of Progeny .....	135

5.4.5 Preservation of Property.....	135
5.4.6 Qawa'id Shari'ah (Legal Maxims).....	136
5.4.7 Classification of Shari'ah .....	136
5.5 Medical Profession in Islam .....	137
5.5.1 Responsibility of Medical Doctor in Islam .....	139
5.5.2 Requirement for Medical Treatment.....	142
5.5.3 Circumstances in which Doctor's liability may or may not arise	145
5.5.4 How to Prove Doctor's Liability.....	146
5.5.5 Compensation in Shari'ah .....	147
5.6 Islamic Perspective in Telemedicine.....	149
5.6.1 Islamic Ethical Issues in Telemedicine .....	150
5.6.2 Privacy Issues in Telemedicine.....	150
5.6.3 Islamic Confidentiality Issues in Telemedicine .....	152
5.6.4 Doctor – Patient Relationship in Telemedicine .....	154
5.6.5 Patient Autonomy in Islamic Medical Practice.....	154
5.6.6 Informed Consent in Islamic Medical Practice.....	155
5.6.7 Exception to the Rule of Informed Consent.....	157
5.6.8 Principle of Justice in Islamic Medical Practice .....	158
5.7 Conclusion .....	159
<b>CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>160</b>
6.1 Conclusion .....	160
6.2 Recommendations.....	169
<b>BIBLIOGRAPHY .....</b>	<b>173</b>
APPENDIX I: Radio Doctor.....	182
APPENDIX II: Image of Telemedicine .....	183
APPENDIX III: Hippocratic Oath .....	184
APPENDIX IV: Telemedicine Informed Consent Form .....	185

## LIST OF CASES

*A.G. Anambra State v A.G. Federation & Ors* [1993] 6 NWLR (Pt. 302) 692  
*Bienz v Central Suffolk Hospital* 557 N.Y.S. 2d. 139 [N.Y. App. Div. 1990]  
*Bolam v Friern Hospital Management Committee* [1957] 1 WLR 582  
*Canterbury v Spence* 464 F. 2d. 772 [DC1972]  
*Chapel v Allison* 785 P. 2d. 204. 1206-07 [Mont. 1990]  
*De Freitas v O'Brien & Connolly* [1995] 6 Med. LR. 108  
*Dent v State of West Virginia* 129 U.S. 114, 117-18 [1889]  
*Doe v Marsell* 675 A. 2d.835 [Com. 1996]  
*Dougherty v Gifford* 826 S.W. 2d. 668 [Tex. Ct. App. 1992]  
*Ferguson v Skrupa*, 379 U.S 726, 731 [1963]  
*Gemme v Golberg* 626 A.2d. 318, 326 [Conn. App. 1980]  
*Goldfarb v Virginia State Bar*, 421, U.S. 773, 792 [1975]  
*Greenburg v Perkins* 846 P.530 [1993]  
*Hall v Hillburn* 466, 80. 2d. 856 [Miss. 1985]  
*Hampton V M'Connel* 16 U.S. 234 [1818]  
*Hand v Tavera* 864 S.W. 2d. 678 [Ct. App. Tex. 1993]  
*Hilton v Guyot* 159, U.S. 113, 165 [1895]  
*Hunter v Hanley* [1955] SLT 213, [1955] SC. 200 at 206  
*Kaye v Robertson* [1991] FSR 62  
*King v Williams* 279, S.E. 2d. 618, 621 [S.C.1981]  
*Lopez v Aziz* 852 S.W 2d. 303 [Tex. Ct. App. 1993]  
*Malina v Meacham* 211 P. 2d. 747 [Or. 1949]  
*Mariano v Tanner* 497 S.O. 2d. 1066 [LA. App. 5th. Cir. 1986]  
*Matusevitch v Telnikoff* 887 F. Supp. 1 [D.D.C.1995]  
*McMillan v Durant* 439 S.E. 2d. 829, 832 [S.C. 1993]  
*McVeigh v Cohen* 983 F Supp. 215, 220 [DDC. 1998]  
*Oliver v Brock* 342 S.O. 2d. 13-4 [Ala. 1976]  
*Public Prosecutor v Dato' Seri Anwar bin Ibrahim & Anor* [2001] 3 MLJ 193  
*Public Prosecutor v Hajj Kassim* [1971] 2 MLJ 115  
*Public Prosecutor v Lee Sin Long* [1949] MLJ 51  
*R v Brown* [1996] 1 All ER 545  
*R v Gold* [1998] 1 AC 1063  
*R v Instan* [1893] 1 QB 453  
*Re F (Mental Patient Sterilisation)* [1990] 2 AC 1  
*Robbins v Footer* 553 F. 2d. 123, 127 [DC. Cir. 1977]  
*Roe v Minister of Health & Anor* [1954] 2 QB 66  
*Rogers v Whitaker* [1992] 172 CLR 479 at 490  
*Salgo v Leland Stanford Jr University Board of Trustees* 317 P. 2d. 1093 [1960]  
*Schloendoff v Society of New York Hospitals*, 105, NE 92 [N.Y. 1914]

*Scott v Bradford* 606 P. 2d 55 [Okla. 1979]  
*Tallbull v Whitney* 564 P. 2d. 162, 165 [Mont. 1977]  
*Tolofson v Jensen* [1994] 3 S.C.R. 1022, 120 D.L.R.(4th) 289, 305  
*Tournier v National Provincial* [1924] 1 KB 461  
*Ultra Dimension Sdn, Bhd v Kook We Kuan* [2004] 5 CLJ 285  
*Utih v Onoyivwe* [1991] 1 NWLR (Pt. 166) 166  
*W v Edgell & Others* [1989] All ER 1089  
*Weaver v University of Mich. Bd. Of Regents* 506 N.W. 2d. 264, 266 [Mich. App. 1993]  
*Wheeler v Yettie Kersting Memorial Hospital* 866. S.W. 2d. 32 [Tex. Ct. App. 1993]  
*Whitehouse v Jordan* [1981] 1 WLR 246  
*Wisher v Essex Area Health Authority* [1988] All ER 871  
*Zippo Manufacturing Co. v Zippo Dot Com. Inc* 952 F. Supp.1119, 1120 [W.D. Pa.1997]

## LIST OF STATUTES

Anti Money Laundering Act 2000  
Anti-Corruption Act 1997 (Malaysia)  
Communication and Multimedia Act 1998 (Malaysia)  
Computer Crime Act 1997  
Computer Misuse Act 1990 (UK)  
Data Protection Act 1984 (UK)  
Data Protection Act 1998 (UK)  
Evidence Act 1950 (Act 56)  
Federal Constitution of Malaysia  
Health Insurance Portability and Accountability Act 1996  
Internal Security Act 1960 (Malaysia)  
International Covenant on Civil and Political Rights  
Islamic Charter of Medical and Health Ethics  
Malaysian Medical Association Code of Ethics  
Medical Act 1971 (Act 50). Malaysia.  
Personal Data Protection Act 2009  
Privacy Act 1974 (America)  
Telecommunication Reform Act 1996 (America)  
Telemedicine Act 1997 (Act 564). Malaysia.  
Telemedicine Development Act 1996 (California)  
United States of American Constitution

## LIST OF ABBREVIATIONS

AC	Appeal Cases.
AG.	Attorney- General.
Ala.	Alabama Supreme Court.
All ER.	All England Report.
CJN.	Chief Justice of Nigeria.
CLJ.	Current Law Journal.
CLR.	Commonwealth Law Reports.
Conn. App.	Connecticut Appellate Report.
Ct. App. Tex.	Court of Appeal Report Texas.
DC	District of Columbia.
DC. Cir.	District of Columbia Courts of Appeal Cases.
DDC.	Dewey Decimal Classification. District Court.
e.g.	(exempligrama): for example.
Ed.	edition.
etc.	(et cetera): and so forth.
FRS.	Fleet Street Reports of Patients Cases.
Ibid.	(ibidem): in the same place.
ICT.	Information Communication Technology
JSC.	Justice of the Supreme Court (Nigeria).
KB.	King's Bench.
LA. App. 5th Cir.	Lousiana Court of Appeals Reports.
Med. LR.	Medical Law Reports.
Mich. App.	Michigan Court of Appeal.
Miss.	Mississippi.
MLJ.	Malayan Law Journal.
Mont.	Mntana Supreme Court Reports.
n.d.	no date.
NWLR.	Nigerian Weekly Law Reports.
NY	New York.
NY. APP. Div.	New York Appeal Division.
Okla.	Oklahoma.
Or.	Oregon Supreme Court Reports.
P.b.u.h.	Peace be upon him.
QB.	Queen's Bench.
S.C.R.	South Carolina Reports.
SC.	Session Cases.
Swt.	Subhanahu Wa Ta'ala (Glory be to Allah).
Tex.Ct. App.	Texas Court of Appeal.
UK.	United Kingdom.
US.	United States.
v.	(versus): against (in legal terms).
WLR.	Weekly Law Reports.



# CHAPTER ONE

## INTRODUCTION

### 1.1 INTRODUCTION

The medical profession from time immemorial is without a doubt a noble profession. Its primary objective is to administer medication to the patients and heal the sick. Though Almighty Allah cures, the service of medical practitioners cannot be ignored in the administration of healthcare delivery to the sick. Meanwhile, over the few decades, the evolution of internet into the field of medical profession is a novel idea which has brought radical reform to the medical profession. The interconnectivity of internet with medical profession is a systematic approach to ease or alleviate the problem of healthcare delivery to the dwellers in remote and rural areas. This modern system of healthcare delivery to the people in remote and rural areas is known as Telemedicine.

The internet which has no boundary covers the entire world as a colossal and/or a giant network reducing it into a global village. It enables the world to be at the user's fingertips. The uniqueness of this technology has brought tremendous advantages into all fields of human discipline<sup>1</sup> and the medical profession is no exception. Telemedicine, as can be gleaned from the above, promises to save lives, improve the quality of medical services, increase access to treatment and even control the skyrocketing costs of healthcare delivery<sup>2</sup>.

---

<sup>1</sup> See Dennis Powers, M, *The Internet Legal guide*, John Willey and Sons, Inc, 2002, 127.

<sup>2</sup> See Volkert Susan, E, Telemedicine: RX for the future of health care. Vol,6. Mich. TELECOM. TECH. L. REV. 146. < <http://www.mttl.org/volsix/Volkert.html> > accessed on 11 May 2009. Some of the benefits of telemedicine in healthcare delivery are that it makes health providers more accessible to the patient in rural and urban areas. Meanwhile, the use of videoconferencing for consultation from rural clinic to a specialists alleviate the travelling costs for the patients. Similarly, prompt response and

This research intends to trace the origin of telemedicine, its subsequent development, how it works, its benefits vis-à-vis the drawbacks. This dissertation will equally highlight and examine some of the ethical and legal issues arising from the development of telemedicine and how to resolve it, e.g. through alternative dispute resolution or cyber mediation.

An attempt will also be made to examine the Islamic point of view on telemedicine. The concluding part of this dissertation will focus on the solutions to the ethical and legal issues arising from the development of telemedicine. Recommendations will then be made on how to address these challenges faced by telemedicine.

## **1.2 STATEMENT OF PROBLEM**

USA, UK and Malaysia have established and practiced telemedicine to enhance quick health care delivery to the people in remote and rural areas through the operational use of Information Communication Technology (ICT). Meanwhile, the practice of telemedicine is currently plagued by ethical and legal problems. Some of the problems are; physician-patient relationship, patient informed consent, privacy, confidentiality and security, issues of licensing, duty of care, standard of care and conflict of laws. This research is carried out in order to analyze, examine and provide solutions to the problems.

---

earlier intervention and diagnose of patient through telemedicine has indeed improve the health of the patients. Also patients are able to purchase the prescribed drugs which are not available in their locality from the pharmacists whom they have never met via the internet in very reduced price, the patient is required to disclose his credit card information, such drugs will be delivered through standard mail.

### **1.3 HYPOTHESIS**

Although telemedicine had been adopted and practiced in USA, UK and Malaysia, this new method of health care delivery to the patient in rural areas is being confronted by variety of ethical and legal problems.

1. The ethical problems relating to beneficence, patient autonomy, non-maleficence, confidentiality and fidelity can be addressed if reliance is made to current professional ethical standards of the medical profession.
2. Under the legal problem, the security of patient information can be ensured if the laws relating to licensing, confidentiality, privacy, physician-patient relationship, duty of care, standard of care and conflicts of laws are abided by the laws that regulate the practice of medical profession.

This research shall explore the proper measures to solve both the ethical and legal problems arising from the development of telemedicine.

### **1.4 LITERATURE REVIEW**

Different authors and article writers in the field of medical law have written extensively on the historical background, advantages and disadvantages of telemedicine. This research will review some of the relevant books and articles of different authors and see different views of each of them on telemedicine

Asadi and Akhlaghi<sup>3</sup> observed that the advancement and development of telemedicine has brought a tremendous achievement to the delivery of health care system to the people in remote and rural areas. Particularly in the UK and US. Nevertheless, as the telemedicine flourished in these two countries, the ethical and legal problems associated with the effectiveness of the project cannot be over looked.

---

<sup>3</sup> See Asadi, H and Akhlaghi, A, *Ethical and legal aspects of telemedicine and telecare*, <<http://www.pardis.ir/articles.pdf/p06148.pdf>> viewed on 24 November 2009.

They went further to give some analyses on conventional medical ethics which dates back to Hippocrates. This Hippocratic code of medical conduct has been developed in various code which states that a doctor must preserve, “Absolute confidentiality in all he knows about his patients” even after the patient’s death.

They went further to mention patient – doctor relationship, consent to treatment, informed consent, couple with legal problems on the internet that are associated with them, for example data protection and security, secure network access, secure data transmission, professional standards and regulation among others. They concluded their write up on the jurisdictional issue which has to do with conflict of laws in the circumstances when there is a legal problem between doctor and patient that had arisen during treatment.

A survey by Dabrowska and Conford<sup>4</sup> extensively dealt with the concept of organizational structure/ visions of information systems and innovations to explore the processes by which Telehealth innovations acquire its identity, recognition and acceptance within relevant communities.<sup>5</sup> In this article they also took a look at the compellingness of Telehealth Organizing Vision with a view to have a scientific look at the most overriding expectation of Telehealth in its potential services and to improve an existing services and brings about new method to individual patients and populations. This often coupled with claims of cost efficiency and effectiveness.

Solez and Katz<sup>6</sup>, defined cyber medicine as a discipline of applying the internet to medicine. The use of cyber medicine is analogous to the use of telemedicine. It

---

<sup>4</sup>See Dabrowska, E K and Conford, T, The organizing vision of telehealth, <<http://is2.lse.ac.uk/asp/aspecis/20020028.pdf>> accessed on 24 November 2009.

<sup>5</sup> They went further to project the legitimization activities by means of communication which is of course a rational for adoption and innovation which health care is most often based on some evaluation of a pilot project surveys or other experimental and empirical activities.

<sup>6</sup>See Solez Kim, and Katz Sheila, M. “Cybermedicine: mainstream medicine by 2020/crossing boundaries”. Vol.19 (2001), *John Marshall Journal of Computers and Information Law*. 557 <<http://www.jcil.org/journal/articles/183.html>> accessed on 24 November 2009.

enables the patient in remote areas to have easy access to the health provider through the use internet within a matter of minutes instead of hours, they further described it as an offspring of the information revolution which has rapidly transformed medicine into a virtual marriage with other fields as disparate as the medical sciences, business and commerce, electronics, psychology, philosophy and health economics. They went further to discuss about “disruptive technologies” as quoted by Clayton Christenson and Kent Anderson. Christenson described disruptive technology as a technology that result is worse product performance at least in the near future but ultimately win the day. While Anderson describes it as an important bottom line that the future may well be better than the present. Another feature of their article focuses on three examples of cyber medicine:

1. An e- mail discussion group for parents of children with kidney disease.
2. An e –mail based support system for children with cystic fibrosis.
3. Multimedia presentation including graphics, video, audio from families with children with congenital heart disease.

Smith and Graycar<sup>7</sup> focus their attention on the crimes militating against the effectiveness of telemedicine. As buoyant, comprehensive and efficient as telemedicine seems to be, a lot of cyber crimes has crept in and therefore posing a major risk to patients. Among the major cyber crimes as posited by them are:

1. Interception of communication and breach of confidentiality
2. Hacking, online vandalism and terrorism
3. Advertising and the transfer of funds electronically
4. Copyright infringement

---

<sup>7</sup>See Smith Rusell, G and Graycar Adam, “Telemedicine and crime”. *Journal of Australian Institute of Criminology*, <<http://www.aic.gov.au>> viewed on 5 March 2009.

5. Unprofessional conduct on the internet.<sup>8</sup>

They further directed their attention to the preventive and control strategies that could be taken and concludes by saying that Telemedicine and other computer based technologies which are used by medical practitioners could be seen as a double – edged sword. On the one hand, they may greatly facilitate the provision of treatment to people, particularly in remote locations or in emergencies yet on the other hand they also provide enormous opportunities for the commission of illegal and unprofessional conduct.

Volkert Susan<sup>9</sup> describes Telemedicine as a possible promise to save lives, improve the quality of medical services, increase access to treatment and even control the skyrocketing costs of health care delivery. In the introduction, Volkert extensively traced the historical origin of Telemedicine. The goals of the Telemedicine were also addressed. Further, he tries as much as possible to mention about ethical and legal issues arising from the development of Telemedicine.

Anane<sup>10</sup> defined telemedicine as investigation, monitoring and management of patient and the education of patient, and medical staff which allow easy access to expert advice and patient information, no matter where the patient or relevant information is located. Anane further distinguished telemedicine from Telehealth and defined Telehealth as the provision of services to those who are at a distance from the services provider, but who are not necessarily ill or wounded, who are already well

---

<sup>8</sup> Among the conducts which are considered unprofessional in telemedicine are: breach of confidentiality and the improper use and maintenance of medical records kept on-line. Intrusion into privacy of the patient is another unprofessional conduct, this occur when those who are not authorize to see the medical record of the patient saw it in the personal computer of the health provider due to the carelessness of the health provider.

<sup>9</sup>See Volkert Susan, E, *Telemedicine: Rx for the future of healthcare*, vol.6. Mich.TELECOMM.TECH.L.REV.147(2000). Pp.148-159. < <http://www.mttl.org/volsix/volkert.html>> viewed on 11 May 2009.

<sup>10</sup>See Anane, N. *Telemedicine in Algeria: current status and future prospects*<, [http://www.unitemcen.dz.manifest/CIST\\_TEMA2003...GBM33.pdf](http://www.unitemcen.dz.manifest/CIST_TEMA2003...GBM33.pdf)> accessed on 11 May 2009.

and want to stay in that way by following health practices of diet nutrition, and by taking steps to avoid illness. However, he opined that many people, telemedicine has become synonymous of videoconferencing and therefore high bandwidth, he said that, it is good to have high bandwidth available. For practical purpose, telemedicine services do not require videoconference facilities and thus high bandwidth. He categorically ends up his definition by saying that a simple telephone network can be used. At the moment, internet is becoming an increasing important tool for telemedicine. he equally made mention about the benefits of telemedicine e.g. benefit to patients, benefit to clinicians, benefit to hospitals and benefit to other groups .The most important points of his article is the illustration of how telemedical network is in use in the hospital. Lastly, he made mention about the limitation of telemedicine by saying that in telemedicine, physicians cannot touch patients or provide hand-on medical care, such as giving injections. Although these speculations may seem to be long in the realm of science fiction, the most advanced technology may make these speculations a reality in the future. Such technology is currently being explored and is called “virtual reality” some day; this technology may make remote surgery a reality.

Kelly<sup>11</sup> extensively dealt with the legal claims in telemedicine. He started with the Choice of law to be applied when there is a telemedicine claims, procedural issues, personal jurisdiction and recognition and enforcement of judgment in telemedicine cases. He further observed that due to the international nature of the internet, some of the more recent internet cases provide a very good insight into how foreign and domestic court may treat potential claims.

---

<sup>11</sup> See Kelly, Barnes J, “Telemedicine: a conflict of laws problem waiting to happen-how will interstate and international claims to be decided”. Houston Journal of International Law,2000,<[http://findarticles.com/p/articles/mi\\_hb3094/is\\_2\\_28/ai\\_n29266290/](http://findarticles.com/p/articles/mi_hb3094/is_2_28/ai_n29266290/)> accessed on 12 May 2009.

He cited the leading internet case in the United States, *Zippo manufacturing company v Zippo .Com, Inc*,<sup>12</sup> which involved a dispute over the ownership of an internet domain name. The Court of the Western District of Pennsylvania applied the specific contact, test set out in *International Shoe* to determine whether jurisdiction was appropriate. Equally, he further opined that the *lex loci delicti* rule provides court with a principle that is both easy to apply and neutral in its application. Conclusively, to give a small glimpse of the international perspective of the *lex loci* rule, the Supreme Court of Canada in the case of *Tolofson v Jensen*<sup>13</sup>, held that the *lex loci* rule is consistent with the parties' expectations because ordinary people expect their activities to be governed by the laws of the place where they happen to be and expect that concomitant legal benefits and responsibilities will be defined accordingly.

Klein and Mannings<sup>14</sup> brilliantly and comprehensively dealt with legal issues in telemedicine and categorized Tele-medico legal issues into three:

1. The traditional medico-legal issues not unique to the medium.
2. Conflict in state law which telemedicine amplifies because it connects geographically separate facilities.
3. Issues unique to medicine.

They went further to say that the network itself needs to obtain a Certificate of Needs (CON) or be licensed. Further legal issues they mentioned are accreditation, electronic medical records, privacy, malpractice liability, anti-kickback, fraud, and abuse among others.

Puteri<sup>15</sup> in chapter eight of her book, comprehensively, extensively and succinctly takes an empirical look at the Islamic point of view on medical law. In an

---

<sup>12</sup> 952 F,Supp.1119,112[W.D.Pa.1997].

<sup>13</sup> [1994] 3 S.C.R. 1022, 102 D.L.R.(4<sup>th</sup>)289,305.

<sup>14</sup>See Klein Sharon, R and Mannig William,L. "Telemedicine and the law". *Journal of Health Information and Management Systems Society*, 1999, <<http://www.netreach.net/~wmanning/telmedar.htm>> viewed on 15 June 2009.