PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Sexual and Reproductive Health Services Provided by Community Pharmacists: A Scoping Review
AUTHORS	Hughes, Christine; Navarrete, Javiera; Yuksel, Nese; Schindel, Theresa

VERSION 1 – REVIEW

REVIEWER	Glasier, Anna University of Edinburgh
REVIEW RETURNED	12-Jan-2021

GENERAL COMMENTS	This is an account of a very detailed and thorough scoping review of the peer reviewed literature evaluating delivery by community pharmacists of SRH services. Only papers which reported uptake, acceptability or other relevant outcomes were included. The paper is very well written and extremely well referenced. It will be a very useful addition to the literature. I have only two suggestions 1. I don't believe the abstract does the paper justice. It suggests that the paper is just going to list the range of services provided. In reality the paper does much more, summarising the barriers to, and the advantages of, pharmacy SRH provision (including reaching vulnerable/hard to reach population groups) and the direct or indirect consequences on potential use of other services. To be frank if I read the abstract I would not read the full paper. I strongly recommend it is rewritten to do the research justice. If the word count is a problem the design and data sources could be amalgamated and shortened. The bullet points which summarise the strengths and weaknesses need attention a. The second bullet point about the comprehensive search strategy is not, to me, a strength, it is a necessity and I would expect nothing less. b. I don't understand the first bullet point describing the limitations. What other studies could there be that don't deal with real patients or users? Simulated actual use? Why is this a limitation?

REVIEWER	Gonsalves, Lianne Organisation mondiale de la Sante
REVIEW RETURNED	26-Jan-2021

GENERAL COMMENTS	Thank you for the opportunity to review this manuscript. This study is extremely timely, covering provision of SRHR services through pharmacies at a time when task-sharing has never been more

	important. I commend the authors for taking this on and the rigor with which they have set up the review. My overarching feedback is as follows: the parameters of the review, and what was/was not considered relevant for inclusion in the review is never quite clear to me. My understanding is that the authors wanted to cover SRHR services OUTSIDE of dispensing-only, that they wanted to cover REAL versus hypothetical (mystery clients, research setting) access, that they only wanted to capture client-side perspectives and/or client-side use outcomes. Yet there is inclusion of things that feel like dispensing (routine ART provision in the HIV section) and outcomes that FEEL like provider/health system side (pharmacists' remuneration and integration into daily workflows) that are presented. Outcomes presented also range from attitudes/preferences to actual uptake numbers. I'm also sceptical of the authors' exclusion of provider-side outcomes with the justification that "other researchers have focused on pharmacists' and users' knowledge attitudes and experiences related to certain SRH services". The articles cited each only focus on a single specific service. If the authors are going to include knowledge, attitudes, and experiences of clients, they need to do the same for providers. My strong recommendation, given BMJ Open's wide readership, is that the authors rework the introduction and methods sections to introduce/define key concepts (introduction), clearly present the scope of the review (and justify why it is as narrow as it is). Then the methods need to be VERY CLEAR about what is and is not included. Authors should also consider including providers' perspectives. The Discussion feels underdeveloped. If a wealth of outcomes are presented in the scoping review, the scoping review's discussion needs to help the reader understand how to contextualize and interpret these extremely diverse outcomes. Instead, after a brief summary of findings, the authors jump to understanding the policy context for pharmacy access. Introduction The legislative frameworks presented are exclusive to high-income countries, which makes it somewhat surprising to see later that the scope of the review covers low- and middle-income countries as well. It would be useful to reflect on LMIC policies in the introduction (as well as discussion) – in many settings there is as extensive access (if not more so) to SRHR services. (Kenya's family planning guidelines are a good example of this). "there is no literature evaluating the extended (non-dispensing) patient care roles of community pharmacists in SRH areas." At this stage, it is not clear WHAT these roles might be. Per #1 above in the introduction consider introducing and describing the range of roles and responsibilities of community pharmacists, which range from dispensing (what most people will think of) to medication

	therapy management and prescribing. Defining pharmacists' responsibilities, will ensure that when you describe excluding 'dispensing' later on, people will be clear about what that entails (and what it does not). "Therefore, this review aimed to address this gap by identifying and synthesizing research that reported community pharmacists' extended services across a broad range of SRH areas." Based on this sentence and subsequent two objectives spelled out by the scoping review, it is not clear why outcomes like client attitudes and preferences, satisfaction, etc would be included. I would strongly recommend further describing what is meant by statements like 'examine what non-dispensing services were provided…'. Methods In the 'keywords' section of text, do include 'reproductive health'. Until looking at Supplement 2, I was concerned that the search strategy had been overly angled towards HIV/STIs and sexual health (thereby missing key parts of the contraception, abortion, maternal health literature which is often not categorized (by authors OR search engines) as sexual health). The strategy is actually fine, but looking at the manuscript text, you might think otherwise. Per overarching feedback #1, the 'eligibility criteria' section, including Table 1 needs to be much clearer. The inclusion criteria "studies had to report individuals' acceptance, uptake or other outcomes related to the services" is vague and not in line with the two objectives set up in the introduction. Also, presumably 'individuals' means 'clients'/service users, rather than others (doctors, pharmacists, etc)? if so, this should be clearly stated. It seems like a key omission to only report on the client perspective, if the objective of the review is to 'report community pharmacists' extended services across a broad range of SRH areas'. The reason for only capturing clients' perspectives (rather than studies that capture pharmacists' perspectives or pharmacy-side data) should be clearly explained. The description in Table 1 for Outcomes is not currently sufficient enough to address this (surely pharmacists' time spent, perception of service-provision, and/or their clients is a relevant outcome, as defined by this table) It is not clear why there was no quality assessment conducted. I would suggest that the authors conduct a quality assessment (recognizing heterogeneity in study design, one can adopt multiple tools from the same institute, like Joanna Briggs Institute, NIH, etc) The following are some papers that – based on my current understanding of inclusion/exclusion criteria – could be included. [This is not to oblige the authors to include them, but gives an idea of where my current lack of clarity has led me] Potter (2010). Clinic versus over-the-counter access to oral contraception: choices women make along the US–Mexico border. https://doi.org/10.2105/AJPH.2009.179887 Arnet (2009). Emergency hormonal contraception in Switzerland: a comparison of the user profile before and three years after deregulation. https://doi.org/10.3109/13625180903147765 Rubin (2011). Use of emergency contraception by US teens: effect of access on promptness of use and satisfaction. https://doi.org/10.1016/j.jpag.2011.03.013 Smartzis (2012). Six years after deregulation of emergency contraception in Switzerland: has free access induced changes in the profile of clients attending an emergency pharmacy in Zurich? https://doi.org/10.3109/13625187.2012.661108

	Both (2014). Keeping silent about emergency contraceptives in Addis Ababa: a qualitative study among young people, service providers, and key stakeholders. https://doi.org/10.1186/s12905-014-0134-510.1186/s12905-014-0134-5 Results In Study Characteristics it is not clear how all the pharmacist activities captured are different (how is screening, provision of treatment, different from 'screening and treatment') – this is again where a description of various pharmacist activities in the Intro (through a Table?) would be useful. I'm not sure myself what the difference between 'provision of medication through protocol' and 'pharmacists-only medication' is (from Table 2). In the HIV section: This again goes back to how inclusion/exclusion criteria are currently described (and the lack of clarity). How is PrEP provision or antiretrovirals provision not the same as a 'dispensing' function? In the HIV section and HCV sections: several articles (39,41,42 in HIV, for example) seem to be reporting system side challenges (pharmacists' remuneration, integration into daily workflow) which goes against the selection criteria, as I've understood them. In the HPV section: It's important to focus on presenting just the data relevant to the study question. As an example, it's not relevant to THIS research question to present baseline data from Navarrete, if not also presenting the change as a result of the pharmacy intervention. Discussion In general, there are a NUMBER of outcomes that are presented in the results that aren't unpacked here in the discussion. Reactive tests, uptake of treatment (be it in the pharmacies or through a referral), service promotion for HPV vaccination (arguably not sure that this is relevant for this review) are examples. In short, its mostly the attitudes/perception and service delivery outcomes that are interpreted (paragraphs 3). This leaves the discussion feeling underdeveloped and the reader without insight as to how uptake numbers compare to other services, how pharmacies fit into the broader system of health service providers. A more detailed example of the above: In all of the Results sections on STIs, the percentage of reactive tests is presented. These data are very difficult to interpret without context. Is 1.2% (as reported in study number 50) a 'normal' incidence of HCV compared to other testing outlets? These numbers are never reflected on in the Discussion. In contraception describing the method mix can more stand on its own in the results section but it would be useful to unpack this in the discussion as well. In the Limitations section, arguably the lack of papers on insertion of certain LARCs like intrauterine devices is not really a gap in the literature – it's unrealistic to assume pharmacists could do anything other than refer ppl interested in IUDs.

REVIEWER	McMillan, Sara Menzies Health Institute Queensland, Griffith University, School of Pharmacy and Pharmacology
REVIEW RETURNED	07-Feb-2021

GENERAL COMMENTS	BMJ Open 2020-047034: Sexual and Reproductive Health Services Provided by Community Pharmacists: A Scoping Review

	Thank you for the opportunity to review this manuscript. The authors have undertaken a scoping review in an important topic area. I have some minor suggestions to offer to further strengthen the manuscript. Abstract I felt that more detail was needed in the results section. The authors could refer to the gaps identified in service provision, particularly when this was reported in the conclusion. Introduction Second paragraph: for the sentence starting 'Pharmacists are also authorized to administer injections,' please specify contraceptive injections In the text, further explanation about how this review differed to the recent systematic review by Gauly et al (to further explain the knowledge gap) is warranted Methods I commend the authors for their thorough search strategy. However, given that the search was completed in July 2020, I would urge the authors to confirm if any further primary articles have been published since this time, for possible inclusion. This is particularly important given that a lack of research in particular topic areas is emphasised in the discussion. I understand that the authors focused on the role of the pharmacist, but wondered if any papers reported the role of pharmacy staff (e.g. pharmacy assistants) in this context? Also, I wanted to know why pharmacist residents or interns were excluded when in practice they could be involved in some aspects of service delivery under pharmacist supervision. What authors were involved in the descriptive analysis? Results In the supplementary table, the positivity rate for Anderson et al was 9.8% but this does not align with the text presented on Page 11. Page 12: Please include further detail on the three programs used by Fernandez-Balbuena et al (in the table); Ford et al in the text is reported as Crawford et al in the Table (Ref 41); further detail on the educational strategies used in Ref 45 and 46 would be useful. Insight into how many studies provided pharmacists with additional education or training to deliver these services would be useful. This was not reported and an important consideration when thinking about the suitability of pharmacists to provide these services. Page 13: The authors make a statement about Buchannan et al for two studies (Ref 48 and 49) but it was not clear if these two papers involved the same study participants. The authors also stipulate in the text that ref 49 included individuals attending for needle exchange, but the participant information is not specified in the table.

	Page 14: Monastersky Maderas and Landau are referred to differently in the table (Monastersky and Cohen) Page 15: further information on how the pharmacists accurately detected ED would be useful to include Discussion Page 16: Reconsider use of CT as an acronym; the authors report that many studies were determined to be feasible, but I am not sure that this information was entirely reported in the results section; the authors should compare their findings in relation to privacy with the work of Chirewa and Wakhisi, and Gauly et al. The authors argue that partnerships were important; did any of the included studies report the perspectives of other stakeholders such as physicians about this role/service delivery? Page 18: please specify Tdap for readers who may not be familiar with this acronym; check sentence with “during these times this time” for readability. Limitations: please add that study limitations or quality were not reported (as stated in article summary); consider reporting here that while barriers were noted, papers focused on pharmacist attitudes or perceptions of service were not included therefore this information may not be complete or represent the entirety of barriers acknowledged. Conclusion My only suggestion here was that consumer awareness came across to me as a larger barrier than remuneration, and maybe this should be the focus in this section? Supplementary Table 3 Please change numbering – not material 1 but 3; please consider reordering in accordance with reference number to make it easier to find the article when reading the text.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

This is an account of a very detailed and thorough scoping review of the peer reviewed literature evaluating delivery by community pharmacists of SRH services. Only papers which reported uptake, acceptability or other relevant outcomes were included.

The paper is very well written and extremely well referenced. It will be a very useful addition to the literature.

Response: Thank you very much. We appreciate the encouraging comments.

I don't believe the abstract does the paper justice. It suggests that the paper is just going to list the range of services provided. In reality the paper does much more, summarising the barriers to, and the advantages of, pharmacy SRH provision (including reaching vulnerable/hard to reach population groups) and the direct or indirect consequences on potential use of other services. To be frank if I read the abstract I would not read the full paper. I strongly recommend it is rewritten to do the

research justice. If the word count is a problem the design and data sources could be amalgamated and shortened.
Response: Thank you for this valuable feedback. We have significantly revised the abstract so that additional detail could be added in the results.
The bullet points which summarise the strengths and weaknesses need attention
a. The second bullet point about the comprehensive search strategy is not, to me, a strength, it is a necessity and I would expect nothing less.
b. I don't understand the first bullet point describing the limitations. What other studies could there be that don't deal with real patients or users? Simulated actual use? Why is this a limitation?
Response: Thank you for raising these important points. We have significantly revised the bullet points summarizing the strengths and weaknesses.

Reviewer 2
Thank you for the opportunity to review this manuscript. This study is extremely timely, covering provision of SRHR services through pharmacies at a time when task-sharing has never been more important. I commend the authors for taking this on and the rigor with which they have set up the review.
Response: Thank you very much.
Overarching Comments:
The parameters of the review, and what was/was not considered relevant for inclusion in the review is never quite clear to me. My understanding is that the authors wanted to cover SRHR services OUTSIDE of dispensing-only, that they wanted to cover REAL versus hypothetical (mystery clients, research setting) access, that they only wanted to capture client-side perspectives and/or client-side use outcomes. Yet there is inclusion of things that feel like dispensing (routine ART provision in the HIV section) and outcomes that FEEL like provider/health system side (pharmacists' remuneration and integration into daily workflows) that are presented. Outcomes presented also range from attitudes/preferences to actual uptake numbers.
Response: Thank you for your feedback. As outlined in more detail below, we have significantly revised the introduction and methods to more clearly outline the scope of this review.
I'm also sceptical of the authors' exclusion of provider-side outcomes with the justification that "other researchers have focused on pharmacists' and users' knowledge attitudes and experiences related to certain SRH services". The articles cited each only focus on a single specific service. If the authors are going to include knowledge, attitudes, and experiences of clients, they need to do the same for providers.

Response: We have tried to more clearly summarize previous reviews related to pharmacist provision of SRH services. Previous reviews have either focused on a specific service (e.g., emergency contraception) or have focused on experiences and attitudes of pharmacy users and pharmacy staff related to a broader range of SRH services. We decided not to include them because they did not approach professional pharmacy services from the organization, implementation, and delivery perspective.
My strong recommendation, given BMJ Open's wide readership, is that the authors rework the introduction and methods sections to introduce/define key concepts (introduction), clearly present the scope of the review (and justify why it is as narrow as it is). Then the methods need to be VERY CLEAR about what is and is not included. Authors should also consider including providers' perspectives.

Response: Thank you very much for your comments. We have significantly revised the introduction and methods to clarify the scope of the review. While the terms used to describe non-traditional pharmacy services vary considerably worldwide, we have chosen (and defined) professional pharmacy services. This term has been used in another article published in BMJ Open

(https://bmjopen.bmj.com/content/10/9/e036669#ref-1) and will more clearly convey the nature of these services to the wide readership of BMJ Open.
The Discussion feels underdeveloped. If a wealth of outcomes are presented in the scoping review, the scoping review's discussion needs to help the reader understand how to contextualize and interpret these extremely diverse outcomes. Instead, after a brief summary of findings, the authors jump to understanding the policy context for pharmacy access.

Response: We have significantly revised the discussion to contextualize results.

Introduction
The legislative frameworks presented are exclusive to high-income countries, which makes it somewhat surprising to see later that the scope of the review covers low- and middle-income countries as well. It would be useful to reflect on LMIC policies in the introduction (as well as discussion) – in many settings there is as extensive access (if not more so) to SRHR services. (Kenya's family planning guidelines are a good example of this).

Response: We very much appreciate this helpful comment and agree that LMIC policies support increased access to SRH services through community pharmacies, such as Kenya's family planning guidelines. We also agree that regulation of pharmacies and pharmacy professionals, and practice models differ significantly worldwide which makes it difficult to compare professional pharmacy services, which is the focus of our review, between high-income and low- and middle-income countries. In the revised introduction and methods, we have more clearly highlighted this. Based on this feedback and careful consideration, we have focused the review only on high-income countries, and therefore removed 2 articles (Mugo et al., and Avong etal.) which were conducted in LMIC.

"there is no literature evaluating the extended (non-dispensing) patient care roles of community pharmacists in SRH areas." At this stage, it is not clear WHAT these roles might be. Per #1 above in the introduction consider introducing and describing the range of roles and responsibilities of community pharmacists, which range from dispensing (what most people will think of) to medication therapy management and prescribing. Defining pharmacists' responsibilities, will ensure that when you describe excluding 'dispensing' later on, people will be clear about what that entails (and what it does not).

Response: We would agree. We have described and provided examples of traditional and professional pharmacy services in the introduction.

"Therefore, this review aimed to address this gap by identifying and synthesizing research that reported community pharmacists' extended services across a broad range of SRH areas." Based on this sentence and subsequent two objectives spelled out by the scoping review, it is not clear why outcomes like client attitudes and preferences, satisfaction, etc would be included. I would strongly recommend further describing what is meant by statements like
'examine what nondispensing services were provided…'.

Response: We have revised the purpose as follows: "Therefore, this review aimed to identify research that described and evaluated pharmacists' professional pharmacy services across a broad range of SRH areas."

Methods
In the 'keywords' section of text, do include 'reproductive health'. Until looking at Supplement 2, I was concerned that the search strategy had been overly angled towards HIV/STIs and sexual health (thereby missing key parts of the contraception, abortion, maternal health literature which is often not

categorized (by authors OR search engines) as sexual health). The strategy is actually fine, but looking at the manuscript text, you might think otherwise.

Response: Thank you for pointing out this omission. We have added to the keywords section of the text.

Per overarching feedback #1, the 'eligibility criteria' section, including Table 1 needs to be much clearer. The inclusion criteria "studies had to report individuals' acceptance, uptake or other outcomes related to the services" is vague and not in line with the two objectives set up in the introduction. Also, presumably 'individuals' means 'clients'/service users, rather than others (doctors, pharmacists, etc)? if so, this should be clearly stated.

Response: Thank you for this comment, a good point is raised here which we had previously not articulated clearly enough in our methods. We have adjusted the eligibility criteria in Table 1 to be more clear.

It seems like a key omission to only report on the client perspective, if the objective of the review is to 'report community pharmacists' extended services across a broad range of SRH areas'. The reason for only capturing clients' perspectives (rather than studies that capture pharmacists' perspectives or pharmacy-side data) should be clearly explained. The description in Table 1 for Outcomes is not currently sufficient enough to address this (surely pharmacists' time spent, perception of service-provision, and/or their clients is a relevant outcome, as defined by this table)

Response: Thank you for this feedback. Revisions were made to clearly explain this. To clarify, we reported outcomes of studies that were included based on our eligibility criteria. In some cases, pharmacists' perspectives were evaluated, in addition to patients' perspectives or other patient outcomes (e.g., satisfaction or acceptability), and therefore we captured this as part of the results. However, we did not include studies that only focused on experiences, attitudes, or perspectives. We believe the revisions made, including discussion of limitations, more clearly explains this.

It is not clear why there was no quality assessment conducted. I would suggest that the authors conduct a quality assessment (recognizing heterogeneity in study design, one can adopt multiple tools from the same institute, like Joanna Briggs Institute, NIH, etc)

Response: In selecting the method, we chose a scoping review over a systematic review to provide an overview of the evidence, versus to critically appraise and answer a particular question. A quality assessment is not a requirement of the Scoping Review method used in this study. We did, however, capture the types of study design which as noted were heterogenous.

The following are some papers that – based on my current understanding of inclusion/exclusion criteria – could be included. [This is not to oblige the authors to include them, but gives an idea of where my current lack of clarity has led me]
o Potter (2010). Clinic versus over-the-counter access to oral contraception: choices women make along the US–Mexico border. https://doi.org/10.2105/AJPH.2009.179887
o Arnet (2009). Emergency hormonal contraception in Switzerland: a comparison of the deregulation. https://doi.org/10.3109/13625180903147765
o Rubin (2011). Use of emergency contraception by US teens: effect of access on promptness of use and satisfaction. https://doi.org/10.1016/j.jpag.2011.03.013
o Smartzis (2012). Six years after deregulation of emergency contraception in Switzerland: has free access induced changes in the profile of clients attending an emergency

pharmacy in Zurich? https://doi.org/10.3109/13625187.2012.661108
o Both (2014). Keeping silent about emergency contraceptives in Addis Ababa: a qualitative study among young people, service providers, and key stakeholder

Response: Thank you for highlighting these papers. As noted above, we have tried to more clearly outline our inclusion/exclusion criteria. These studies were reviewed but ultimately not included based on our eligibility criteria.

Results
In Study Characteristics it is not clear how all the pharmacist activities captured are different (how is screening, provision of treatment, different from 'screening and treatment') – this is again where a description of various pharmacist activities in the Intro (through a Table?) would be useful. I'm not sure myself what the difference between 'provision of medication through protocol' and 'pharmacists-only medication' is (from Table 2).

Response: Thank you for bringing this to our attention. We have added a sentence to describe the difference between these terms (for example, screening and treatment refers to both of these services being offered and evaluated versus screening or treatment only).

In the HIV section: This again goes back to how inclusion/exclusion criteria are currently described (and the lack of clarity). How is PrEP provision or antiretrovirals provision not the same as a 'dispensing' function?

Response: We understand this concern. Indeed, the PrEP study involved the pharmacist prescribing HIV PrEP (not dispending a prescription for PrEP) and ongoing screening for STI/HIV (instead of a physician). This was not dispensing only. We have added 'follow-up' to this sentence to capture the complete intervention.
"Havens et al. implemented a pilot whereby individuals started on HIV PrEP could choose to be followed by a community pharmacist for ongoing sexually transmitted infection (STI)/HIV screening, follow up, and PrEP prescribing."

In the HIV section and HCV sections: several articles (39,41,42 in HIV, for example) seem to be reporting system side challenges (pharmacists' remuneration, integration into daily workflow) which goes against the selection criteria, as I've understood them.

Response: Further to our earlier response described above, we reported outcomes of studies that were included based on our eligibility criteria. In some cases, pharmacists' perspectives were also evaluated, in addition to patients' perspectives or other patient outcomes, and therefore we reported this.

In the HPV section: It's important to focus on presenting just the data relevant to the study question. As an example, it's not relevant to THIS research question to present baseline data from Navarrete, if not also presenting the change as a result of the pharmacy intervention.

Response: We would agree. We removed sentences that were not relevant to the study question in this section.

Discussion
In general, there are a NUMBER of outcomes that are presented in the results that aren't unpacked here in the discussion. Reactive tests, uptake of treatment (be it in the pharmacies or through a referral), service promotion for HPV vaccination (arguably not sure that this is relevant for this review) are examples. In short, its mostly the attitudes/perception and service

delivery outcomes that are interpreted (paragraphs 3). This leaves the discussion feeling underdeveloped and the reader without insight as to how uptake numbers compare to other services, how pharmacies fit into the broader system of health service providers.
o A more detailed example of the above: In all of the Results sections on STIs, the percentage of reactive tests is presented. These data are very difficult to interpret without context. Is 1.2% (as reported in study number 50) a 'normal' incidence of HCV compared to other testing outlets? These numbers are never reflected on in the Discussion. In contraception describing the method mix can more stand on its own in the results section but it would be useful to unpack this in the discussion as well.

Response: We have significantly revised the discussion to provide more in-depth discussion of results. With respect to comparing positivity rates or reactive results to other testing outlets, this is very challenging given that this differs depending on the STBBI itself, study design, intervention, population targeted etc. We have added this to the discussion:
"SRH services provided by pharmacists at community pharmacies reached vulnerable and high-risk groups. The analysis of studies reporting interventions highlighted variable findings. Since positivity rates of STBBI vary depending on study and intervention designs, testing technology, jurisdictions, risk behaviours, population groups and year of implementation,[83] the variability in findings reported by studies included in this review is not surprising"

In the Limitations section, arguably the lack of papers on insertion of certain LARCs like intrauterine devices is not really a gap in the literature – it's unrealistic to assume pharmacists could do anything other than refer ppl interested in IUDs.

Response: We have revised this point in the discussion to clarify this. There has been significant expansion in some jurisdictions with respect to LARC. Pharmacists can complete a patient assessment and provide education on different options for contraception to help women make an informed choice. In some jurisdictions (for example, in Alberta, Canada) pharmacists can also prescribe LARC. However, referral is needed for IUD insertion. This has been clarified.

Reviewer 3
Thank you for the opportunity to review this manuscript. The authors have undertaken a scoping review in an important topic area. I have some minor suggestions to offer to further strengthen the manuscript.

Response: Thank you for your comments.

Abstract
I felt that more detail was needed in the results section. The authors could refer to the gaps identified in service provision, particularly when this was reported in the conclusion.

Response: We thank the reviewer for this important comment. We have significantly revised the abstract in order to provide more detail in the results.

Introduction
Second paragraph: for the sentence starting 'Pharmacists are also authorized to administer injections,' please specify contraceptive injections
In the text, further explanation about how this review differed to the recent systematic review by Gauly et al (to further explain the knowledge gap) is warranted

Response: Thank you for this feedback. We have significantly revised the introduction and specified contraceptive injections. We have also more clearly highlighted the difference between this scoping review and the systematic review by Gauly et al.

Methods

I commend the authors for their thorough search strategy. However, given that the search was completed in July 2020, I would urge the authors to confirm if any further primary articles have been published since this time, for possible inclusion. This is particularly important given that a lack of research in particular topic areas is emphasised in the discussion.

Response: Thank you for this feedback. We acknowledge the relevance of this topic and would agree that an up-to-date search is important. Therefore, we updated our search to July 2020 prior to finalizing the paper for submission in November. We decided that proceeding with an updated search is not feasible due to the time required to complete the rigorous steps in the process and considering that a new search could yield at least 1,000 articles to screen (considering our two previous searches and results from 6 databases). We believe our broad and comprehensive search is a solid representation of the literature on this topic.

I understand that the authors focused on the role of the pharmacist, but wondered if any papers reported the role of pharmacy staff (e.g. pharmacy assistants) in this context? Also, I wanted to know why pharmacist residents or interns were excluded when in practice they could be involved in some aspects of service delivery under pharmacist supervision.

Response: As the focus of the scoping review was professional pharmacy services provided by pharmacists, we did not capture studies that reported on roles of other pharmacy staff such as pharmacy assistants or technicians. We wanted to capture studies that reported outcomes on services provided by pharmacists. We excluded studies that reported services provided only by a pharmacy resident, for example as part of a pilot project (i.e., not a community pharmacist). The reason for this is these articles did not reflect provision of professional pharmacy services by community pharmacists.

What authors were involved in the descriptive analysis?

Response: All authors were involved in the descriptive analysis. We added this to the manuscript.

Results

In the supplementary table, the positivity rate for Anderson et al was 9.8% but this does not align with the text presented on Page 11.

Response: Thank you for this comment. This has been changed to 9.8% in page 10 (previously 11) in the results section.

Page 12: Please include further detail on the three programs used by Fernandez-Balbuena et al (in the table); Ford et al in the text is reported as Crawford et al in the Table (Ref 41); further detail on the educational strategies used in Ref 45 and 46 would be useful.
Insight into how many studies provided pharmacists with additional education or training to deliver these services would be useful. This was not reported and an important consideration when thinking about the suitability of pharmacists to provide these services.

Response: Thank you. We agree this is an important consideration. We have added some additional detail for the paper by Fernandez-Balbuena. This paper describes the roll-out of pharmacy testing

programmes in partnership between Regional Ministries of Health and pharmacy professional organizations in each region of Spain. The three regions implemented the same service; however, due to space limitation, it is challenging to go into a lot of detail to describe the roll-out in each region. Thank you for bringing this to our attention, we edited the name of the author in the text, it was Crawford (ref 53 now) as it is in the table. Regarding references 45 and 46 (Hohmeier et al. and Jimenez-Quinones et al., now ref. 60 and 61), we have added some additional detail in the supplementary material 3. While the focus of our review was not on education and training of pharmacists, we also included in Table 2 how many studies reported additional training was provided to pharmacists.

Page 13: The authors make a statement about Buchannan et al for two studies (Ref 48 and 49) but it was not clear if these two papers involved the same study participants. The authors also stipulate in the text that ref 49 included individuals attending for needle exchange, but the participant information is not specified in the table.

Response: Thank you. We reviewed the two papers to explore this possibility. The authors do not explicitly state if the same participants were included although there was overlap in dates. We elected to include both studies as the first study described the screening and point-of-consultation services in more detail, as well as outlined screening for other STBBI that was done by the pharmacist. The second study focused on HCV only and reported cost-effectiveness and HCV treatment outcome data. We have added participant information to the table.

Page 14: Monastersky Maderas and Landau are referred to differently in the table (Monastersky and Cohen)

Response: Thank you for pointing this out to us. This has been changed in the table (supplementary material 3).

Page 15: further information on how the pharmacists accurately detected ED would be useful to include

Response: We agree. Detection of ED was based on the validated Sexual Health Inventory for Men. This has been added to the text.

Discussion
Page 16: Reconsider use of CT as an acronym; the authors report that many studies were determined to be feasible, but I am not sure that this information was entirely reported in the results section; the authors should compare their findings in relation to privacy with the work of Chirewa and Wakhisi, and Gauly et al.

Response: Thank you for this feedback. We have deleted the acronym and spelled out chlamydia. Not all studies evaluated feasibility however we have included this where applicable. We also compared findings related to privacy with Chirewa and Wakhisi, and Gauly et al.

The authors argue that partnerships were important; did any of the included studies report the perspectives of other stakeholders such as physicians about this role/service delivery?

Response: We did not include studies that focused on perspectives of physicians or other stakeholders and we did not come across these perspectives in the articles included. During our analysis, we noted that partnerships and collaborative inter-professional work was relevant for the delivery of SRH pharmacy-based services, so we did analyze if partnerships were established as part of the service and reported this in the manuscript. To our knowledge, other studies have reported

perspectives of physicians and policy makers, but those were not eligible according to our criteria focused on the delivery of professional pharmacy services. This may be an interesting focus for future work.
Page 18: please specify Tdap for readers who may not be familiar with this acronym; check sentence with “during these times this time” for readability

Response: We have deleted the acronym and Tdap has been spelled out. The discussion has been significantly revised for readability and flow.

Limitations: please add that study limitations or quality were not reported (as stated in article summary); consider reporting here that while barriers were noted, papers focused on pharmacist attitudes or perceptions of service were not included therefore this information may not be complete or represent the entirety of barriers acknowledged.

Response: Thank you for these suggestions. These points have been added to the discussion as limitations of our review.

Conclusion
My only suggestion here was that consumer awareness came across to me as a larger barrier than remuneration, and maybe this should be the focus in this section?

Response: Agree. We have removed remuneration in the conclusion.

Supplementary Table 3
Please change numbering – not material 1 but 3; please consider reordering in accordance with reference number to make it easier to find the article when reading the text.

Response: Thank you. Numbering has been changed and the table (supplementary material 3) has been reordered based on reference numbers.

VERSION 2 – REVIEW

REVIEWER	Glasier, Anna University of Edinburgh
REVIEW RETURNED	30-Apr-2021

GENERAL COMMENTS	This paper is much better and I congratulate the authors on the attention they have paid to the reviewers comments: it is a very thorough re-write and must have been a lot of work. I do not have any further comments.

REVIEWER	McMillan, Sara Menzies Health Institute Queensland, Griffith University, School of Pharmacy and Pharmacology
REVIEW RETURNED	12-May-2021

GENERAL COMMENTS	Thanks for considering feedback given.