



How the Medical Physicist Assistant can enhance a therapy physics practice

Gary Ezzell, Ph.D.

Ezzell ... who he?

- 40 years in clinical practice
 - 17 years as M.S., 23 years as Ph.D.
- Variety of practice settings
 - Solo physicist supporting 1-2 machines in community practice
 - One of 3 physicists in a small practice
 - Now one of 17 physicists in a large practice with linacs, protons, HDR, IORT, etc. and with medical and physics residencies.



What are we talking about?

- Using non-QMPs (i.e. not board-certified medical physicists)
 - as physicist extenders in the clinical practice
 - with responsibilities defined by a QMP
 - under QMP supervision
 - limited to roles not reserved to QMPs
- We are not talking about defining a new profession – instead, let's be clear about "QMP"
 - We have defined QMP (AAPM PP-1) and the scope of practice of a clinical physicist (AAPM PP-17 and upcoming MPPG 10)



Put this on the shelf for a minute ...

- Rabbi Hillel lived in the first century BCE.
- A man came to him and said: "I will convert on the condition that you teach me the whole Torah while I stand on one foot."
- Hillel responded: "That which is despicable to you, do not do to another, this is the whole of the law; the rest is commentary."



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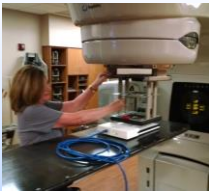
This is not a new thing ...

- Routinely, RTTs, engineers, and physics residents do morning QA or IMRT QA and ...
 - use equipment chosen by a QMP
 - follow procedures defined by a QMP
 - make go/no-go decisions based on objective criteria defined by the QMP
 - call the QMP when anything is out of tolerance
 - have the QMP sign off on the work



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RTT



MPA

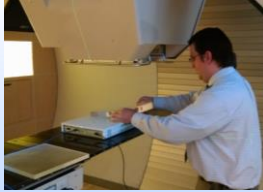


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RTT



MPA



That is the whole of the argument.
The rest is commentary.



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What are the concerns to be considered?

- Patient safety
 - Qualifications, delegation, supervision, scope of work
 - Reduced contact of QMP with the clinic
- Effects on the medical physics profession
 - Residency funding, displacement of QMP FTEs



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Effects on the profession

- Residency funding – a red herring
 - MPAs are workers
 - Residents are trainees: effort out = effort in
 - You have residents if you want to teach
- Displacement of QMP FTEs – a good thing if ...
 - the workload is there to justify it
 - you and your clinic can be more efficient
- We are not a guild. The AAPM mission is to advance the science, education and professional practice of medical physics.



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Patient safety

- Qualifications, delegation, supervision, scope ...
 - An assistant can do anything for which he/she is trained and for which there are clear procedures and objective criteria for decision-making
 - Reduced contact of QMP with the clinic
 - The QMP might spot anomalies that require clinical experience to recognize
- Eye shield for superficial x-ray seen in a linac vault → 
- Real, but there are other/better ways to maintain clinical contact than simple QA



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What do the people involved say?

- We have four MPAs who support the proton practice and who are supervised by different QMPs depending on the task
 - Do or assist with machine QA – daily/monthly/annual
 - Do patient specific QA for each beam
 - Oversee 4D verification CTs (!)
 - Assist with research projects
- – so I asked them and their supervisors



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Questions posed to Mayo AZ MPAs

- What is your professional background?
- What are your future career goals?
- What are your main responsibilities?
- To whom do you report as you do your work?
- Are there activities that you feel or have been told are outside your scope and need to be reserved for board-certified physicists?
- Imagine that you were talking to someone who thought that having MPAs was a bad idea – what might you say to persuade them otherwise?



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Professional background and goals

- All are “Residency Eligible”: graduate degree in medical physics or physics with certificate in medical physics (more qualified than we expected)
- Desire to enter residency and expect this experience to strengthen the application
- Note: graduate-trained MPAs have committed to a career in medical physics, so the job aligns with their career objectives. They come in well trained and highly motivated.
- This is a natural short-term position for someone trying to get into residency – could be long-term if that fits (is in some places)



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Outside your scope?

- “I essentially view everything involving the clinical practice as being outside the scope of my job, except for the specific duties I have been assigned ...”
- “Furthermore, for the things I am assigned to do, I view anything involving a judgment call as being outside the scope of my job—unless I have been specifically instructed to make such a judgment call and given extensive guidance as to how to do it (i.e., the verification CTs).”
- “Deviations from the well-established norms are always going to be brought to a QMP’s attention, and the QMPs could certainly tell you that I err on the side of caution.”



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Regarding patient safety

- “This is certainly the most important factor, but to me it seems that there is little to debate. Being a good MPA is about personality/character traits, not what degree you have. You need to be dedicated, meticulous, observant, able to follow directions to the letter, and willing to “bother” someone if anything looks different than usual.”



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Regarding patient safety

- “One of my colleagues made the suggestion (tongue-in-cheek, but it would probably work) that you simply make a video of us doing our QA tasks and show that at AAPM instead of bothering to debate anyone.”
- “The real discussion that needs to be had is where the lines should be drawn for MPAs, not whether they should exist. For example, I think reasonable people could debate the wisdom of allowing us to do the verification CTs, since that veers a bit into the realm of making judgments. But to say that it is dangerous for us to do basic QA measurements—that frankly seems a bit silly.”



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What do our (and other) QMPs say? From the AAPM BBS and Scott Dube's SurveyMonkey on medphysusa

- “I have been able to spend more time developing and improving processes.”
- “I think they're great and they're an essential part of our team. There's no way we could handle all our other clinical and research duties if we had to do all of the QA ourselves.”
- “It frees up our time to perform more value-added tasks, as physicist. What is gained by a physicist performing IMRT QA for hours every night?”



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From Rebecca Kitchen, MS, DABR, RSO

- “We have a medical physics assistant and he was one of the best things to happen to our practice. His background was biomed- working on and fixing linacs. Fantastic background for doing QA on linacs! We have 5 sites, 6 linacs and 5 CTs and he goes around and does QA. Prior to that, the medical physicists would spend all day doing special procedures and chart checks and then try to find time at night to do QA. Now not only is it done consistently, but also in a consistent manner and by someone whose primary role it is to do this.”



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From L. John Schriener, chief of a large program in Ontario, Canada

- “I have had the honour of working with MPA’s (in our centre they are called physics technicians) for over 18 years. They have been motivated professionals who take great pride in their work. They share in many of the day to day critical activities of the medical physics department.”
- “They are vital members of the team who help the physicists stay grounded and focussed in their complementary work. We have worked hard to bring our MPAs to the qualifications required for them to take on their work, and they have advanced the care provided by our program (with devices and to patients).”



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What are the objections?

- “If you can just teach some random person off the streets how to perform QA, why do we need to go through all the training and jumping through hoops to get board certified?”
- “I feel it will be too easy to allow them to do tasks they are not truly qualified for, and could be a potentially slippery slope for the Medical Physics profession.”
- **These are the questions to be answered. Start with the first one ...**



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Have you noticed what is happening?



**Do you think we don't need to change?
How are we going to bring value? Not by spending the bulk of our time doing repetitive work.**



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What about the “slippery slope”?

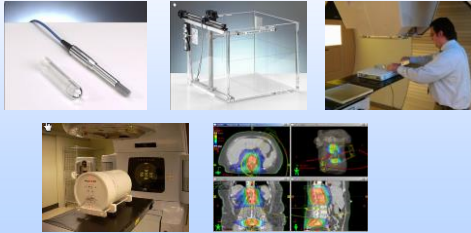
- Will QMPs relinquish our appropriate role or be coerced into doing so?
 - The pressures to reduce costs exist and will increase
 - Acknowledging that MPAs (by whatever name) exist and have a role in some departments simply recognizes reality
- The key is for AAPM to be clear about what must be done by a QMP, and the key point is that the QMP is always responsible for the medical physics practice



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The final word ...

- You need to be the master of your tools, and an assistant is a tool that can extend your reach



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