

Medical Physics Practice Guidelines: Past, Present, and Future

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Overview

PAST: 2007-2017

1. Origin of Subcommittee on Practice Guidelines (SPG)
2. Early years of SPG
3. MPPG initiative
4. Early MPPGs

PRESENT: 2017-2019

1. Evaluation of the MPPG process
2. Changes to MPPG process
3. Status of recent and current MPPGs
4. Current initiatives

FUTURE: 2019-?

1. Recruitment of AAPM members to MPPGs
2. Impact of current initiatives on MPPGs
3. Adoption and impact of MPPGs
4. Managing growing number of MPPGs

Past: 2007-2017

Subcommittee on Practice Guidelines (SPG) initiated in 2007 for two reasons:

1. AAPM is routinely asked to review or participate in the accreditation and certification processes provided by affiliated organizations
 - Requests are generally directed by staff to a relevant committee, subcommittee or working group
 - Route is not monitored and so the need is apparent for a central resource to serve as the contact point for such requesting organizations
 - SPG would be positioned to assign any such requests to one or more relevant groups within AAPM, coalesce their contributions and present a response or report consistent with the mission of the Association

Past: 2007-2017

2. Some of the Task Group reports published by the AAPM present a wide range of performance tests or QA processes that can be completed for a particular modality or process.
 - Full-time clinical physicists in medium-size and smaller centers, which generally have more limited resources, often find it difficult to determine the minimum subset of the TG's complete report that is required to ensure consistent high quality given the range of clinical uses at their center
 - State regulators have, in some instances, unfortunately adopted entire sections of TG reports as *regulatory requirements* despite the clarification in all TG reports that such use would be inappropriate

Past: 2007-2017



AMERICAN ASSOCIATION
of PHYSICISTS IN MEDICINE

Improving Health
Through Medical Physics

My AAPM

AAPM

- Staff Contacts
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- Policies & Procedures
- Association Governance
- **Committees**
- Committee Classifieds
- Individual Appointments
- History & Heritage
- Chapters

Public & Media

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AAPM COMMITTEE TREE

Subcommittee on Practice Guidelines (SPG)

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Email You may send email to this group now using [gmail](#) or [outlook](#).
- or -
You may save the address 2019.SPG@aapm.org to your local address book. This alias updates hourly from the AAPM Directory.

Charge [Click here for committee charge.](#)

Bylaws: Not Referenced. **Rules:** Not Referenced.

Approved Date(s) 11/20/2007

Committee Keywords: guideline, MPPG, SPG

- ⊕ [Board of Directors](#)
- ⊕ [Professional Council](#) [Status]
- ⊕ [Clinical Practice](#) [Status]
- ⊕ [SC on Practice Guidelines](#) [Status]
 - ↳ [TG335 - MPPG 2.b - Commissioning and quality assurance of X-ray-bas](#) [Status]
 - ↳ [TG259 - MPPG #7 - Medical Physics Extenders](#) [Status]
 - ↳ [TG315 - MPPG #11 - Plan and Chart Review in External Beam Radiotherapy and Br...](#) [Status]
 - ↳ [TG326 - MPPG 1.b - CT Protocol Management and Review](#) [Status]

» [Status Reports from AAPM Groups](#)

Past: 2007-2017

SPG would be charged with reviewing TG reports prior to publication, and determining which reports would benefit from an accompanying Clinical Implementation Guide or Minimum Practice Recommendations

- For those reports deemed to benefit from such a guide, SPG would be responsible for generating and publishing the Implementation Guide, through a collaborative effort with the originating Task Group
- The document could be developed as a supplement/appendix to the TG report, or in separate form posted on AAPM site

Past: 2007-2017

Original SPG charge:

- Receive requests for medical physics assistance from other groups relative to their practice or facility accreditation programs or professional certification programs
- Evaluate the requests for appropriateness and assign them to the appropriate Committee, Sub Committee or Working Group within the Association
- Receive drafts or comments from the AAPM groups and compose an official response or position to submit to the AAPM Board of Directors
- Evaluate all draft Task Group reports prior to publication, to determine whether a Clinical Implementation Guide would be appropriate and of benefit to AAPM members
- For TG reports deemed to benefit from a Clinical Implementation Guide, generate and publish the Guide through a collaborative effort with the originating TG. The Clinical Implementation Guide should outline the minimum portions of the total TG report that should be implemented to ensure high quality within the scope of clinical services provided

Past: 2007-2017

Early concern that SPG seen as adversarial to TG reports

- Goal was to translate how TG reports could be clinically implemented, not rewrite
 - Minimum, standardized tests

Could guide be a standalone document? Would not impede TG report publication.

TG reports seen as potentially detached from clinical reality or published too late

- TG reports too encompassing, trying to cover all items
- Perception that authors not performing recommended tasks
- Balance between comprehensive best practices and clinical implementation reality

Past: 2007-2017

Ideal time for implementation guide formation?

- Initiation of TG group, late phase, after publication?
- In reality SPG involved too late in the process

How are TG reports interpreted?

- Generally written as comprehensive best practices
- Will regulators adopt as minimum practices?

What are our colleagues doing to ensure safe, effective patient care?

Past: 2007-2017

Proposal for Medical Physics Practice Guidelines (MPPGs) approved by AAPM Board of Directors in August 2011

- *“MPPGs are intended to provide the medical community with a clear description of the minimum level of medical physics support that AAPM would consider to be prudent in all clinical practice settings. Support includes but is not limited to staffing, equipment, machine access, and training. These MPPGs are not designed to replace extensive Task Group reports or review articles, but rather to describe the recommended minimum level of medical physics support for specific clinical services”¹*

Designed to be living documents

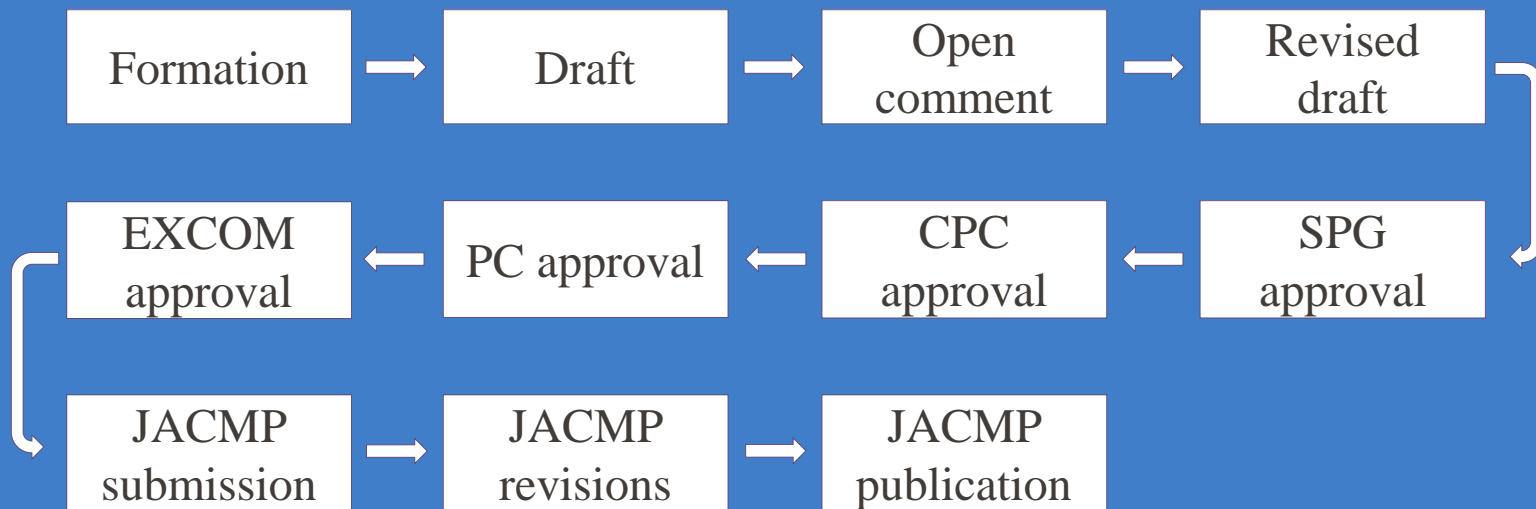
- 5 year review cycle (can be sooner if necessary)
- More time responsive to clinical issues than TG reports

¹ <https://www.aapm.org/pubs/MPPG/default.asp>

Past: 2007-2017

Goal of 1 year from formation to publication

- Audacious goal!



Past: 2007-2017

November 2011, SPG retreat to identify first MPPG topics and formalize the role, structure, operation, etc. of the subcommittee

SPG membership

- Leadership
 - Chair; Vice Chair for Imaging Physics Guidelines; Vice Chair for Therapy Physics Guidelines
- Science Council
 - Therapy Physics Committee (TPC) representative; Imaging Physics Committee (IPC) representative
- Administrative Council
 - Government and Regulatory Affairs Committee (GRAC) representative
- Chairs of active MPPGs and others as deemed necessary by SPG, CPC, PC

Past: 2007-2017

First MPPG groups created in 2012

- AAPM Medical Physics Practice Guideline 1.a.: CT Protocol Management and Review Practice Guideline
- AAPM Medical Physics Practice Guideline 2.a: Commissioning and quality assurance of X-ray–based image-guided radiotherapy systems
- Medical Physics Practice Guideline 4.a: Development, implementation, use and maintenance of safety checklists

Two more would follow in 2013

- AAPM Medical Physics Practice Guideline 3.a: Levels of supervision for medical physicists in clinical training
- AAPM Medical Physics Practice Guideline 5.a.: Commissioning and QA of Treatment Planning Dose Calculations — Megavoltage Photon and Electron Beams

Past: 2007-2017

In 2013, SPG split into 2 subcommittees

- Practice Environment Subcommittee
- SPG (new charge)

Practice Environment Subcommittee charge

- To oversee AAPM activities which directly impact the practice environment. This includes interaction with corporate affiliates
- To coordinate the Professional Council's review of Task Groups developed by other AAPM Councils in coordination with the staff liaison
- For TG reports deemed to benefit from a MPPG, provide recommendation to Subcommittee on Practice Guidelines as an MPPG topic

Past: 2007-2017

New SPG charge

- Oversee the development of AAPM's MPPGs. An MPPG should outline the minimum practice standards that should be implemented to ensure high quality within the scope of clinical services provided
- Assist in the identification of MPPG topics
- Identify and approve the chairs of the approved MPPGs
- Ensure that the process for MPPG is executed in coordination with the staff liaison for MPPGs
- Coordinate with staff lead for MPPGs

Past: 2007-2017

Assist in the identification of MPPG topics:

- Regular request for topics from AAPM members
- Unsolicited suggestions from members
- Pressure points in clinic
- Feedback from regulators and accrediting bodies
- Parallel new TG reports
- Gaps in other professional society practice guidelines (e.g., ACR)

Ensure that the process for MPPG is executed in coordination with the staff liaison for MPPGs

- Short timeline → significant time commitment

Present: 2017-2019

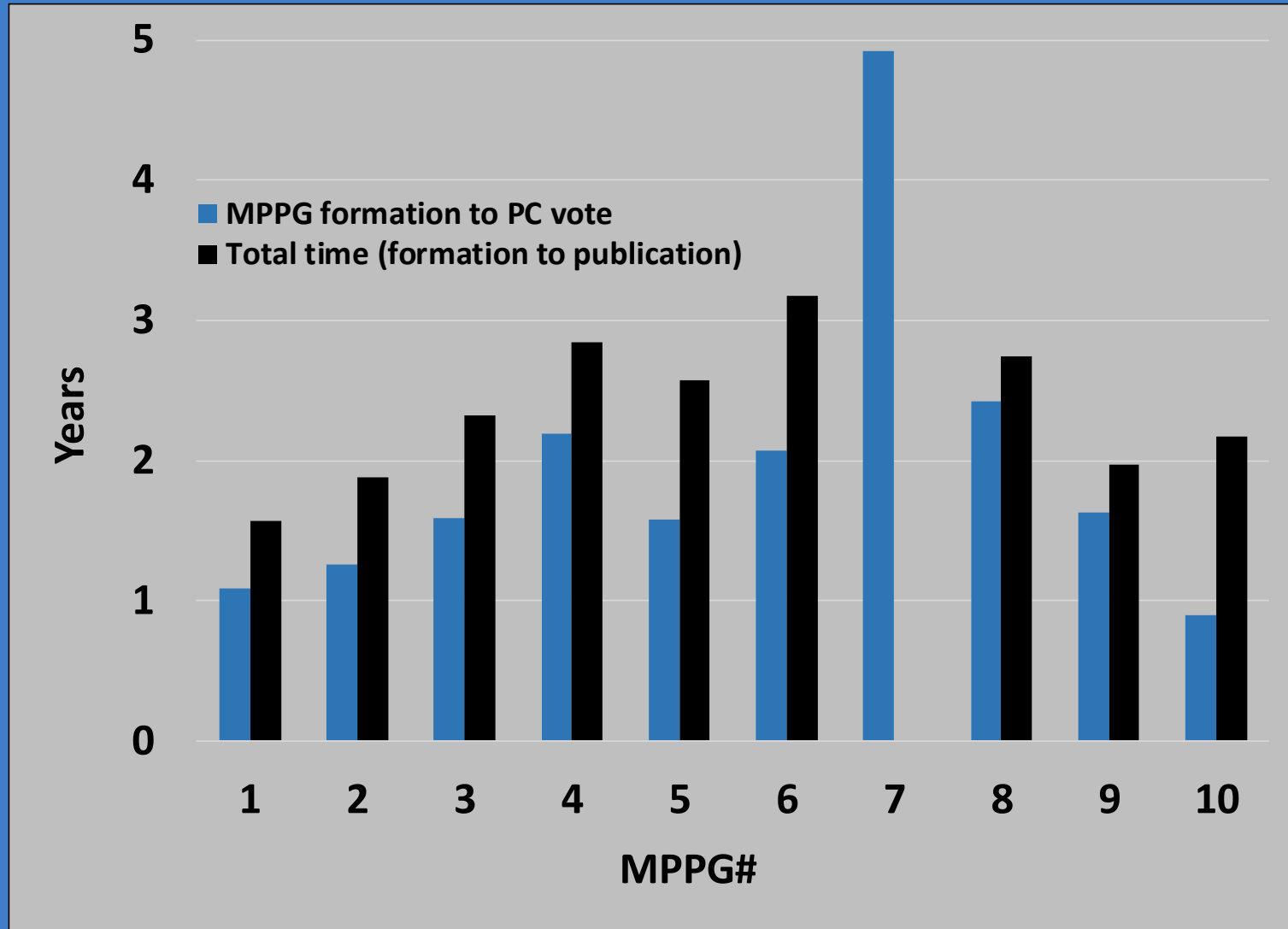
9 MPPGs published to date

- 2013 (1) – MPPG #1
- 2014 (1) – MPPG #2
- 2015 (3) – MPPGs #3, #4, #5
- 2017 (2) – MPPGs #8, #9
- 2018 (1) – MPPG #10

MPPG #7 put on hold pending publication of MPPG #10 (Scope of Practice)

- Feedback from EXCOM required additional revisions
- Expect JACMP submission this summer

Present: 2017-2019



Present: 2017-2019

Still needed formalizing and streamlining of various processes

- Chair requirements and expectations
- Approval process
- Efficient TG review process
- Parallel TG/MPPG workflow

Living documents = number of MPPGs could increase quickly

- First MPPGs currently undergoing 5 year review and revision
- 3 more up for renewal in next 18 months

Present: 2017-2019

Chair onboarding document

- Establish expectations of MPPG chair
- Establish clear timelines
- SPG options if progress not sufficient
- Feedback at regular intervals

Document provided to chair of all MPPGs, new and revisions

SPG responsible for selecting MPPG chair and approving members

- MPPG group autonomous from then on
- SPG to provide guidance and manage process

Present: 2017-2019

Approval process

- Original framework was sequential (SPG, CPC, PC)
- Each committee had 30 days to review and vote
 - Too long to meet the 1-year goal
- Didn't include EXCOM review and approval
 - Adds another layer
- Developed formal approval process
 - Concurrent votes for CPC and PC
 - Clarification on when new rounds of votes required

Present: 2017-2019

Split of SPG into two committees not seamless

- Practice Environment reviewing TG reports for PC and recommend MPPG
- Not clear about making recommendations to SPG for parallel MPPG
- Discussed charges with Clin. Prac. chair to improve comm. with SPG
- New parallel workflow being created

Present: 2017-2019

MPPGs under revision

- MPPG #1.b
 - Public comment phase (currently 7 months behind schedule)
- MPPG #2.b
 - Review and revision phase (currently 3 months behind schedule)
- I underestimated time required for revision process
 - Early estimates were 6-9 months; reality is 12+

New MPPG

- MPPG #11 (Chart Checks)
 - First attempt at parallel TG/MPPG (companion to TG-275)
 - Draft complete
 - Timing with TG primary issue (new publication workflow)

Present: 2017-2019

Current initiatives

- Upcoming MPPG revisions
- Initiating new MPPGs
- Solicitation of member topic suggestions
- Tracking MPPG impact metrics
- Incorporation of risk analysis
- Parallel TG/MPPG workflow

Present: 2017-2019

Upcoming MPPG reviews and revisions

- 3 due in 2020
 - MPPG #3 (5/1/20); MPPG #4 (5/1/20); MPPG #5 (9/1/20)
- Need to improve timing to complete by end of 5-year cycle
- Plan to initiate all 3 immediately and simultaneously

With current and upcoming reviews/revisions and MPPG #11, 5-6 MPPGs being processed simultaneously

- Doesn't include any new MPPGs SPG initiated
- Numbers of living documents will grow with time
- SPG will need to determine how to manage

Present: 2017-2019

Initiation of new MPPGs

- Only 1 new MPPG initiated since 2017
- Would like to start 2 more this year
- Imaging and nuc med underrepresented in MPPGs
 - New topic submissions needed in these areas

Present: 2017-2019

Solicitation of member topic suggestions

- Previously available submission form not being utilized
- Identify consensus clinical issues to be addressed
- Engage the membership
 - Need adoption by members, ideally before adoption by regulatory and accreditation
 - Need feedback on usefulness and viability of MPPGs

These documents are for you

- Response to “too comprehensive” TG reports

Present: 2017-2019

BBS thread created for member suggestions

- Accessible from BBS and MPPG pages
- Allows feedback from members in support of proposed topic
- Allows suggestion of literature that may already address issue

SPG can only attempt to meet member needs we are aware of!

The screenshot shows the AAPM Bulletin Board interface. At the top, the AAPM logo and name are displayed, along with navigation links for Home, Directory, Career Services, Continuing Education, BBS, and Contact. Social media icons for Twitter, Instagram, LinkedIn, Facebook, and RSS are also present. The main content area features a search bar and navigation links for Forums, Control Panel, and BBS User Guide. A welcome message for user Parker_10556 is shown, indicating 1 other user is online. The thread title is 'MPPG topic proposal information', and it shows 1 message on page 1. A user named Brent Parker has posted a message on 3/6/2019 at 11:54 AM. The subject of the post is 'MPPG topic proposal information'. The post content discusses the AAPM Board of Directors' approval of the MPPG initiative and provides instructions for members to propose topics. A list of required information for a proposal is provided, including Name, Title, Institution, Topic, and Justification. The post concludes with a thank you message and contact information for the Subcommittee on Practice Guidelines.

Present: 2017-2019

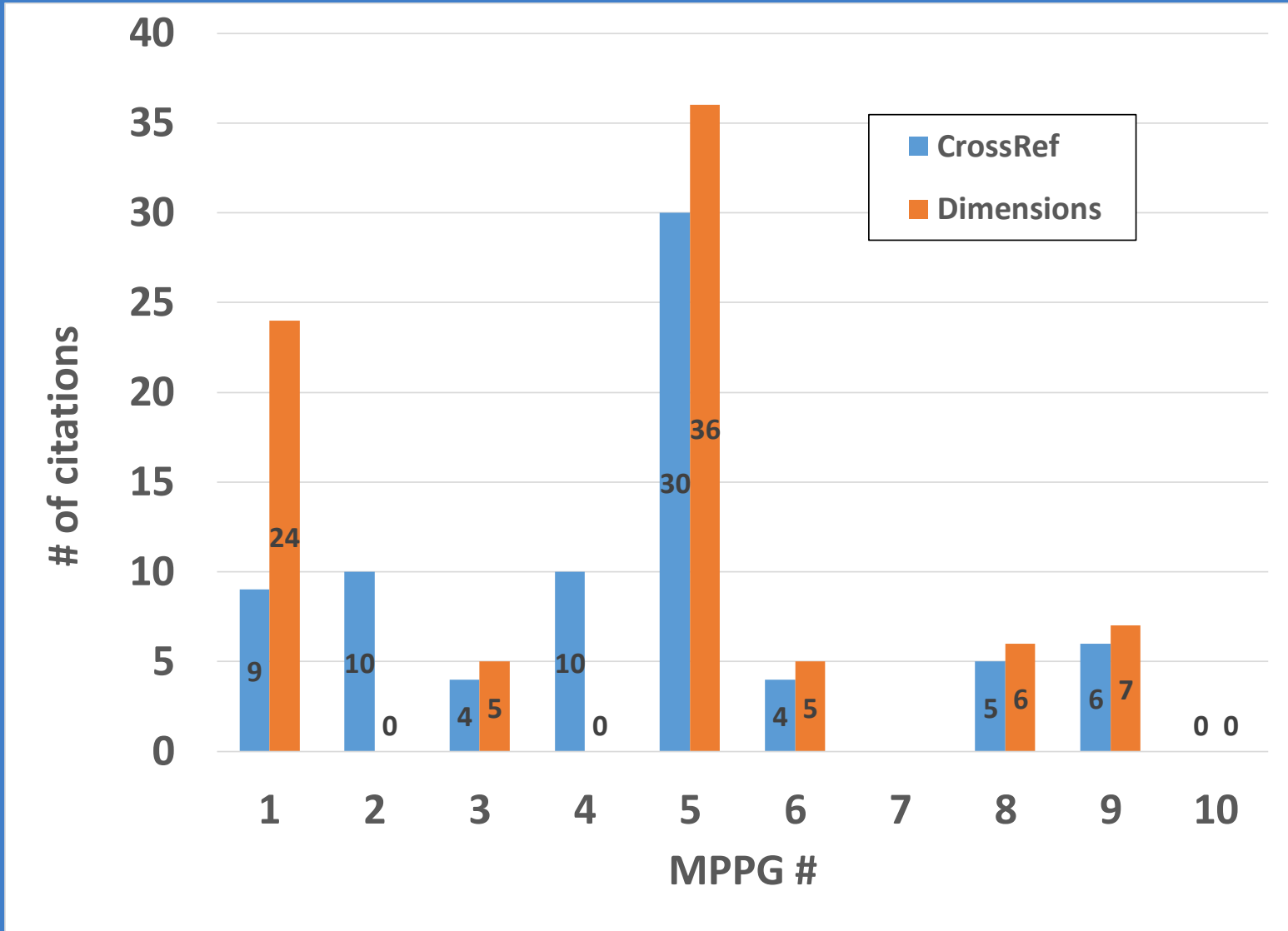
Tracking MPPG impact metrics

- Adoption by regulatory or accreditation bodies
- References in other organizations' practice parameters and technical standards
- Citations in peer-reviewed scientific literature
- Implementation by AAPM membership?

Part of PC component of AAPM's Strategic Plan for SPG

GRAC assisting in identifying regulatory adoption

Present: 2017-2019



Present: 2017-2019

Incorporation of risk analysis

- EXCOM mandate for risk analysis in all new AAPM QA documents
- MPPGs typically prescriptive in nature
- MPPGs paralleling TG reports can refer to TG analysis
- Incorporate preamble statement in MPPGs about consideration of risk analysis
 - MPPGs recommend minimum standards until clinic performs adequate risk analysis to establish local tests, frequency, tolerances, etc.

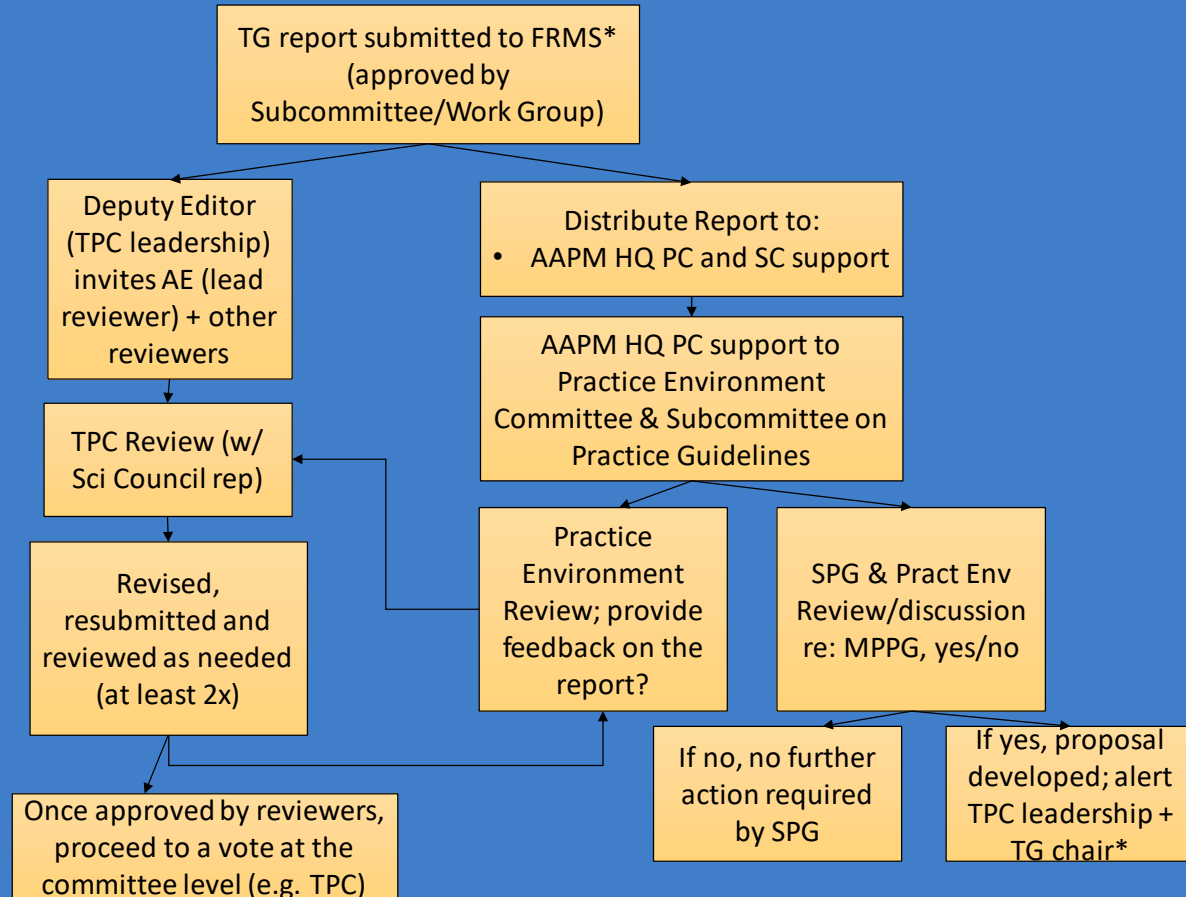
Impact on adoption by regulatory and accreditation bodies?

- Traditionally want list of specific tests, frequencies, and tolerances

Present: 2017-2019

Parallel TG/MPPG report publication

- Necessary in case where TG report could be implemented and enforced by regulatory or accrediting bodies
- Requires careful coordination of timelines between documents and task groups
- Opportunity for cross-council collaborations



Future: 2019-?

Adoption and referencing of MPPGs by accreditation and regulatory bodies

- Significant goal of MPPG initiative
- GRAC can assist in tracking and influencing regulatory adoption
- Need to add members from Imaging Practice Accreditation Subcommittee (IPAS) and Therapy Practice Accreditation Subcommittee (TPAS) to SPG to liaise on accreditation adoption (ASTRO, ACR, etc.)

Managing growing number of MPPG reports

- Some will eventually sunset, but number is expected grow significantly
- Will need more AAPM member involvement to distribute workload
 - Need clinical experience contributions
 - Need efficient way to identify interested volunteers

Future: 2019-?

Solicitation of new topics

- Track use of BBS for submissions
- Identify additional effective ways of member engagement in topic proposals

Tracking impact metrics

- Continue to track citations in journal articles
- Begin tracking adoption by regulatory bodies
- Track references/citations in professional guidelines (ACR, ASTRO, etc.)
- Track adoption in accreditation standards

Future: 2019-?

Incorporation of risk analysis

- AAPM encouraging adoption of TG-100/risk analysis for creation of QA programs
 - Unclear how regulators will respond
- Ideally would be combination of MPPGs and risk analysis
 - Establish MPPGs as minimum standards until thorough risk analysis performed

Parallel TG/MPPG workflow

- Opportunity to test process expected soon
- Probably take multiple attempts to refine process
- Final product should provide clarity to AAPM members on clinical implementation
- Needs to work effectively so TG's not adopted as regulation before MPPG published

Acknowledgements

Subcommittee on Practice Guidelines

- Mary Ann Keenan, DMP, Vice-Chair (Imaging)
- Arthur Olch, PhD, Vice-Chair (Therapy)
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- J. Anthony Seibert, PhD
- Russell Tarver, MS
- John Wait, MS
- Ping Xia, PhD
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AAPM staff member

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