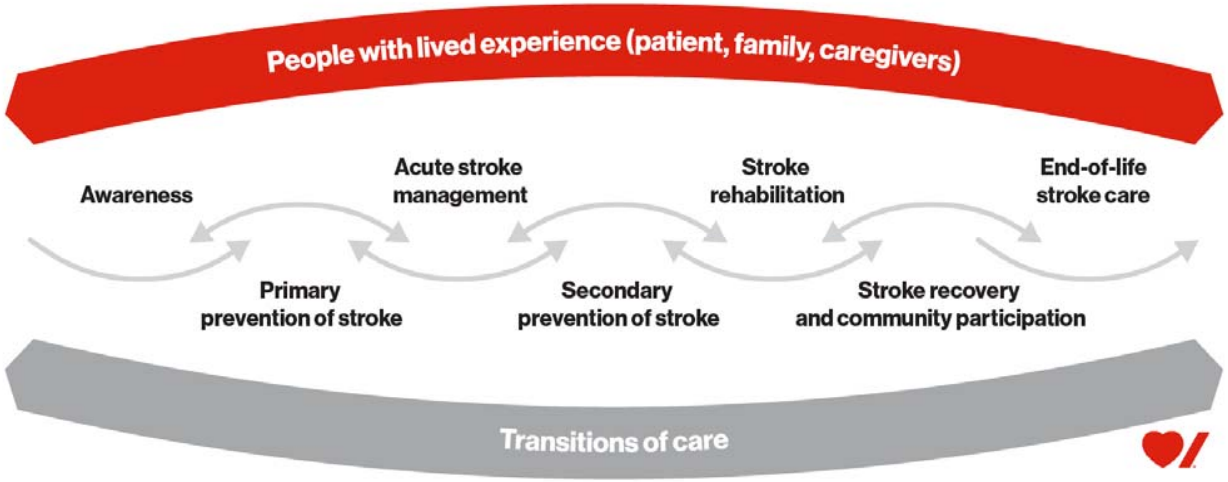
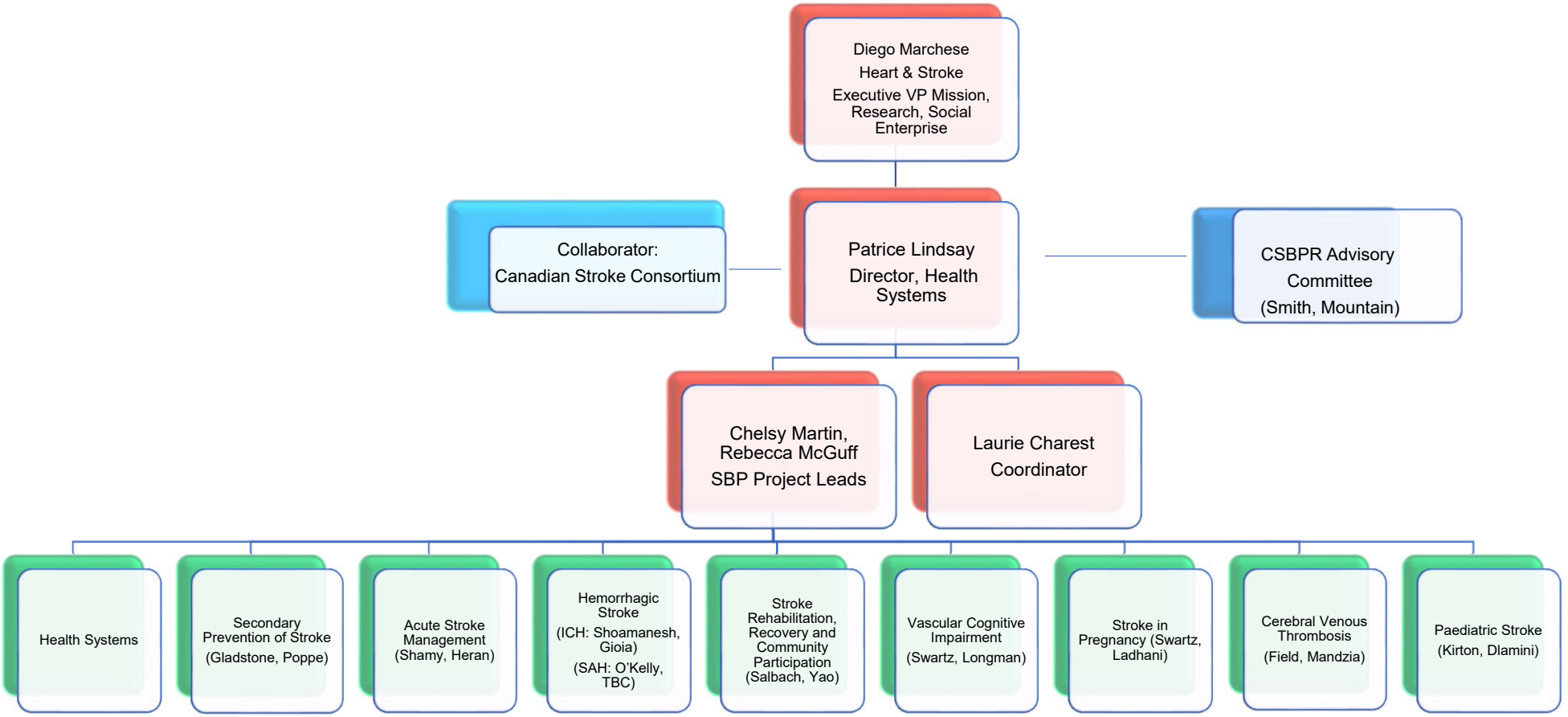
Canadian Stroke Best Practice Recommendations
Overview of Methodology
Seventh Edition, 2019 - 2023

Overview

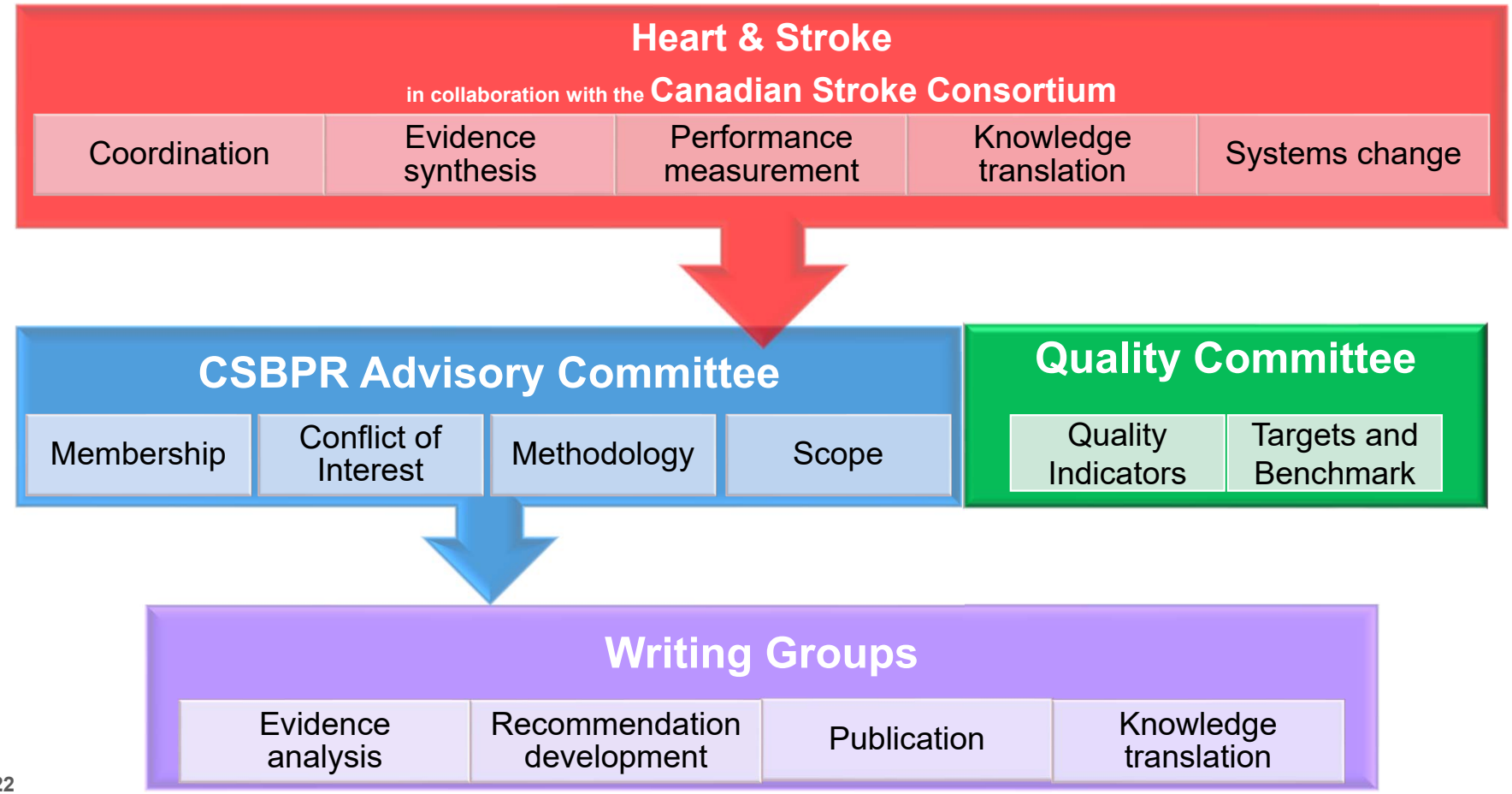
- Organizational chart
- Roles and responsibilities
- Methodology
- Inclusion of people with lived experience
- Levels of evidence
- GRADE
- Authorship
- Format of guidelines
- CSBPR Knowledge Translation
- Key Quality Indicators



Canadian Stroke Best Practice Recommendations (CSBPR), 7th Edition Management Structure



CSBPR Management Responsibilities



Roles and Responsibilities

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Co-chairs

Writing groups

External reviewers

CSBPR: Roles and Responsibilities

- **Co-chairs of writing groups**
  - Declare all personal conflicts of interest
  - Select writing group members, consider and minimize conflict of interest
  - Lead overall review and update process for module
  - Ensure timelines are met
  - Liaise regularly with Advisory committee and report progress
  - Conduct full review of draft module and assist in creating final draft versions;
  - Final voting for consensus at end of process
  - Participate in meetings to review all feedback received from internal and external reviewers;
  - Contribute to supporting sections of module (i.e., rationale, system implications, performance measures)
  - Authors (first and senior) of publication of recommendations and active participation in manuscript development and review;
  - Participate in discussions and development of knowledge translation resources and learning events; and
  - Promote best practices with professional colleagues.

CSBPR: Roles and Responsibilities

- **Writing group members**
  - Declare all conflicts of interest
  - Review and deliberate on all available research evidence and existing recommendations
  - Revise the module recommendations as deemed appropriate
  - Participate in review and response to reviewer feedback as required
  - Final voting for consensus at end of process
  - Contribute to supporting sections of module (i.e., rationale, system implications, performance measures)
  - Identify potential external reviewers
  - Co-author of publication of recommendations and active participation in manuscript development and review as required;
  - Participate in discussions and development of knowledge translation resources and learning events; and
  - Promote best practices with your professional colleagues.

CSBPR: Roles and Responsibilities

- **External reviewers**
  - The external review takes place after internal review is completed as the last step before final approval
  - The expert external review group consists of approximately twelve healthcare professionals representing a cross section of health disciplines as appropriate to the module topic. At least two external reviewers are selected from international experts outside of Canada.
  - External reviewers must not have participated in the development of the module and are not current members of the writing group or the advisory committee.
  - External reviewers must declare all conflicts of interest prior to participation, and will not be selected if CSBPQAC deems conflicts would interfere with unbiased review
  - External reviewers provide feedback on draft stroke best practice module update as proposed by writing group and approved by CSBPQ advisory committee

CSBPR: Authorship and Acknowledgements

- Heart & Stroke will retain ownership for the intellectual content of each module.
- A manuscript based on the CSBPR module update will be prepared and submitted to a peer-reviewed scientific stroke journal for consideration for publication.
- Authorship inclusion will be based on current standardized journal criteria for scientific publications described by the ICMJE (International Committee of Medical Journal Editors)
  - The returning co-chair will be given first authorship on the publication;
  - the incoming co-chair has the option to be listed as either second author or as last author (senior author)
  - The Senior Editor (H&S Director, Health Systems) will be corresponding author for all publications
  - All members of the WG will be included as authors and listed alphabetically (based on attendance on writing group calls and active participation in review process).
  - The persons conducting the evidence searches and writing the evidence summaries will be granted authorship
  - CSBPR advisory committee cochairs and advisors to the writing group, as well as other members who contributed significantly to the review of the module and/or manuscript will be given authorship
  - Other potential authors will be determined on a case-by-case basis in discussions with the co-chairs and the Heart & Stroke lead.
- All external reviewers and members of the CSBP advisory committee and quality committee will be listed in the acknowledgements, and not as authors unless they qualify as described above.

CSBPR Methodology Summary

CSBPR: Updates and Revisions

- First introduced in 2006, the *CSBPR* undergo a thorough formal review and update of each module every 3 - 4 years. Coordination for the 7th Edition update cycle began in the winter of 2019.
- Research evidence for stroke care delivery is dynamic and evolving, thus, a protocol has been established to address late-breaking evidence in a timely way.
  - When new evidence is released that may have an impact on any recommendations contained within these guidelines, the appropriate writing group is contacted, the evidence is reviewed, and decisions are made regarding its impact on current recommendations.
  - Any proposed revisions proceed through the same rigorous review process that is followed for the full module reviews. The CSBPR team then releases an interim bulletin regarding any off-cycle revisions that have been approved. These bulletins are incorporated into subsequent updates as applicable

CSBPR: Context

- The recommendations provided in the *CSBPR* should be considered as evidence-based guidelines rather than rigid rules.
- Not all recommendations will be applicable to all patients in all settings.
- The goal is to implement all applicable recommendations into routine practice.
- Patient management decisions can be impacted based on individual circumstances and strong clinical judgement.
- The recommendations provided in the *CSBPR* should support, not supplement, individualized care planning.

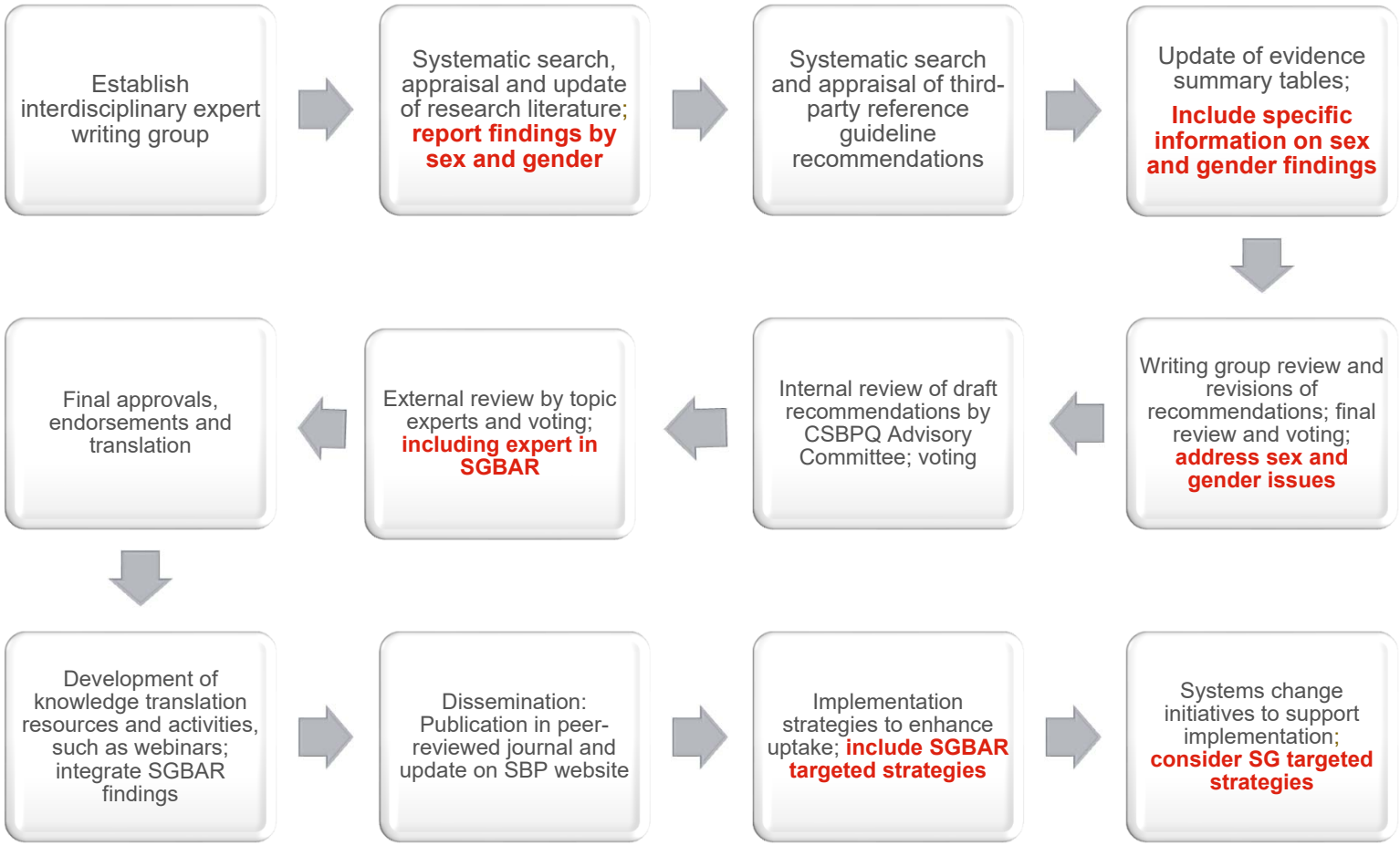
CSBPR: Disclaimer

- The Canadian Stroke Best Practice Recommendations (CSBPR) are designed to support implementation of best practices in stroke care across Canada. Healthcare systems, health organizations and professional organizations, as well as legislation and standards, may vary provincially. The CSBPR provide guidance on a national level; they do not, on the whole, account for provincial variations in legislation or standards. The CSBPR are not intended to supersede any provincial or local law or organizational or professional standard. In considering and implementing the CSBPR, users are encouraged to consult and follow all appropriate legislation or standard.

CSBPR: Guiding principles

- The *CSBPR* development and update process is guided by a core set of principles which are applied to all activities of the writing groups.
- All recommendations included in the *CSBPR* must be:
  - Supported by high quality evidence and/or strong consensus that they are essential to delivering high-quality stroke care;
  - Integral to facilitating health system improvement;
  - Aligned with other stroke-related Canadian best practice recommendations (e.g., the management of hypertension, diabetes, and dyslipidemia) to decrease ambiguity and contradictions for front-line clinicians;
  - Reflective, in their totality, of the full continuum of stroke care.

CSBPR: Module Update Process in Detail [1,2,3,4]



Note, will be transitioning to GRADE during 7th Edition

CSBPR: Module Update Process

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Research (3 months)

- Systematic of evidence
- Build/update evidence tables

Writing and Refinement (5-6 months)

- Working group meetings and discussions
- Draft recommendations
- Internal reviews

Review and Release (4 months)

- External Reviews
- Publication and distribution
- Develop supportive tools for clinicians, website updates

Rapid Review Process

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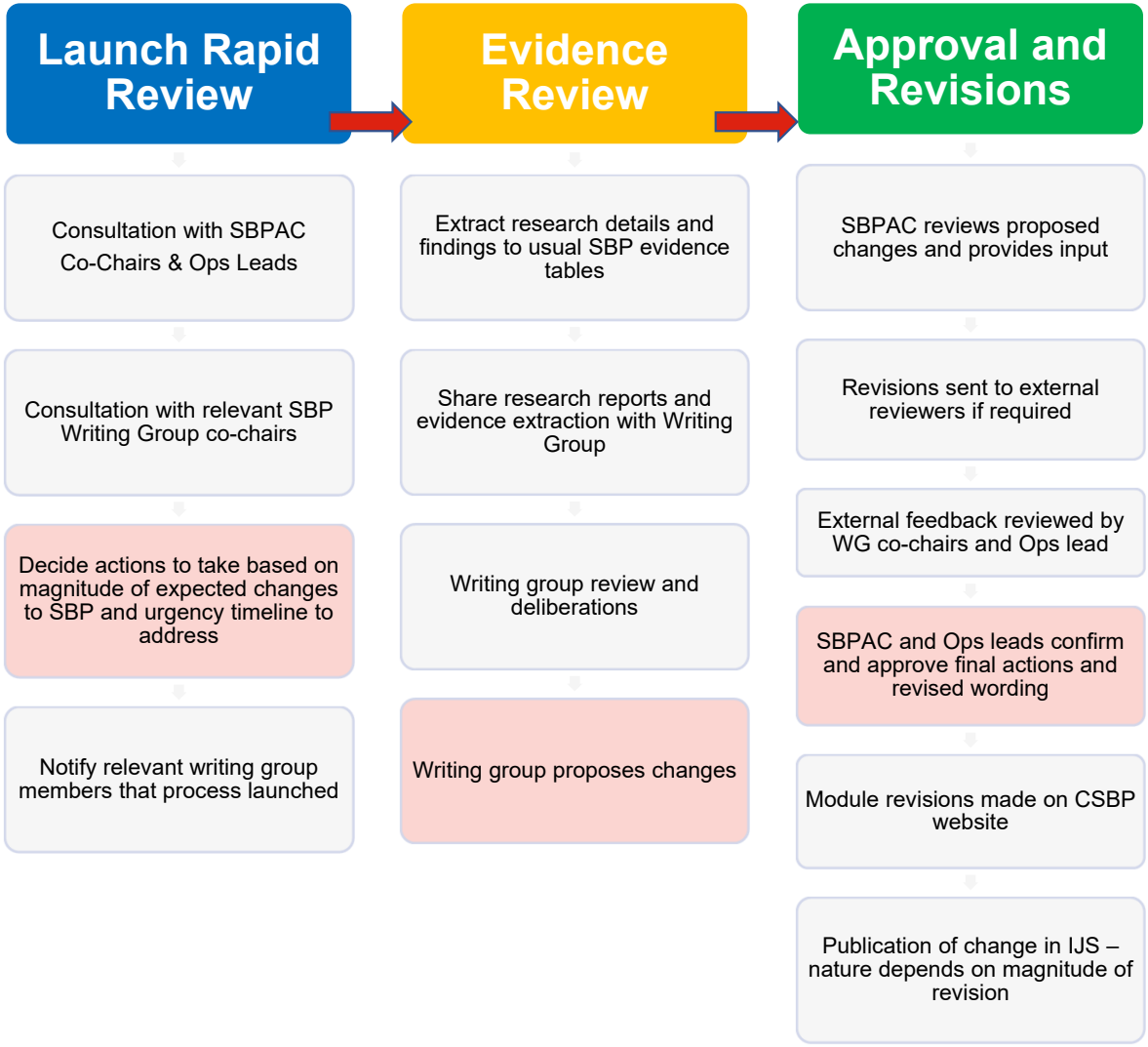
Purpose:

- A rapid review process may be launched at the discretion of the CSBPQ Advisory Committee too address a specific new set of evidence that has direct immediate impact on one recommendation topic within a module, that does not warrant a full module review at the time the evidence becomes available.

Goals:

- No compromise to CSBPR review process integrity or to the high quality of recommendation assets
- Rapid systematic review of significant new evidence
- Sufficient review and discussion with all appropriate stakeholders



CSBPR Seventh Edition Theme

Theme: ***Building connections to optimize individual outcomes***

- **Context:**
- People who have experienced a stroke often present to the healthcare system with multiple comorbid conditions – some that may contribute to their stroke, some that are consequences of their stroke, and some unrelated.
    - **One study revealed that approximately 80% of people who survive a stroke have on average five other conditions and a wide range of psychosocial issues (Nelson et al , 2016).**
- These conditions must be considered as treatment and ongoing care planning is personalized and person-centred.
- There is strong evidence of the intrinsic connections between the heart and brain, and management of people following stroke should take heart health and possible association with vascular cognitive impairment into consideration. The healthcare system is often designed in siloes with different planning and organization for individual conditions, that are not integrated across conditions, even related vascular conditions.
- As people transition across settings and phases of care following a stroke, they report experiencing anxiety and feeling quite overwhelmed. Individualized care and ensuring and ensuring connections are made within the community have a significant impact on patient short and long-term outcomes.
- The Seventh Edition of the CSBPR includes a broader wholistic focus and take into consideration issues of multimorbidity and increasing complexity of people who experience stroke. In addition, a more purposeful review of sex and gender representation in the seminal clinical trials upon which the recommendations are based has been undertaken to determine the extent to which available evidence has included both male and female subjects in sufficient proportions to be able to detect outcomes and generalize to a broader population. These findings are presented in the discussion sections of the module and integrated into the actual recommendations where appropriate to do so. Accompanying performance measures have been expanded to include system indicators, clinical indicators and new patient reported outcome measures, supporting our wholistic focus.

Seventh Edition Enhancements

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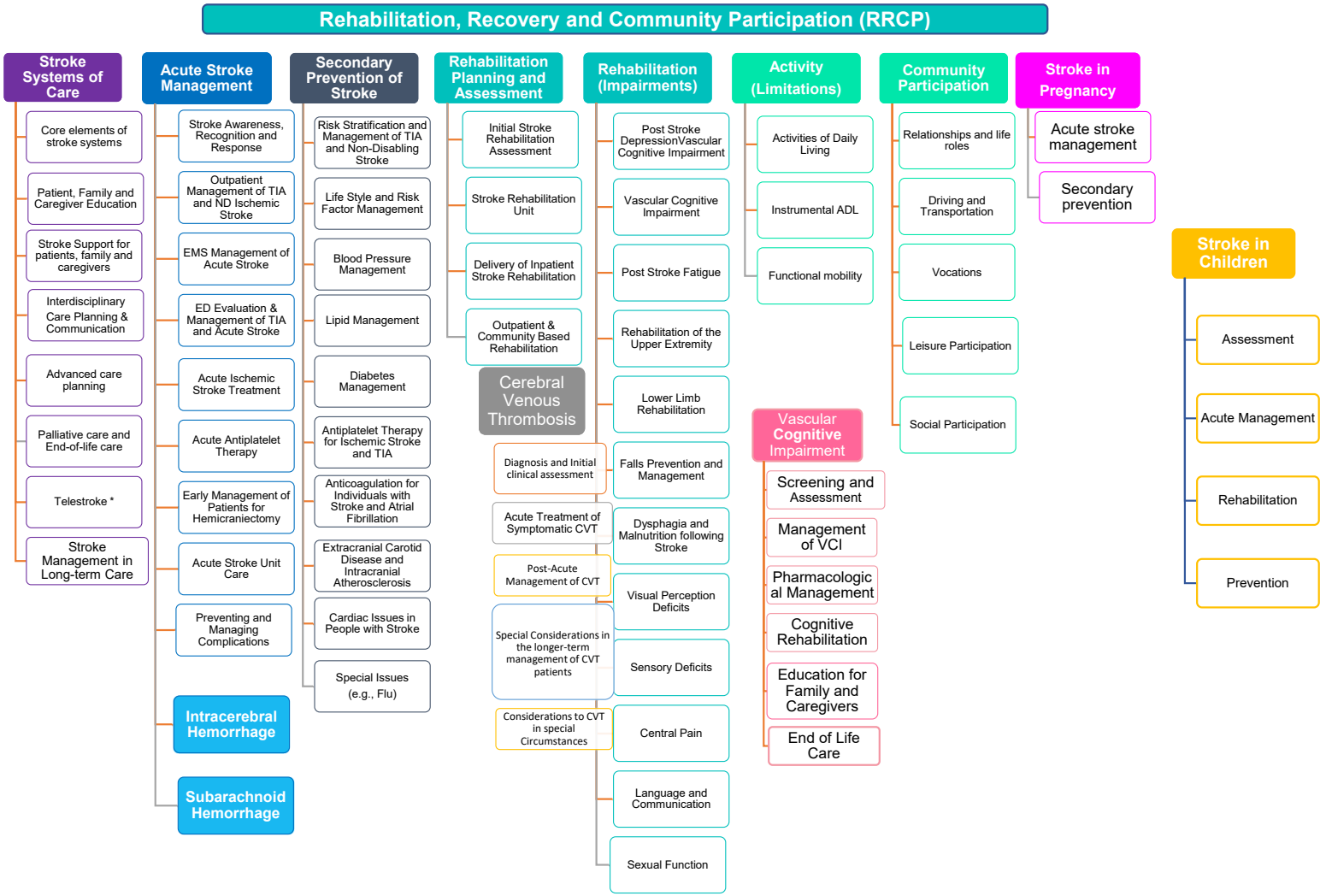
1. New **SBP website** and opportunity to leverage website for knowledge translation, and SBP update processes
2. **Separate modules** for intracerebral hemorrhage, subarachnoid hemorrhage, cerebral venous thrombosis, paediatrics
3. All writing groups to consider **sex and gender** issues in major research trials and literature base:
   - consider ratio of male:female participants included in trials that are refereed to in building recommendations
   - If results presented by investigators by sex, consider any significant sex-based differences in outcomes and include in recommendations
   - Consider noting any applicable sex differences in recommendation wording
4. **Complexity and multimorbidity** – All writing groups to consider issues of multimorbidity and how they may come into play within each section being updated within and across modules
   - Potential for polypharmacy – safety and interactions
   - Address system issues for people who have had a stroke and their family, related to siloes of care and impact of appointments with multiple specialists
5. **Telestroke** will no longer be a stand alone module – virtual stroke care will get integrated into all modules as appropriate

Proposed structure for CSBPR 7th Edition



Rating Evidence for SBP Recommendations

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Writing group review and revisions of recommendations; final review and voting; address sex and gender issues

- All evidence is reviewed and discussed by the writing group members
- Current recommendations are developed, revised or refined

- An evidence level is assigned to every recommendation statement, using GRADE categories
- The quality of evidence is also discussed and assigned to every recommendation

- Clinical considerations are based on expert opinion and group consensus
  - They do not have sufficient evidence to qualify as a recommendation, and therefore evidence levels are not assigned

GRADE

- In October 2019, the CSBP Leadership agreed to move towards the GRADE methodology for guideline development
- GRADE (Grading of Recommendations, Assessment, Development and Evaluations) is a transparent and explicit framework for presenting a summary body of evidence that leads to the development of clinical practice guidelines that are free from bias.
- CSBPR began incorporating GRADE methodology and approach in the CSBPR 7th edition to appraise the strength of a recommendation and the quality of the evidence, with a focus on use of GRADE language
- Given the comprehensive scope of the CSBPR, full systematic reviews and complete GRADE decision tables for every topic are not being developed. Rather, topics are selected for full GRADE application based on the strength of the available evidence, the relevance of the topic, the proportion of the stroke population to which it applies, and overall feasibility.
- For topics not selected for a full GRADE application, writing group discussions follow the GRADE elements of risk, importance, outcomes, effect size, precision, consistency, study design, values, and preferences.
- CSBPR continue to work towards full GRADE implementation
- GRADE methodology includes four factors to guide the development of a recommendation and determine the strength of that recommendation:
  - The balance between desirable and undesirable consequences.
  - Confidence in the estimates of effect (quality of evidence).
  - Confidence in values and preferences and their variability (clinical and consumer preferences).
  - Resource use (cost and implementation considerations).
- Clinical considerations are evaluated using GRADE criteria; however, they are not assigned evidence levels

GRADE – Assigning Evidence Levels

Each recommendation is assessed for:

1. **The strength of the guidance** (strong or conditional), based on the balance of desirable and undesirable consequences, quality of evidence, values and preferences of those affected, and resource use.
   - A strong recommendation is one for which the guideline panel is confident that the desirable effects of an intervention outweigh its undesirable effects.
   - A conditional recommendation is one for which the guideline panel finds that the desirable effects probably outweigh the undesirable effects but appreciable uncertainty exists.

and

2. **The quality of the evidence** (high, medium, low) upon which the recommendations are formulated: risk of bias, directness of evidence, consistency and precision of results, risk of publication bias, magnitude of the effect, dose-response gradient, and influence of residual plausible confounding (Schünemann et al., 2013).

- The writing groups are provided with comprehensive evidence tables that include summaries of high-quality evidence identified through the structured literature searches. The group discuss and debated the quality of the evidence and through consensus develop a final set of proposed recommendations. Each recommendation is assigned a rating as to the strength of the recommendation and the quality of the evidence. Where appropriate and feasible, full GRADE review and analysis using relevant GRADE tables are been conducted.

Canadian Task Force
on Preventive Health Care

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GRADE

Grades of Recommendation, Assessment, Development, and Evaluation

Target Audience	Strong Recommendation	Conditional* Recommendation
For patients/public	We believe most people in this situation would want the recommended course of action and only a small number would not.	We believe that most people in this situation would want the recommended course of action, but many would not. Different choices are acceptable for each person, and clinicians should support patients and discuss their values and preferences to reach a decision. Decision aids may support people in reaching these decisions.
For clinicians	The recommendation would apply to most individuals. Formal discussion aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.	We recognize that different choices may be appropriate for individual patients. Clinicians should support each patient in reaching a management decision consistent with his or her values and preferences. Decision aids may support individuals in reaching such decisions.
For policy makers and developers of quality measures	The recommendation can be adapted as policy in most situations. Adherence to this recommendation according to the guideline could be used as a quality criterion or performance indicator.	Policy-making will require substantial debate and involvement of various stakeholders. An appropriately documented decision making process could be used as quality indicator.

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GRADE

Quality of Evidence

Recommendations in the guidelines prepared by the Canadian Task Force on Preventive Health Care (CTFPHC) are graded as either strong or weak according to the Grading of Recommendations Assessment, Development and Evaluation system (GRADE). The CTFPHC's judgments about the **quality of evidence** are summarized by the degree of confidence that available evidence correctly reflects the theoretical true effect of the intervention or service.

We judge evidence as **high quality** when we are highly confident that the true effect lies close to that of the estimate of the effect. For example, evidence is judged as high quality if all of the following apply: there is a wide range of studies included in the analyses with no major limitations, there is little variation between studies, and the summary estimate has a narrow confidence interval.

We judge evidence as **moderate quality** when we consider that the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. For example, evidence might be judged as moderate quality if any of the following applies: there are only a few studies and some have limitations but not major flaws, there is some variation between studies, or the confidence interval of the summary estimate is wide.

We judge evidence to be **low or very low quality** when the true effect may be substantially different from the estimate of the effect. For example, evidence might be judged as low quality if any of the following applies: the studies have major flaws, there is important variation between studies, or the confidence interval of the summary estimate is very wide.

Strength of Recommendations

In addition to the quality of supporting evidence, **the strength of our recommendations** is influenced by,

- The balance between desirable and undesirable effects;
- The variability or uncertainty in values and preferences of citizens; and
- Whether or not the intervention represents a wise use of resources.

Strong recommendations are those for which we are confident that the desirable effects of an intervention outweigh its undesirable effects (strong recommendation for an intervention) or that the undesirable effects of an intervention outweigh its desirable effects (strong recommendation against an intervention). A strong recommendation implies that most individuals will be best served by the recommended course of action.

Conditional* recommendations are those for which the desirable effects probably outweigh the undesirable effects (conditional recommendation for an intervention) or undesirable effects probably outweigh the desirable effects (conditional recommendation against an intervention) but uncertainty exists. Conditional recommendations result when the balance between desirable and undesirable effects is small, the quality of evidence is lower, and there is more variability in the values and preferences of individuals. A conditional recommendation implies that we believe most people would want the recommended course of action but that many would not. Clinicians must recognize that different choices will be appropriate for different individuals, and they must support each person in reaching a management decision consistent with his/her values and preferences. Policy-making will require substantial debate and involvement of various stakeholders.

Factors that help determine the Quality of Evidence

Table 5.2: Factors that can reduce the quality of the evidence	
Factor	Consequence
Limitations in study design or execution (risk of bias)	↓ 1 or 2 levels
Inconsistency of results	↓ 1 or 2 levels
Indirectness of evidence	↓ 1 or 2 levels
Imprecision	↓ 1 or 2 levels
Publication bias	↓ 1 or 2 levels

Table 5.3: Factors that can increase the quality of the evidence	
Factor	Consequence
Large magnitude of effect	↑ 1 or 2 levels
All plausible confounding would reduce the demonstrated effect or increase the effect if no effect was observed	↑ 1 level
Dose-response gradient	↑ 1 level

https://gdt.gradepro.org/app/handbook/handbook.html

Standardized language for SBP recommendations relative to evidence levels

Canadian Stroke Best Practices

Quality of Evidence	High	Moderate	Low	Very-Low**
Strength of Recommendation	Strong	Strong/Conditional	Conditional* *Strong recommendation only used in specific circumstances where evidence is low but through group consensus warrants strong recommendation Key System Driver	Conditional* *Strong recommendation only used in specific circumstances where evidence is very-low but through group consensus warrants strong recommendation Key System Driver **In most situation very-low evidence should be positioned as a clinical consideration and not a recommendation, unless justification to do so
Target Population	Most people with stroke would want the recommended course of action and only a small number would not (specify type where applicable)	Most or within specific subgroups	Most or within specific subgroups	Most people with stroke would want recommended course of action but many would not. Different options would be acceptable for different people
Quality of Evidence	•High Quality •Meta analysis, systematic reviews, > 1 Randomized Controlled Trial with consistent findings	•Moderate Quality •Single RCTs or >1 with conflicting results; large observational studies or case controlled studies with large samples	•Low Quality direct evidence •Stronger indirect evidence extrapolated from related RCTs (e.g., CT scans)	• Very low Quality •Absence of sufficient evidence but strong need to make a statement – *most often will become clinical consideration^*
Preferred wording	▪ Should/should not be done ▪ Is/is not recommended ▪ Is effective/useful	▪ Should/should not be done ▪ Should be considered ▪ May be considered ▪ Is/is not recommended ▪ Is preferable ▪ Is reasonable ▪ May be useful	▪ We suggest ▪ Should be considered ▪ May be considered ▪ Is/is not recommended ▪ Is preferable ▪ Is reasonable ▪ May be useful	▪ We suggest ▪ May be considered ▪ Is/is not recommended ▪ Is preferable ▪ Is reasonable ▪ May be useful

Note: ^ Clinical considerations do not get assigned an evidence level and wording should be cautious and clear regarding lack of evidence, and any parameters used to base considerations.

CSBPR: PREVIOUS Levels of Evidence**

Canadian Stroke Best Practices

Note, Previous editions of CSBPR followed the following criteria for assigning levels of evidence. These are now being replaced with GRADE as modules are updated.

Level of Evidence	Criteria*
A	Evidence from a meta-analysis of randomized controlled trials or consistent findings from two or more randomized controlled trials. Desirable effects clearly outweigh undesirable effects or undesirable effects clearly outweigh desirable effects. (High quality evidence)
B	Evidence from a single randomized controlled trial or consistent findings from two or more well-designed non-randomized and/or non-controlled trials, and large observational studies. Desirable effects outweigh or are closely balanced with undesirable effects or undesirable effects outweigh or are closely balanced with desirable effects. (Moderate quality evidence)
C	Writing group consensus and/or supported by limited research evidence. Desirable effects outweigh or are closely balanced with undesirable effects or undesirable effects outweigh or are closely balanced with desirable effects, as determined by writing group consensus. Recommendations assigned a Level-C evidence may be key system drivers supporting other recommendations, and some may be expert opinion based on common, new or emerging evidence or practice patterns. (Low quality or minimal evidence)
Clinical Considerations	Reasonable practical advice provided by consensus of the writing group on specific clinical issues that are common and/or controversial and lack research evidence to guide practice. (Paucity of evidence; based on expert guidance)

- adapted from Guyatt GH, Coo k DJ, Jaeschke R et al. Grades of recommendation for antithrombotic agents: American College of Chest Physicians evidence-based clinical practice guidelines (8th edition) [published erratum in Chest. 2008;134:473]. Chest 2008; 133(6 Suppl.):123S– 131S.
- **in the Seventh edition CSBPR is transitioning to GRADE methodology. Secondary Prevention of Stroke and ICH were published using this evidence leveling system.

New approach to assess and report on sex and gender disparities in research evidence

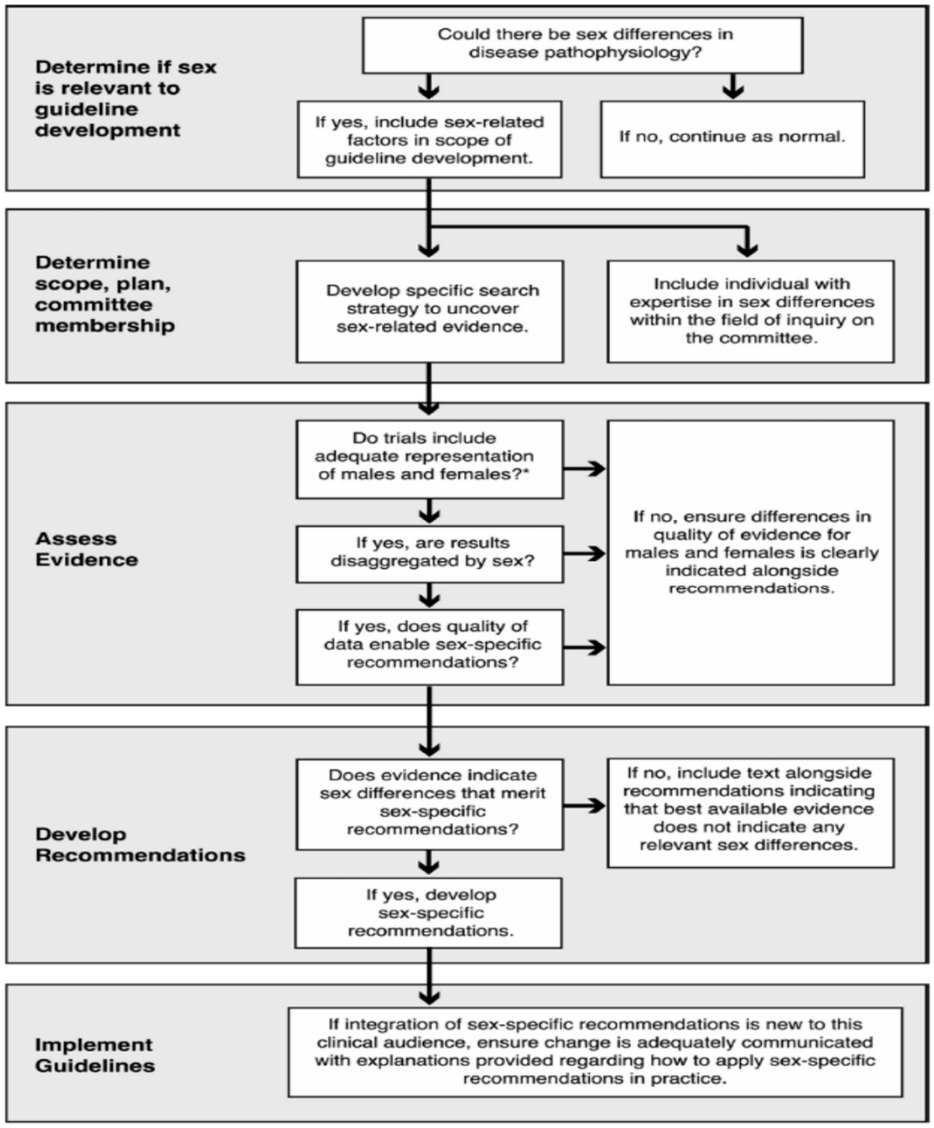
- New knowledge about male-female differences in pathophysiology, diagnosis, and treatment is shifting the practice of medicine from a one-size-fits all approach to a more individualized process that considers sex-specific interventions at the point of care. (Tannenbaum et al, 2019)

- CCS is adopting a sex and gender lens for all new guidelines

- Process:
  1. Identify the number of males and females recruited in the research study if was this reported;
  2. Assessment of whether or not this was adequate enrollment or bias enrollment in favour of one sex based on known or presumed population incidence by sex;
  3. Assessment of whether or not the results reported were stratified by sex and whether a specific comparative analysis was done, such as efficacy by sex.
  4. Conclusions from RCTs reported by sex. Conclusions apply to females using data reported.

Option: Provide statements in rationale and evidence summary of CSBPR regarding sex and gender

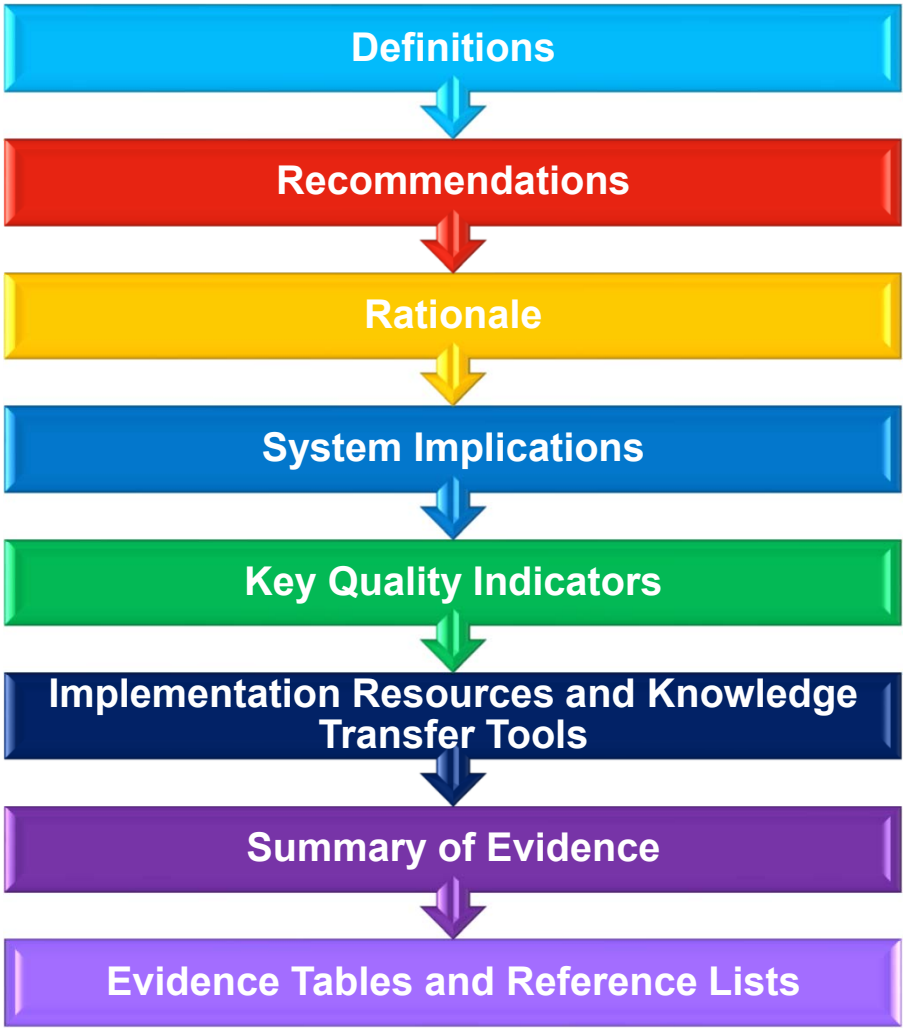
CCS Structured framework for generating sex-specific guidelines



*Adequate representation can be assessed with the participation to prevalence ratio (PPR). A PPR greater than 0.8 is considered adequate or bias-free enrollment.

Cara Tannenbaum, Colleen Norris, Michael Sean McMurtry, CJC, 2019

CSBPR Presentation Format



CSBPR: Format

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Best Practice Recommendations

- Describes the recommended practices, processes of care and activities, providing specific direction for front-line staff and caregivers for delivering optimal stroke care.

Rationale

- Summarizes the importance of the topic and recommendations, their relevance to stroke care delivery or patient outcomes, and the potential impact of implementation of the recommendations.

CSBPR: Format

Canadian Stroke Best Practices

System Implications

- Provides information on the mechanisms and structures that need to be in place if health systems, facilities, front-line staff, and caregivers are to effectively implement the recommendations.

Performance Measures

- Provide managers and administrators with a standardized and validated mechanism to consistently monitor the quality of stroke care and the impact of implementing best practice recommendations.
- The most important performance measures are highlighted in **bold type**. The remaining performance measures are provided for those who are able to conduct a more extensive evaluation of stroke performance.
- Performance measures that are part of the Canadian Stroke Quality and Performance core indicator set are indicated by the notation ***(core)*** following the indicator statement.

CSBPR: Format

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Implementation Resources and Knowledge Transfer Tools

- Provides links to websites and tools developed or recognized by the Canadian Stroke Best Practices group and/or their partners and collaborators.
- Resources include ‘how-to’ guides and educational materials for healthcare professionals, patients, and caregivers.
- Includes patient screening and assessment tools that have been found through review and consensus to be valid, reliable and relevant to stroke populations.

Summary of the Evidence

- Provides a brief summary of the research used as part of the development of the recommendations.
- A link is provided to the detailed evidence tables, including research evidence and external guidelines, and a complete reference list for the section.

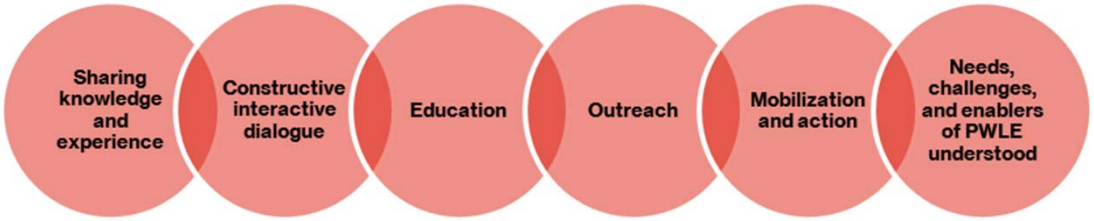
Community Consultation and Review Panel (CCRP)

- People who have experienced a stroke, their family members, and informal caregivers are at the centre of the CSBPR.
- Heart and Stroke has created CCRPs to engage people with lived experiences (PWLE)
- These individuals are included in the CSBPR development process.
- One member of the writing group is involved as the liaison between the WG and the CCRP process, participating in meetings of both groups

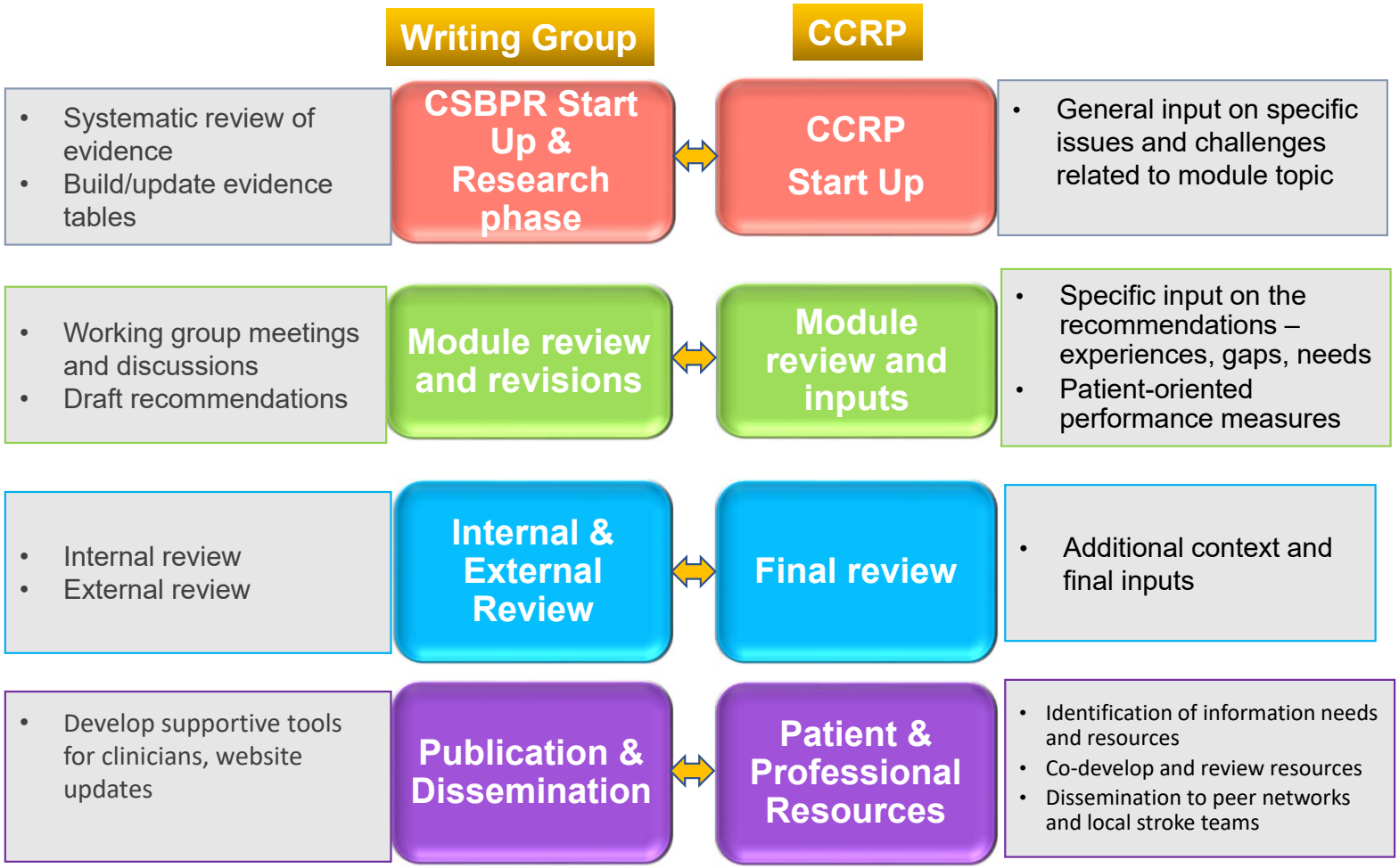
"I believe the inclusion of myself and my peers will reflect recovery from the stroke survivors' point of view. It's a great move forward to have diverse opinions from stakeholders in order to know if CSBP recommendations are having an effect."
– CCRP participant

CCRP: Goals

- **Create** an effective model of engagement of people with living experience in partnership with H&S;
- **Sharing** of experiences, insights and feedback to build best practice recommendations that will provide healthcare professionals with the tools to provide the best possible care;
- **Drive change** in health care, increase patient experience and satisfaction rates;
- **Ensure** the final recommendations are grounded in real-life experience and applicable to those directly impacted by the recommendations – people who have had a stroke, their families.



CSBPR and CCRP: Module Update Process

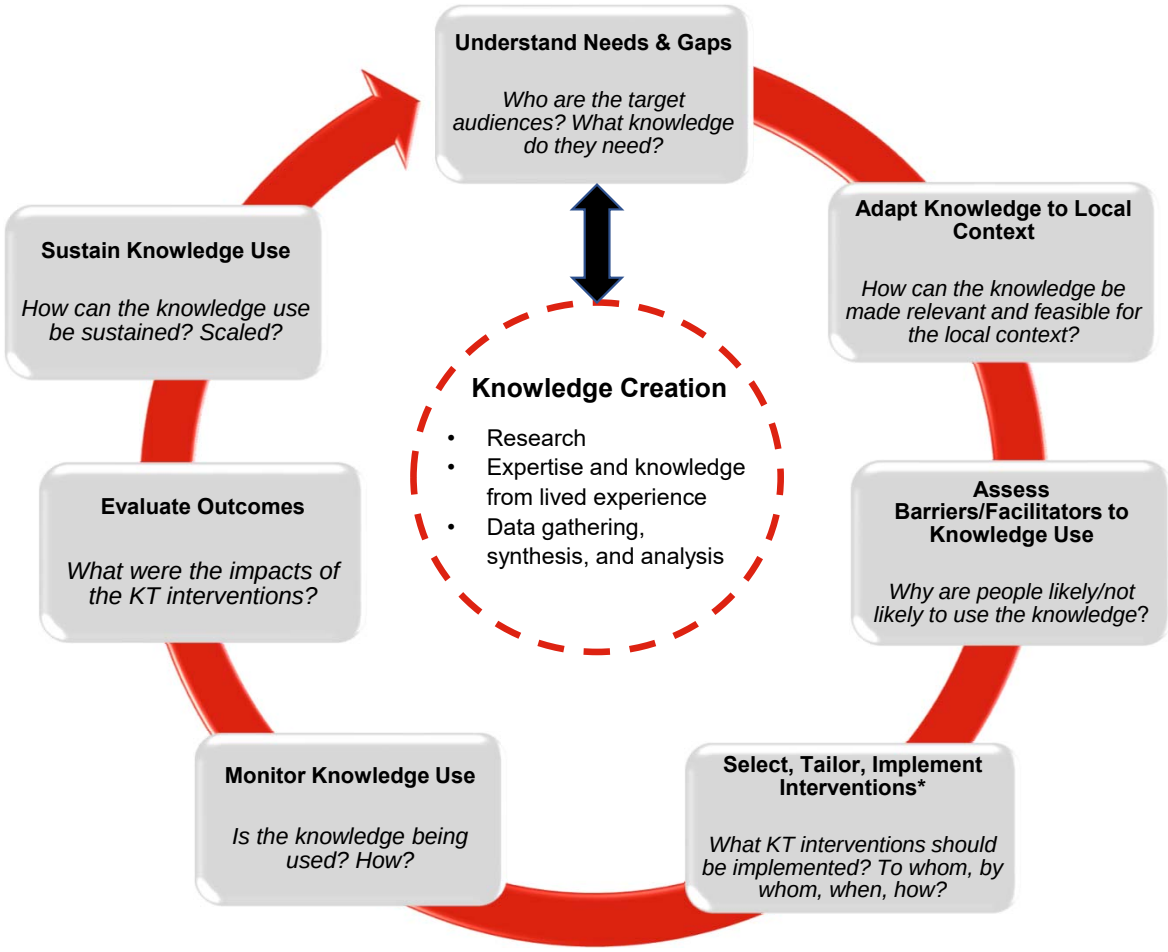


Heart & Stroke Knowledge Translation Framework

As a knowledge-focused organization, our KTE activities should drive change at multiple levels in a wholistic integrated approach. SGABR is integrated as a core element at all levels.

Considerations:

- barriers/facilitators to knowledge implementation
- tailoring knowledge to different contexts
- power of knowledge sharing through networks
- use of champions
- use of innovative dissemination channels and partnerships
- co-creation of knowledge with people with lived experience
- developing knowledge products specific to the unique needs of each audience.



Adapted from Graham et al., (2006)

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Knowledge Translation

Synthesis

- Synthesizing results of individual research studies and interpreting findings or results in the context of global evidence. E.g., systematic reviews, scoping reviews.

Exchange

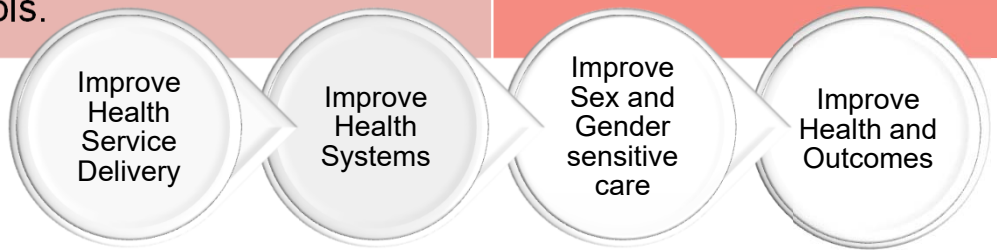
- Two-way sharing of knowledge between research producers and users, and engaging end users at all stages of the research process. E.g., WHBRN (PWLE + researchers), CSBPR Community Consultation and Review Panel

Application

- Also known as implementation – putting research into practice, policy, and or action. E.g., clinical practice guidelines, order sets, protocols.

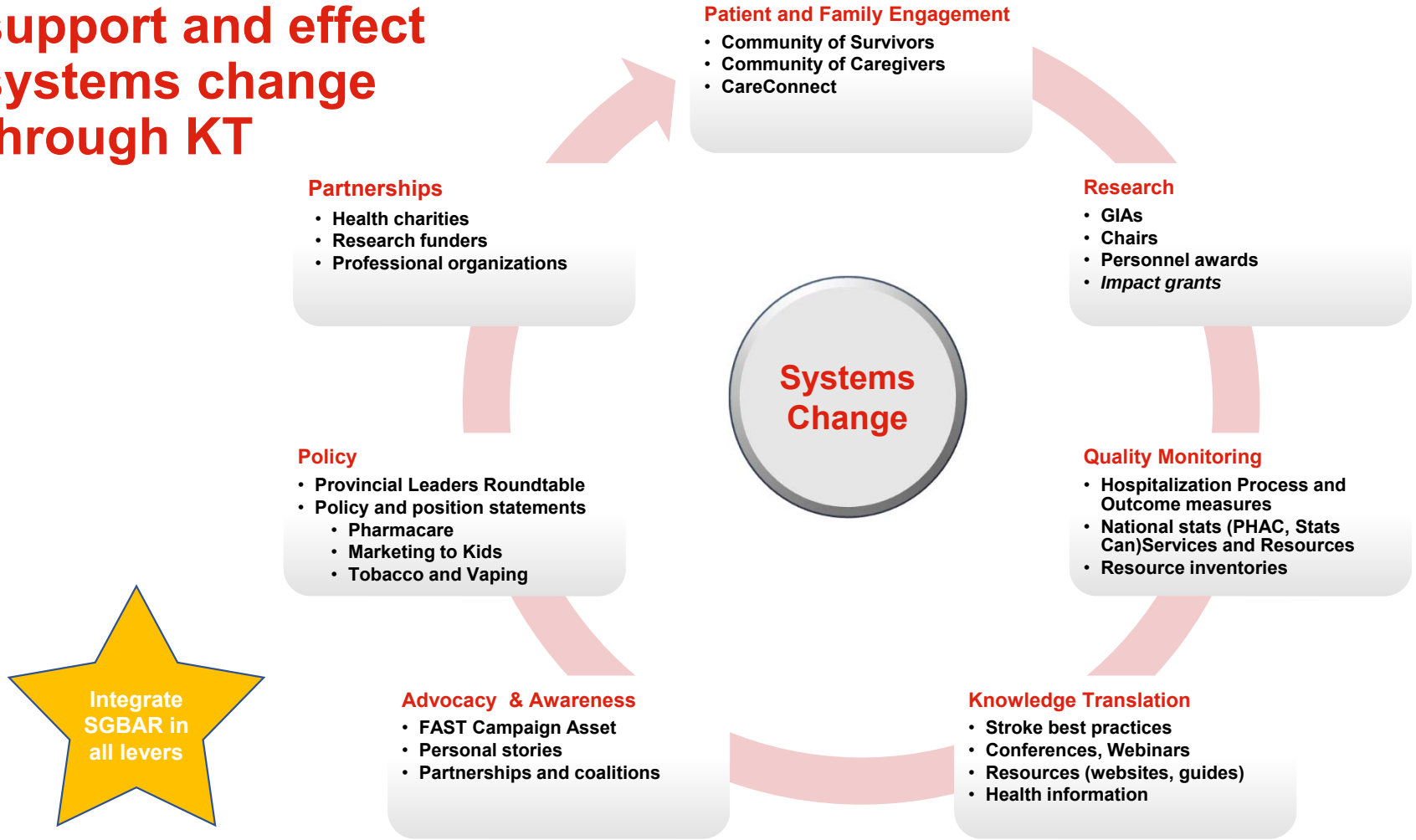
Dissemination

- Communication or sharing of research results – 'end of grant KT'. Eg, publication, presentation, social media, blogs, infographics.

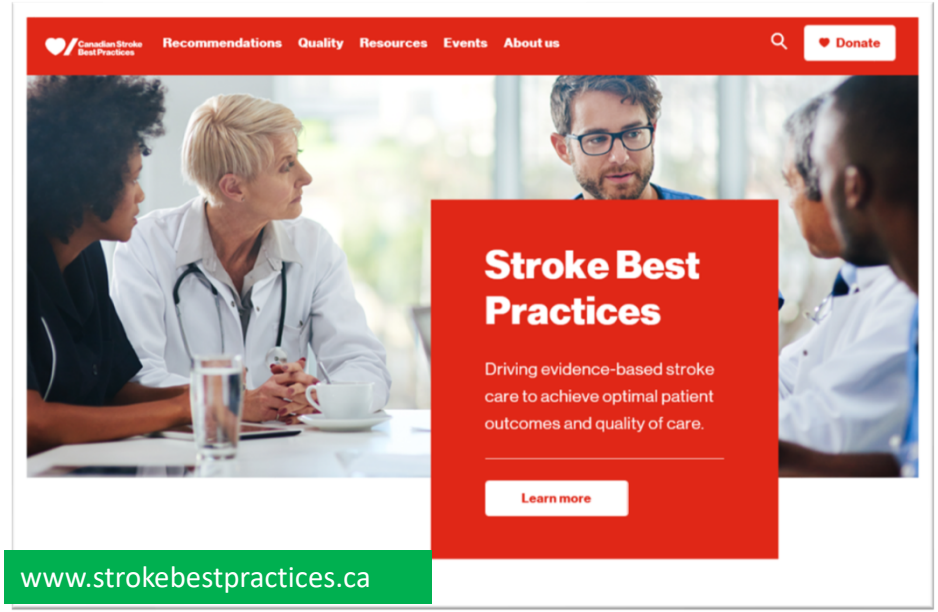


Medium.com/knowledgenudge, Kathryn Sibley

H&S levers to support and effect systems change through KT



CSBPR Knowledge Translation



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