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Citation for published version:
Cameron, S, Brown, A, Boydell, N, Reynolds-Wright, JJ, Harden, J & Purcell, C 2023, *Evaluation of telemedicine early medical abortion at home in Scotland*. Scottish Government, Edinburgh. <https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2023/03/evaluation-telemedicine-early-medical-abortion-home-scotland/documents/evaluation-telemedicine-early-medical-abortion-home-scotland/evaluation-telemedicine-early-medical-abortion-home-scotland/govscot%3Adocument/evaluation-telemedicine-early-medical-abortion-home-scotland.pdf>

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Document Version:
Publisher's PDF, also known as Version of record

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Download date: 26. Mar. 2023

Evaluation of telemedicine early medical abortion at home in Scotland

March 2023

Scottish Government
Riaghaltas na h-Alba

Evaluation of telemedicine early medical abortion at home in Scotland

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Summary

Background

This report presents the findings and recommendations from an evaluation of the current approach to early medical abortion at home in Scotland, as adopted since March 2020.

In Scotland, the great majority of abortions are performed using two medications, called mifepristone and misoprostol, to end the pregnancy. Prior to the pandemic, prescription of both medicines required an in-person clinic visit with the mifepristone taken in the clinic and an ultrasound scan administered routinely in every case. Since late 2017, a Ministerial approval had already permitted patients to take the second medication, misoprostol, at home up to ten weeks' gestation. This change had already been shown to be working effectively and welcomed by patients.

Public Health Scotland data shows that the vast majority of abortions are conducted at an early stage of pregnancy (less than 12 weeks' gestation) – and that has remained the case during the pandemic. Most patients pass the pregnancy at home rather than in a hospital or clinic in a process called early medical abortion at home (EMAH).

At the start of the COVID-19 pandemic, changes were introduced to EMAH so that patients could continue to access abortion care without the need for an in-person visit. As part of these changes, the Scottish Government issued a Ministerial approval to allow the first medication, mifepristone, also to be taken at home. This was accompanied by policy changes and changes to clinical protocols (in Scottish Abortion Care Providers (SACP) guidelines) that recommended:

- consultations could take place by telephone or video call
- medications could be delivered to the patient's home
- an ultrasound scan was only necessary before an abortion if clinically required (such as uncertainty over stage of pregnancy or pain or bleeding)

The Scottish Government undertook a public consultation exercise from September 2020 to January 2021 on whether the changes to abortion care that were introduced during COVID-19 should remain in place. The consultation exercise revealed a range of strongly held views on future arrangements for EMAH, with many welcoming the new arrangements, but many others raising concerns around perceived risks. As an outcome of this exercise, the Scottish Government commissioned this evaluation of the COVID-19-related arrangements for provision of EMAH. This was to ensure that Ministers had sufficiently robust evidence available in relation to patient safety and experiences in Scotland to enable them to make decisions about the future approach, and to identify examples of good practice or areas for improvement of service delivery around the country.

Aims

The aims of this evaluation were:

1) To determine whether the delivery of EMAH in Scotland, without any in-person appointment, is a safe and effective means of providing abortion treatment, both in terms of evidence of clinical risk and of patient experience.
2) To evaluate the comparative effectiveness of the differing approaches used by NHS Boards since March 2020 to deliver early medical abortion at home (in terms of patient safety, patient experience and wider sexual health service provision for patients having abortions).

The key research questions to be considered by the evaluation to answer the above were:

1. What are the clinical benefits and risks of delivery of early medical abortion at home in Scotland without an in-person appointment?
2. What are the advantages and disadvantages for patients of the current approach to early medical abortion at home versus the pre-March 2020 approach?
3. To what extent have different groups of patients been impacted in different ways by the delivery of early medical abortion at home in Scotland without an in-person appointment, how and why?
4. In comparison with the pre-March 2020 approach, how effective are the different approaches adopted to delivery of early medical abortion at home in different NHS Health Boards in terms of:
    - Patient safety
    - Patient experience
    - Access to and uptake of wider sexual health service provision

   What are the advantages and disadvantages of each differing approach?

Methods

The evaluation consisted of four work packages (WPs):

- (WP1) Review of the effectiveness of EMAH and serious complications (haemorrhage, severe infection) and adverse outcomes (inadvertent treatment after 12 weeks, ectopic pregnancy diagnosed after treatment) associated with it across Scottish Health Boards in the 6 months before and 12 months after the changes were introduced using data provided by eight of the eleven mainland NHS Health Board areas;
- (WP2) Mapping of patient pathways for EMAH at each Health Board to provide clarity about the different approaches used. A questionnaire was sent to each Board for completion and draft maps subsequently verified by participating Boards for accuracy;
- (WP3) Online survey of the experiences of 327 patients of EMAH following introduction of the changes to care; and
- (WP4) Qualitative interviews with 27 abortion care staff delivering EMAH across nine Scottish NHS territorial Health Board areas to assess abortion care providers'

perspectives on what constitutes safe, high-quality abortion care in Scotland, and gain insight into approaches used to inform service improvements in abortion care[1].

Findings

1. **What are the clinical benefits and risks of delivery of early medical abortion at home in Scotland without an in-person appointment**?

Benefits

WP1 showed that there was no change to the high success rate of EMAH (over 98%). There were also no indications of marked change in the low rate of serious complications before and after the introduction of changes to EMAH.

WP3 showed that the great majority of patients responding to the survey valued the greater flexibility and choice associated with the current approach. Patients valued the option of a telephone consultation and over 90% felt that option should continue to be available. Almost all (97%) of survey respondents felt that the option of taking **both** abortion medication pills at home should continue.

In addition, the NHS staff interviewed (WP4) identified enduring benefits of changes to the provision of EMAH, such as: improved access to care for patients; overcoming geographic barriers to timely care; reducing the need for patient travel; reducing need for multiple appointments and associated time required for these. Staff also noted that they believed the new model of EMAH enhanced patients' control and autonomy over the abortion process.

Staff interviewed (WP4) reported that their confidence with conducting safeguarding assessments by phone grew over time. Staff felt able to determine which patients may have issues and need to make an in-person visit.

Risks

This evaluation considered a number of risks. In relation to safety, two main risks of patients not all having an in-person appointment and therefore not all routinely having an ultrasound scan were considered. Firstly, the risk of an ectopic pregnancy not being diagnosed was reviewed and, secondly, the risk of the patient being at a later gestation (over 12 weeks) than had been estimated when having their abortion treatment. It is important to note that given such complications or adverse events were very rare, the number of cases reviewed was not sufficient to confirm whether or not the change in approach led to any changes in relation to the safety of EMAH.

However, while the sample size was not big enough to draw robust conclusions on rare forms of complications, it is sufficiently clear that there are no indications of concerning increases in serious complications or of significant numbers of patients accessing the medications at home at later gestations. This finding broadly mirrors that from a study

[1] WP4 utilised findings from an ongoing project conducted by one of the co-investigators (Nicola Boydell), undertaken as part of, and funded by, a THIS (The Healthcare Improvement Studies) Institute fellowship.

carried out by providers in England, which was able to consider data regarding a larger number of abortions[2]. Additionally, the numbers show that ectopic pregnancy was a complication before and after the changes, which is consistent with previous studies showing that even routine ultrasound in all patients can sometimes miss pregnancy of unknown location/ectopic pregnancies.

Another potential risk of shifting to a telephone consultation (where there is no subsequent in person appointment) is that staff may miss visual cues that could alert them to safeguarding issues. Conversely, for some individuals telephone consultations may help them disclose safeguarding matters as they might find that they are able to talk more freely and able to divulge details of abuse.

2. What are the advantages and disadvantages for patients of the current approach to early medical abortion at home versus the pre-March 2020 approach?

Staff (WP4) considered that the changes had been generally positive, resulting in improved access and more patient-centred care, and giving patients more autonomy over the process. They noted that the new model resulted in fewer clinic appointments for patients and less time off work, reducing the need to arrange childcare or carer duties. They also noted that the telemedicine appointment may offer less ‘visibility’ for those patients who may be concerned about maintaining privacy and confidentiality of their care. Staff also noted that using telemedicine had helped to reduce waiting times for patients.

The patient survey (WP3) provides strong support from patients for keeping the current approach to EMAH. Indeed, most survey respondents were either very satisfied or slightly satisfied with the care they had received from the abortion service. They expressed support for retaining the options of: a telemedicine consultation; administering both abortion medications at home; and having medications delivered to home or collected from clinics or a community pharmacy. Findings from the staff interviews (WP4) also provided support for keeping the new models of EMAH care.

3. To what extent have different groups of patients been impacted in different ways by the delivery of early medical abortion at home in Scotland without an in-person appointment, how and why?

Staff (WP4) reported that the new model of care offered advantages that may particularly benefit certain groups such as those facing geographic barriers to care, as well as those on low incomes and carers, as it was associated with fewer visits, less travel and time off work or reduced need to make arrangements for those who were carers for others. Staff noted that this way of delivering care was especially important in rural and remote areas because it enabled them to provide high-quality care via phone/video, even when in a different geographic location.

The patient survey (WP3) showed support for continuing flexibility in the models of care from the great majority of respondents. Whilst most respondents were from the two largest Health Boards, it did have respondents from across Scotland. In addition, just under one half of all respondents were from the most deprived postcode areas, showing that support

[2] See Effectiveness, safety and acceptability of no-test abortion (termination of pregnancy) provided via telemedicine: a national cohort study

for the new ways of delivering EMAH care are supported by patients from both deprived and affluent backgrounds. Unfortunately there were not sufficient numbers of respondents either from minority ethnic groups or who declared that they had a disability to allow for any comment on whether any of these groups' views differed in any way from the overall responses.

Mapping of the EMAH pathways across Scotland (WP2) revealed some variations in EMAH service delivery by different Health Boards, most notably in whether all or only a minority of patients (who met certain criteria) had an ultrasound scan; whether patients were given options in how they could access their abortion medications; and access to a comprehensive range of ongoing contraception. In addition, not all Health Boards provided EMAH up to 12 weeks of pregnancy as per WHO recommendations and in line with what is permitted under the Scottish Abortion Care Providers guidelines of March 2020[3] . See the service summary chart on page 24.

4. **In comparison with the pre-March 2020 approach, how effective are the different approaches adopted to delivery of early medical abortion at home in different NHS Health Boards in terms of:**
    - **Patient safety**
    - **Patient experience**
    - **Access to and uptake of wider sexual health service provision**

    What are the advantages and disadvantages of each differing approach?

Given the high safety in both time periods, and extremely small numbers of any adverse outcomes, any meaningful comparison in complication rates between Health Boards was not possible.

Similarly, whilst there were responses from patients in all except two of Scotland's Health Board areas, many of the Board areas had too few responses to allow for any real comparison of how experiences between patients in different Health Board areas varied.

Findings from the staff interviews (WP4) provided support for keeping the new models of EMAH care from across all the Health Boards who participated. It was recognised that some Health Boards, particularly smaller services, faced greater challenges than others in ensuring flexibility for patients or adapting to changes in Ministerial approvals. Whilst all Health Boards provided some written and/or oral information to patients about the abortion process, it was recognised by some staff that there would be benefits in sharing good practice to ensure consistent, good quality and up to date information was available to patients in all areas.

Although discussions about contraception and testing for sexually transmitted infections (STI) can still take place by telephone, the removal of an in-person visit removes the opportunity to provide some (but not all) methods of contraception at that time and to undertake STI testing at that time. However, the patient pathways (WP2) showed that some Health Boards were still able to provide a wide range of contraceptive methods along with abortion medication and had pathways in place to help the patients that wanted to use a contraceptive implant or intrauterine device to access these as soon as possible. The review of patient pathways (WP2) showed that Health Boards did have pathways in place for STI testing and these included sending self-sampling kits to patients, providing

[3] SACP March 2020 guidance

antibiotics to those at highest risk of STI, arranging a clinic visit for testing or signposting them to a local sexual health clinic.

Conclusions

The findings of this evaluation evidence the high effectiveness of EMAH care in Scotland, as well as showing that there are no indications of any concerning changes in the low levels of complications. This, alongside high levels of acceptability to patients and staff support for continuing the new models of care, indicates that the benefits of the current flexible model outweigh any risks associated with not always having in person appointments. There are some variations in EMAH service delivery across the country, which currently result in less choice for patients in some Health Board areas compared to others.

A number of recommendations are set out below. Some of these come directly from the findings of this evaluation in comparing the effectiveness of the current model of EMAH with the model in place until March 2020. Others are more general recommendations, which emerged from the findings of WPs 2, 3 and 4, although they are suggested to address wider challenges associated with abortion care, rather than being due to issues specifically caused by the current approach to EMAH.

Recommendations

1. **Continuation of approval for home administration of mifepristone for EMAH.**

   The evaluation was commissioned to inform this decision and provides evidence to support the effectiveness and acceptability to patients and staff of home use of mifepristone. Whilst there was insufficient data to draw robust conclusions on safety in relation to rare complications, there were conversely no indications of concerning increases in risks of complications. There should therefore be continuing approval for home use of mifepristone as set out in the existing May 2022 Ministerial approval[4].

2. **Develop quality information around abortion care for national use.**

   All Health Boards provide patient information on EMAH that they have developed locally, but some Health Boards may find it more difficult than better resourced boards to keep this information updated when changes are introduced to models of care. The Health Board pathways and responses to the patient survey suggested some differences in the written and oral information provided about the abortion and other related services. There is an opportunity with the national NHS website NHS Inform to provide standardised, quality information in a range of formats (including audiovisual animations or films) and languages easily accessible to support informed choice and access to telemedicine EMAH across Scotland. This should include clear information on what the procedure involves, including experiential information to better meet patients' expectations of pain and bleeding as some free text feedback from the patient survey indicated that patients were not all made aware of how painful the process would be.

[4] See Abortion – Approval extension for Mifepristone to be taken at home

3. **Improve equity of access to telemedicine EMAH across Scotland.**

   The Health Board pathways showed variations in access to appointments for abortion consultations across Scotland. With availability of telemedicine there is the opportunity to provide consultations more flexibly across the week to improve consistency of the service patients are offered across different Health Boards. Given the challenges faced by smaller Health Boards (such as limited numbers of staff), consideration could also be given to formalising arrangements for one or more Health Boards to work more closely together to bridge gaps in availability of EMAH services.

4. **Optimise the patient pathway for EMAH across Scotland with more choice of options around elements of care including a wide choice of post-abortion contraception.**

   Given variability between Health Boards in the models of EMAH and the patient survey feedback reflecting the desire for choice of options, patient pathways should be optimised across Health Boards to ensure they are patient-centred. Specifically, choices should be offered on: the mode of consultation - in-person or telephone/ video (unless there is a clinical need for an in-person visit); whether to have an ultrasound scan (unless this is clinically indicated); choice to have EMAH up to 12 weeks; choice of how to access medications; wide choice of contraceptive options and availability of options for testing for sexually transmitted infections (such as provision of a self-sampling kit or an appointment at a clinic).

5. **Support (funding, training, leadership) for staff of abortion services to help them implement improvements to EMAH care.**

   This is applicable to abortion services more generally. Through staff interviews in particular it was apparent that because abortion services in Scotland are part of larger services (hospital or sexual and reproductive health), they must compete with funding or staffing in other parts of the service to implement service improvements. Smaller Health Boards with fewer staff may find this most challenging. Continuing to support the abortion care providers' network across Scotland will provide support for service improvements, including the development of shared national guidelines, opportunities for collaborative research, and peer support.

Background

In Scotland, the great majority of abortions are performed using two medications, called mifepristone and misoprostol, to end the pregnancy.

Data from Public Health Scotland for 2021[5] shows that most abortions are conducted at an early stage of pregnancy (less than 12 weeks pregnant) and that increasing proportions of these are cases where the patient takes one or both medications at home and passes the pregnancy at home rather than in a hospital or clinic – often referred to as early medical abortion at home (EMAH).

EMAH is not new in Scotland. What is new in Scotland is the option for patients to take the first medication (mifepristone) at home rather than swallow it in a clinic. This option became available at the start of the COVID-19 pandemic when, on 30th March 2020, Scottish Ministers issued an approval[6] that allowed those eligible for EMAH to take mifepristone at home. Prior to this, patients had to attend a clinic to take mifepristone and could only take the second medication (misoprostol) at home[7]. This change to home use of mifepristone was important to minimise the risk of transmission of COVID-19 through in-person clinic visits and unnecessary travel. Changes in clinical protocols that took place in response to the approval also included:

- consultations taking place by telephone or video call
- pre-abortion ultrasound scans were no longer conducted routinely but were instead conducted when judged to be clinically necessary (for example if there was uncertainty about the stage of pregnancy or if there was pain or bleeding and an ectopic pregnancy was suspected)
- option for abortion medication to be delivered to patients at home

These changes were supported by a number of organisations, including the Royal College of Obstetricians and Gynaecologists[8] and Scottish Abortion Care Providers network.

These changes were also in line with World Health Organization guidelines that now recommend a) that medical abortion can be conducted with self-administration of both mifepristone and misoprostol at home in the first 12 weeks of pregnancy; and b) the use of telemedicine consultations[9]. Guidance from the National Institute of Health and Care Excellence (NICE) on abortion care issued in 2019 also recommended that telemedicine consultations should be available as an option to improve access to abortion care for patients[10].

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[5] See Public Health Scotland Termination of pregnancy statistics year ending 2021

[6] See Abortion – Covid-19 – Approval for Mifepristone to be taken at home and other contingency measures guidance

[7] See Abortion – improvement to existing services – approval for Misoprostol to be taken at home

[8] See Royal College of Obstetricians & Gynaecologists – Coronavirus (COVID-19) infection and abortion care

[9] See World Health Organization (WHO). Abortion care guidelines, 2022.

[10] See NICE Abortion care guidance, 2019

The approval for home use of mifepristone was initially established as a temporary measure, whilst COVID-19 remained a considerable public health threat. Published evidence collected from one region of Scotland (NHS Lothian) in 2020 indicated that the newly introduced EMAH model was sufficiently safe, effective and acceptable to patients and service providers[11]. At the same time, published evidence from England and Wales of over 29,000 EMAH cases also provided support for the safety and effectiveness of this model of care[12] and survey data confirmed acceptability to patients[13].

From September 2020 to January 2021, the Scottish Government undertook a public consultation exercise on whether the changes to abortion care that were introduced during COVID-19 should remain in place[14]. The consultation revealed a range of strongly held views on future arrangements for EMAH, with many welcoming the new arrangements, but many others raising concerns around perceived risks. As an outcome of this consultation exercise, it was decided that a national evaluation on EMAH was needed, due to the concerns raised by a number of consultation respondents.

The Scottish Government subsequently commissioned this evaluation of the COVID-19-related arrangements for provision of EMAH to ensure that Ministers had sufficiently robust evidence available in relation to experiences in Scotland, in order to support their decisions about the future approach. It was also anticipated that the evaluation findings might identify examples of good practice or areas for improvement in service delivery around the country.

A note on terminology: The term 'patient' is used throughout the report because it is a gender-neutral term referring to a person receiving medical care. During staff interviews, staff referred to both 'women' and 'patients'. Most people who seek and receive abortion care are (cisgender) women, but it is important to recognise that other people also receive abortion care. 'Patient' is a clear and accurate term that encompasses both groups. Furthermore, recent research demonstrates that people seeking abortion prefer the term 'patient'[15].

[11] See Telemedicine medical abortion at home under 12 weeks' gestation: a prospective observational cohort study during the COVID-19 pandemic; Adherence to treatment and prevalence of side effects when medical abortion is delivered via telemedicine: a prospective observational cohort study during COVID-19; Women's experiences of a telemedicine abortion service (up to 12 weeks) implemented during the coronavirus (COVID-19) pandemic: a qualitative evaluation; A qualitative study of abortion care providers' perspectives on telemedicine medical abortion provision in the context of COVID-19

[12] Effectiveness, safety and acceptability of no-test medical abortion (termination of pregnancy) provided via telemedicine: a national cohort study. BJOG

[13] See Client satisfaction and experience of telemedicine and home use of mifepristone and misoprostol for abortion up to 10 weeks' gestation at British Pregnancy Advisory Service: A cross-sectional evaluation; Acceptability of no-test medical abortion provided via telemedicine during Covid-19: analysis of patient-reported outcomes

[14] See Consultation on Future Arrangements for Early Medical Abortions at Home responses

[15] See British Medical Journal Patient and Public Involvement (PPI) in abortion research: an exploratory survey

Aims

The aims of this evaluation as detailed in the Scottish Government-commissioned invitation to tender were:

- To determine whether the delivery of EMAH in Scotland without any in-person appointment is a safe and effective means of providing abortion treatment, both in terms of evidence of clinical risk and of patient experience.
- To evaluate the comparative effectiveness of the differing approaches used by NHS Boards since March 2020 to deliver early medical abortion at home (in terms of patient safety, patient experience and wider sexual health service provision for patients having abortions).

The key research questions to be considered by the evaluation to answer the above were:

1. What are the clinical benefits and risks of delivery of early medical abortion at home in Scotland without an in-person appointment?
2. What are the advantages and disadvantages for patients of the current approach to early medical abortion at home versus the pre-March 2020 approach?
3. To what extent have different groups of patients been impacted in different ways by the delivery of early medical abortion at home in Scotland without an in-person appointment, how and why?
4. In comparison with the pre-March 2020 approach, how effective are the different approaches adopted to delivery of early medical abortion at home in different NHS Health Boards in terms of:
    - Patient safety
    - Patient experience
    - Access to and uptake of wider sexual health service provision

    What are the advantages and disadvantages of each differing approach?

Methods

The evaluation comprised four work packages (WP), using multiple methods (quantitative and qualitative) to enable systematic triangulation of data sources which would address the evaluation objectives and questions. The methods used in the four work packages are detailed below.

Work Package 1: Effectiveness and safety

This WP was designed as a comparative retrospective cohort study to compare rates of success, adverse outcomes, and serious complications with EMAH in the six months pre- and 12 months post- the introduction of the COVID-19 approval to EMAH delivery. **This WP was designed to provide data to address research questions 1, 2 and 4.**

The evaluation team contacted the clinical leads of all NHS abortion services in Scotland and asked them to report on: outcomes of abortion, as per the existing definitions set out in the Medical Abortion Reporting of Efficacy (MARE) guidelines[16]; any severe complications; and other agreed adverse outcomes of interest. Data were requested to cover two time periods, before and after the introduction of the changes to EMAH. The outcomes and complications that they were asked to report on were agreed at the outset of the project in conjunction with the clinical leads of the abortion services. The time periods chosen were the six months prior to the COVID-19 approval (October 2019-March 2020) and 12 months following this (April 2020-March 2021).

The abortion outcomes, severe complications and other agreed adverse outcomes were:

- Outcomes of abortion:
  - complete abortion (without the need for surgical evacuation)
  - ongoing pregnancy after treatment
  - incomplete abortion (requiring surgical evacuation)
  - medical management of retained products of conception (treated with additional mifepristone and/or misoprostol)

- Serious complications:
  - haemorrhage (1 litre or more, or requiring transfusion)
  - severe infection (requiring intravenous antibiotics)

- Other adverse outcomes of specific interest in relation to the changes made with respect to pre-COVID 19 practice:
  - diagnosis of ectopic pregnancy after treatment commenced
  - expulsion of a pregnancy at an advanced gestation (over 12 weeks)

- Other outcomes of interest:
  - hospital admission for pain management
  - unscheduled hospital attendance within 24 hours of misoprostol
  - reattendance to the abortion service within six weeks for a concern related to abortion

[16] See Medical abortion reporting of efficacy: the MARE guidelines - contraception, 2016

Clinical leads were also asked to provide clinical details (pseudonymised) of all these cases, sufficient for the purposes of verifiying that the outcome/complication met the agreed criteria. In addition, as a further quality check to ensure that data on safety were as accurate as possible and to minimise underreporting of adverse outcomes or complications, the evaluation team undertook a validation exercise. For this, Public Health Scotland (PHS) provided data on the numbers of cases of re-admission to hospital within one month of EMAH due to specific adverse outcomes and complications, together with some pseudonymised details. These data were then provided to the abortion lead in each Health Board so that they could cross-check that the data they had submitted were as accurate as possible.

Data was provided from eight of the eleven mainland NHS Health Board areas (Ayrshire and Arran, Borders, Dumfries and Galloway, Fife, Grampian, Greater Glasgow and Clyde, Lothian and Tayside). The participating Health Boards included those providing the greatest number of abortion procedures, and those performing the highest proportion of EMAH procedures. A small number of women underwent EMAH who resided in the three Island Board areas, and these cases were included in the data from the mainland support board (Grampian for Orkney and Shetland, and Greater Glasgow and Clyde for Western Isles).

The remaining Health Boards were either not able to submit data (one board) or else submitted incomplete data without sufficient case details to permit verification of the outcome or complication (two boards). This was mainly due to staffing constraints and time pressures.

Data on the total numbers of EMAHs within each time period in each Health Board were provided by PHS. These data are publicly available and routinely collected by PHS, based on the monitoring data provided to the Chief Medical Officer (1).

The sample size for WP1 was based upon annual figures for abortions in Scotland, and the proportion of these that involved EMAH.. A sample from the six-months prior to March 2020, and a 12-month period after the changes were introduced, was expected to give a reasonable sample size to compare rates of effectiveness (complete abortion rate) of EMAH over the two time periods. However, given that adverse outcomes of abortion are uncommon, and serious complications of medical abortion are known to be rare (for example, the rate of haemorrhage is 1 in every 1000 patients), it was accepted that a much larger sample size (tens of thousands) in each group that would take many years of future data collection would be required to compare the rates of rare complications with statistical significance.

Given the small numbers of complications and adverse events, outcomes of EMAH, serious complications and adverse outcomes were reported as percentages. For comparisons of complete abortion rates in each time period, a Chi squared test of statistical significance was used (Graph pad, USA).

An application to conduct WP1 was submitted to Public Benefit and Privacy Panel for Health and Social Care (HSC-PBPP) in May 2022 and approval was given in August 2022.

Work Package 2: Mapping clinical abortion care pathways

WP2 was developed to provide context for understanding the models of abortion care in place across Scotland, and provided information relevant to **addressing all of the research questions, with a particular focus on helping to respond to research**

question 4. We aimed to map abortion care pathways for all NHS Health Boards with a particular focus on EMAH. A list of key points in the abortion care pathway was developed and refined in consultation with the evaluation team. These included: referral pathways; key elements of service delivery; treatment options offered; and safeguarding processes. They also included wider elements of sexual and reproductive health provision, such as contraception provision and testing for sexually transmitted infections.

A questionnaire gathering these items (see Appendix 2) was sent to lead clinicians in abortion care at each Health Board and an initial map was developed based upon these responses. The initial maps were sent to the Scottish Government policy and analytical teams for feedback. Following this feedback, further items of interest were added and the lead clinicians were contacted twice more to check the maps for accuracy and to add requested additional information. The mapping activity started on 23rd January 2022. The final versions of pathways were confirmed on 21st October 2022. The maps produced therefore reflect pathways in place at this time and not necessarily those that were in place during the timeframes covered by the data collected for WP1.

The service maps were used to contextualise the data collected in other work packages within this report. From the maps, we also generated a list of recommended processes and procedures for services around EMAH.

Work Package 3: Patient experiences of abortion care

This work package was undertaken to provide data to address **research question 3 and 4** as well as aspects of the other research questions. An online quantitative survey (anonymous) was conducted of those who had undergone EMAH in any Scottish Health Board in the preceding three weeks. The online survey tool used conformed to NHS security standards.

Patients received information about the survey from clinic staff in their pre-abortion consultation and were given a leaflet in their home medication pack. The leaflet included a URL link and a QR code to the online survey. Those who wished to participate were advised to use the link (or QR code) provided to complete the survey two to three weeks after treatment. They could opt out of the survey at any time and also choose not to complete questions if they wished. Patients were also given the option to respond to the same survey conducted via telephone with a researcher (clinical research nurse/midwife) at the same time point, although no patients took up this option.

The survey was designed to determine views on patients' experience and satisfaction with care overall, and specific aspects of care, including:

- the type of pre-abortion consultation received
- the privacy of the consultation
- the information provided on EMAH
- contraceptive counselling and provision of contraception
- the offer of testing for sexually transmitted infections
- questioning on gender-based violence
- views on having/not having an ultrasound scan
- access to abortion medications
- views on continuation of elements of EMAH service delivery

The survey also requested some demographic characteristics of respondents (age range, ethnicity, Health Board area). The questions were developed in close collaboration with staff in abortion services across Scotland (Scottish Abortion Care Providers network). The final survey comprised 34 questions. Four initial questions ensured the individual was giving informed consent and was eligible to participate. The subsequent 30 questions on their experience and demographics required tick box responses to a range of options (see Appendix 3). Respondents also had the opportunity to provide free text comments at the end of the survey.

Descriptive analysis of each question was generated by the online survey tool, including numbers and percentages of total responses to each question. Free text comments were categorised by the research team as positive or negative and grouped into themes.

The NHS Lothian Information Technology Governance team approved the data protection impact assessment that detailed the plan for data capture, handling, and storage of the survey data. NHS Lothian Caldicott gave approval for the survey in June 2022. Approval at each NHS Health Board was also given. The need for local Quality Improvement Team approval at each board resulted in different timing of starting the survey, as well as significant delays in starting at all boards (see Appendix 4). The duration of the survey ranged between 1 to 4 months at each board. The survey commenced on 4th July 2022 with others Health Boards starting later and all surveys closed on 30th November 2022.

Work Package 4: Staff perspectives on provision of abortion care

This work package utilised findings from an ongoing project conducted by one of the co-investigators (NB) called The ENHANCES Study (undErstaNding provider perspectives on High-quality AbortioN CarE in Scotland. This was undertaken as part of a THIS (The Healthcare Improvement Studies) Institute-funded fellowship that examines NHS staff (abortion care providers) perspectives on provision of abortion care, and the integration of patient experience in quality improvement. As such, WP4 was conducted seperately, although in parallel to, the main EMAH evaluation study.

One of the key aims of this work package was to explore abortion care providers' perspectives on what constitutes safe, high-quality abortion care in Scotland, and gain insight into approaches used to inform service improvements in abortion care. The study also explored barriers and facilitators to service provision and implementation (including telemedicine and home use of both abortion drugs, mifepristone and misoprostol) and staff perspectives on the integration of patient experience (including participatory approaches) into service improvement activities. The ENHANCES study findings provide insights on staff perspectives on key areas related to **research question 4, but also contributed to the other three research questions.**

Between February and October 2022, staff working in abortion services (nurses, midwives, and doctors) in Scottish NHS territorial Health Board areas were invited to participate in a qualitative study. The primary inclusion criterion was being involved in the provision and delivery of abortion care (including direct provision, leadership and management) in Scotland.

Staff were recruited from nine Scottish NHS territorial Health Board areas (NHS Lothian, NHS Greater Glasgow & Clyde, NHS Grampian, NHS Western Isles, NHS Forth Valley, NHS Shetland, NHS Ayrshire & Arran, NHS Tayside, NHS Fife). The sample comprised 27 individuals with a variety of experience and skill levels involved in the provision of abortion

care: consultants/abortion service leads (n=13); nurses/midwives (n=11); specialist trainees in sexual and reproductive health or obstetrics and gynaecology (n=3).

The study employed a purposive, network-based and snowball sampling approach to provide representation across occupational groups and level of experience in abortion care provision. There were no predetermined participant numbers within each category of the sampling frame.

Information about the study was disseminated using: (1) email advertisements shared via the Scottish Abortion Care Providers network (with permission from co-chairs of the network); (2) through professional networks; and (3) snowball sampling (colleagues sharing information about the study). Although the study was with clinical staff, recruitment did not take place directly through NHS boards. Staff who chose to participate did so in their own time. Staff were provided with information on the study and invited to contact the researcher if they were willing to participate in an interview. Consent for study participation was obtained prior to interview. Participants were not paid for their participation.

One of the investigators (NB) conducted the interviews using a topic guide which covered:

- staff experiences of the introduction of telemedicine for early medical abortion during COVID-19
- practical dimensions of abortion service provision
- perspectives on what constitutes high-quality abortion care (including patient experience)
- barriers and enablers to high-quality abortion care
- views on the future of early medical abortion, including telemedicine care

Interviews were conducted online (n=23) or by telephone (n=4), were digitally recorded, and lasted between 40 and 80 minutes. Interviews were transcribed verbatim by a University of Edinburgh-approved General Data Protection Regulation compliant external transcription service.

Interview data were analysed thematically by NB. NVivo Qualitative Data Analysis Software (Version 12, 2018, QSR International Pty Ltd) was used for data coding and management. An initial coding framework, which captured both the original research questions and emergent issues, was developed and applied to the interview data. The coding scheme was revised and refined (iterative cycle) as analysis progressed. Recurrent themes were identified through a process of cross-comparison. NB met regularly with members of the wider research team to discuss analytic interpretations; the composition of the team allowed discussion of the data from different disciplinary perspectives. At the time of writing, further in-depth analysis is ongoing.

The study was reviewed, and received favourable ethical opinion, by the Edinburgh Medical School Research Ethics Committee (EMREC) at the University of Edinburgh (Application 21-EMREC-052; 25 January 2022).

Findings

Work Package 1: Patient Safety

Public Health Scotland data showed that there were 4223 EMAH procedures carried out in Scotland during the six month pre COVID-19 period (October 2019-March 2020) and 11041 EMAH procedures in the 12 months following this (April 2020-March 2021).
In the pre-COVID-19 period, EMAH was used up to 10 weeks' gestation. In the subsequent period EMAH was available until 12 weeks' gestation. Only 3% of EMAH procedures in the period from April 2020-March 2021 were between 10 and 12 weeks' gestation.

Public Health Scotland data showed that the total number of EMAH procedures conducted at the eight participating boards equated to 2374 EMAH procedures in the six-month period pre-COVID-19 (October 2019-March 2020), and 9031 abortions carried out over the 12-month period between April 2020-March 2021. Therefore the data reviewed covered the majority of EMAHs in Scotland during those time periods.

The effectiveness of EMAH was defined as complete abortion rate (i.e. excludes ongoing pregnancies and cases of incomplete abortion requiring surgical intervention). The complete abortion rate was high and was not significantly different between the two time periods; 98.5% pre COVID-19 and 98.8% in the subsequent period; P=0.34 (Table 1).

The rates of ongoing pregnancy, incomplete abortion requiring surgical evacuation, and retained products of conception with medical management were also low with no indication of potential differences between the time periods.

Table 1. Outcome data during the pre-COVID-19 and subsequent time period

	Pre-COVID (Oct 2019-Mar 2020) (< 10 wks)	Post-COVID Apr 2020-Mar 2021 (<12 wks)
Complete abortion	98.5%	98.8%
Ongoing pregnancy	0.5%	0.75%
Incomplete abortion	1%	0.5%
Retained products of conception managed with additional mifepristone and/or misoprostol	0.5%	0.5%

As noted previously, the sample sizes make it difficult to draw firm conclusions in relation to any of the rare forms of complication considered. However, there was a low rate of haemorrhage in both time periods. There were no cases of severe infection requiring treatment with intravenous antibiotics in either time period (Table 2).

Table 2. Serious complications during the pre-COVID-19 and subsequent time period

	Pre-COVID EMAH (< 10 wks)	Post-COVID EMAH (<12 wks)
Haemorrhage of > 1 litre or requiring a blood transfusion	0.3%	0.2%
Severe infection requiring intravenous antibiotics	0	0

The adverse outcomes of particular interest in this evaluation, were ectopic pregnancy diagnosed after treatment had been commenced and inadvertent treatment at a gestation above the Scottish clinical guidelines for EMAH at that time period. This is because in the pre-COVID-19 period, all patients had a routine ultrasound, but, in the subsequent 12 month period, ultrasound was used selectively in most Health Boards where clinically indicated, such as for those at high risk of ectopic pregnancy, or with pain, bleeding, or other significant risk factors. It continued to be used routinely only by a small number of Health Boards.

In the six month pre-COVID period there were no cases of inadvertent treatment above 10 weeks of pregnancy. In the longer 12 month post-COVID-19 period, there were a very small number of cases where EMAH medication was taken by someone at or above 12 weeks gestation but under 20 weeks (Table 3).

Ectopic pregnancies were rare both before and after the changes in practice. Even though numbers were insufficient to test difference, there were no marked observable changes that suggest a concern about any change in risk. Ectopic pregnancies occurred even when ultrasound was routine in all cases[17]. In addition, some of the cases of pregnancy of unknown location or ectopic pregnancy diagnosed following the changes in practice did have an ultrasound before receiving abortion medication, but the ultrasound did not detect the ectopic pregnancy.

[17] See Utility of a routine ultrasound for detection of ectopic pregnancies among women requesting abortion: a retrospective review. BMJ Sexual and Reproductive Health

Table 3. Adverse outcomes after treatment during the pre-COVID-19 and subsequent time period

	Pre-COVID EMAH (< 10 wks)	Post-COVID EMAH (<12 wks)
Ectopic pregnancy diagnosed after starting treatment	0.04%	0.1%
Inadvertent treatment at higher gestation*	0	0.03%

*inadvertent treatment >10 weeks if pre-COVID-19, or >12 weeks in subsequent period.

Health Boards also reported on admissions to hospital for pain, admissions for other concerns related to abortion within 24 hours and from 24 hours to six weeks. The rates of admission for any cause were low in both time periods (Table 4).

Table 4. Other outcomes of interest - unscheduled clinic or hospital attendance for concern related to abortion

	Pre-Covid EMAH (< 10 wks)	Post-Covid EMAH (<12 wks)
Admission/attendance within 24 hours of misoprostol	0.2%	0.2%
Admission/hospital attendance within 24 hours to 6 weeks after EMAH	1.7%	1.4%
Admission for pain management	0.1%	0.1%
Total	2.0%	1.6%

Work Package 2: Mapping clinical abortion care pathways

The finalised maps are available as appendices [Appendix 1a-m] and are used to contextualise the data collected in other work packages within this report. It was not possible to gather sufficient information from NHS Highland to include details on their EMAH pathway in this report. Patients from NHS Western Isles and NHS Shetland receive abortion care from larger neighbouring Health Boards (NHS Greater Glasgow and Clyde, NHS Grampian, and NHS Highland) and so some of the processes outlined below are carried out by these other Health Boards.

Referral processes

All Health Boards gave patients the option of self-referring to abortion services. These referrals were processed by administrative staff in the majority of Health Boards and by nursing staff in the remaining boards.

Advance provision of information

All but one of the Health Boards made information about abortion available in advance of the pre-abortion consultation. Most commonly, this was by directing patients to the clinic website for information. Some Health Boards also sent text messages or emails with links to further information.

Clinic timings

Two thirds of Health Boards had abortion clinics running on four days per week or more. Nine Health Boards had clinics at variable times during the day, with one health board offering evening appointments.

Types of consultations offered

All Health Boards except one offered consultation by telephone with some boards offering a choice of telephone or in-person appointments. No Health Boards routinely offered video consultation, although some stated that they could offer this if requested by a patient.

Safeguarding processes

All Health Boards had safeguarding processes embedded into abortion services that included routine questions on safeguarding at the pre-abortion consultation, whether that was in-person or remote consultations. All Health Boards offered staff training to identify safeguarding issues. Some Health Boards used tools to aid assessment of safeguarding issues, for example the ‘West of Scotland Child Sexual Exploitation Screening Tool’, structured questions as part of routine enquiry, or a ‘safe word’ to alert clinicians to arrange an in-person appointment if used during a consultation.

Systems used for delivering care

There was variation across boards in the use of IT (Information Technology) systems for delivering abortion care. Most Health Boards used more than one IT system along with paper records and paper prescriptions.

Pre-abortion investigations

Two Health Boards performed pre-abortion ultrasound scans on all patients to confirm the stage of pregnancy. The remaining Health Boards conducted ultrasound selectively and on clinical indications according to clinical guidelines. The leads of abortion services in the Health Boards performing selective ultrasound estimated that a pre-abortion ultrasound was conducted in between one-third to two-thirds of patients. In addition, all Health

Boards carried out other investigations based on clinical need rather than routinely. In most boards, testing for blood-borne viruses and sexually transmitted infections were conducted following risk assessment.

Types of abortion provided

All Health Boards provided the option of EMAH. All Health Boards except for one also provided the option of medical abortion in hospital. Ten Health Boards provided surgical abortion. One Health Board reported willingness to provide surgical abortion, but indicated that since COVID-19, they no longer had access to theatre space to perform these.

Gestations for abortion care

All but four Health Boards provided EMAH up to 12 weeks, as recommended by national guidelines. Most Health Boards had a maximum gestation for providing abortion of 19 weeks and 6 days. Two Health Boards provided abortions to higher gestations (21 weeks and 21 weeks and 6 days). Two Health Boards (small island boards) provided to an earlier gestation.

Access to abortion medications

All Health Boards offered collection of medications for EMAH from a healthcare facility (clinic or hospital). One Health Board offered collection from a designated community pharmacy. Five Health Boards used the option of posting medications, four of which indicated that most patients preferred to collect medications rather than receive them by post.

Location of mifepristone administration

All but one Health Board gave patients the option of choosing to administer mifepristone at home or in the clinic and said that most patients selected the home option. One Health Board indicated that most patients took mifepristone in clinic and another board indicated that around one half of patients took it in the clinic. These were both smaller Health Boards.

Following abortion

All but one Health Board provided patients with a recommended urine pregnancy test to confirm the success of EMAH. All Health Boards had a follow-up route for patients to access aftercare where required. Just over half of Health Boards stated that they conducted routine audit of abortion outcomes in their service.

Contraception

Most Health Boards included the offer of supplies of contraception in the medication packs for patients having EMAH. This was usually the progestogen-only pill; however some boards offered combined hormonal contraception and one board included supplies of the self-injectable contraceptive in this pack, where patients requested this method. All but one Health Board offered rapid access to a clinic for insertion of subdermal implants or intrauterine devices.

Examples of good practice for EMAH

Whilst most Health Boards provided EMAH (Table 5), the large, predominantly urban boards were able to provide consultations on most weekdays and offered EMAH up 12 weeks of pregnancy in line with what is permitted under national guidelines. Other examples of innovative practice were from Health Boards who offered a postal service for

abortion medications to those living in remote and rural areas and outside their own board areas (NHS Greater Glasgow and Clyde, Tayside and Grampian).

Table 5 Health boards and pathway for early medical abortion at home

Health Board	Self Referral	Advance Information	Telemedicine available	Safeguarding processes	Ultrasound	
					Clinical reason	All
A & A	Yes	Yes	Yes	Yes	Yes	No
Borders	Yes	Yes	Yes	Yes	Yes	No
D & G	Yes	Yes	Yes	Yes	Yes	No
Fife	Yes	Yes	Yes	Yes	Yes	No
Forth Valley	Yes	Yes	Yes	Yes	Yes	No
GG & C	Yes	Yes	Yes	Yes	Yes	No
Grampian	Yes	Yes	Yes	Yes	Yes	No
Lanarkshire	Yes	Yes	Yes	Yes	Yes	No
Lothian	Yes	Yes	Yes	Yes	Yes	No
Orkney	Yes	No	No	Yes	No	Yes
Shetland	Yes	Yes	Yes	Yes	No	Yes
Tayside	Yes	Yes	Yes	Yes	Yes	No
Western Isles	Yes	Care delivered by other Health Boards				

A&A = Ayrshire and Arran; D&G = Dumfries and Galloway; GG&C = Greater Glasgow and Clyde

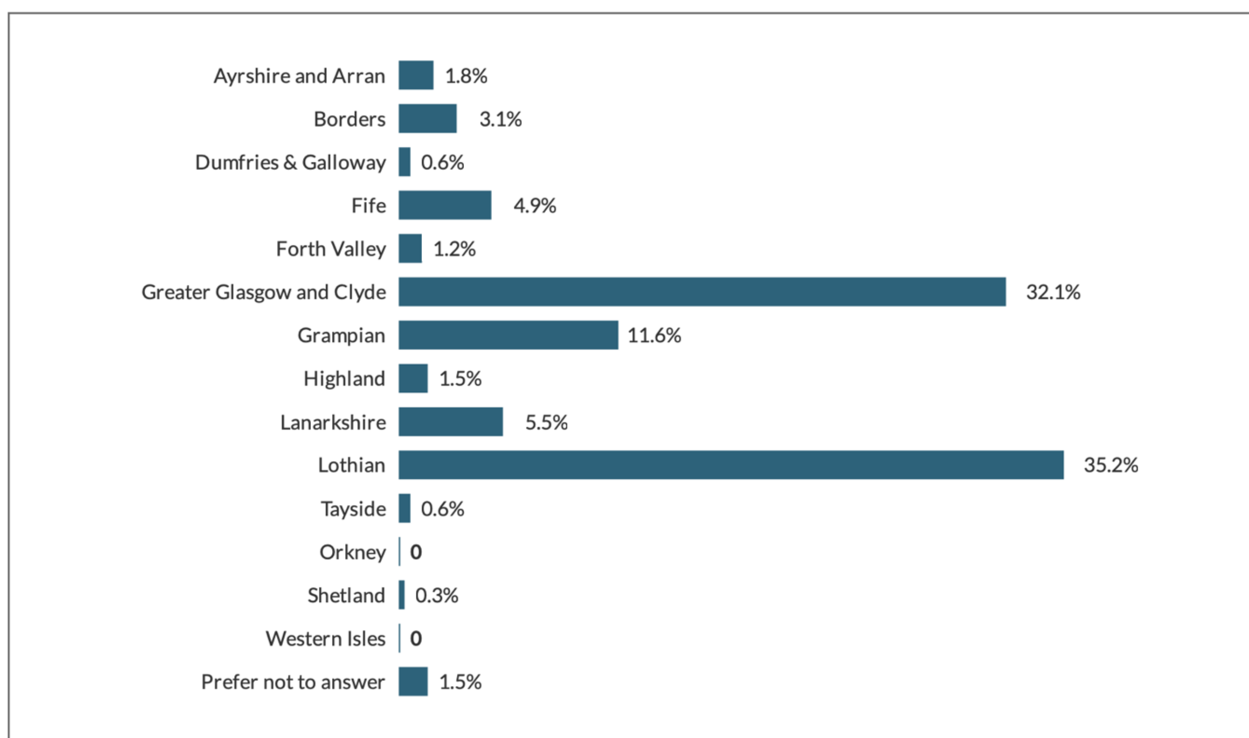
Work Package 3: Patient experiences of abortion care

A total of 327 questionnaires were completed and analysed. Although patients had the option of completing the questionnaire via telephone rather than online, no one chose the telephone option, and all completed the questionnaire electronically.

Demographics

Over two thirds of respondents were from the largest Health Board areas of NHS Greater Glasgow and Clyde and NHS Lothian. No survey responses were obtained from Orkney or Western Isles. (Figure 1)

Figure 1. Health Board in Scotland where respondents received treatment



Respondents were all 16 years or older and the most common age category was 25-29 years (28% of responses). One half of all respondents had been educated to university level. Almost all (99%) identified as female and as women. In terms of ethnicity, 89% identified as White/White Scottish/White British ethnicity. This was followed by 4% as Black/African/Caribbean/Black Scottish/Black British. The next most common category (3%) Asian/Scottish Asian or British Asian. The remainder were of mixed ethnicity, or other ethnic groups. Ten respondents (3%) indicated that they had a disability and these were all in the mental health category.

154 respondents provided partial postcode information, which allowed the postcode sector to be determined. We calculated the proportion of postcodes in these sectors that belonged to the 20% most deprived postcodes (also known as Scottish Index of Multiple Deprivation, SIMD, quintile 1, see Scottish Index of Multiple Deprivation 2020).

44% lived in an area where none of the postcodes were in SIMD quintile 1, 11% lived in an area where more than half of the postcodes were in SIMD quintile 1 and the remaining 45% lived in an area where less than half of the postcodes were in SIMD quintile 1.

Pre-abortion consultation

A total of 284 respondents (87%) stated that they had all or some of the pre-abortion consultation by telephone with the remaining 13% having exclusively in-person consultations at a clinic. In 30% of cases involving a telephone consultation, the respondent had an initial phone call, but then also needed to make an in-person visit. No respondents had their consultation via video call.

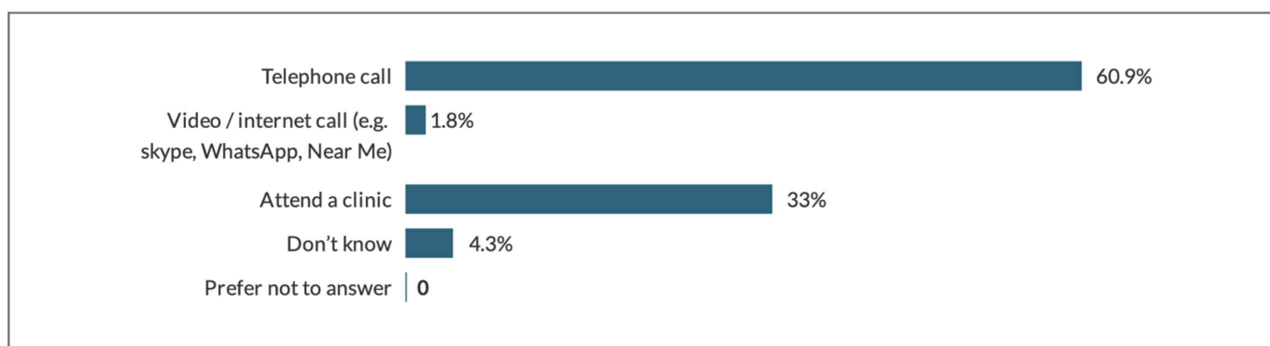
Of those who had some or all of the consultation by telephone, 93% felt that they could talk privately without risk of being overhead and 5% indicated that they could not. The remainder either felt they could not talk privately but that privacy was not important to them, or chose not to answer this question.

Respondents were asked to rate how satisfied they were with having their consultation in this way (telephone or in-person, or a mix of both); on a five point scale from 'very satisfied' to 'very dissatisfied'. The most common response was 'very satisfied' (79%), followed by 'fairly satisfied' (13%), 'neutral' (5%) and 'slightly dissatisfied' (3%). Only 0.3% were 'very dissatisfied'.

94% of respondents agreed that they were given enough information (online, written and/or verbal) about the abortion and any potential side-effects. Over three quarters of respondents (78%) felt they had enough time and opportunities during the consultation to discuss any uncertainty or how they were feeling about having an abortion, but 5% felt they did not have enough time. A further 15% indicated that whilst they did not have time/opportunities to discuss this, they did not feel they needed to discuss this.

When asked which type of consultation they would have chosen if given the choice, the most common response (over 60% of respondents) was 'telephone consultation' (Figure 2).

Figure 2. Response to question 'If you could have chosen a particular type of consultation to discuss abortion, which would you have chosen?'

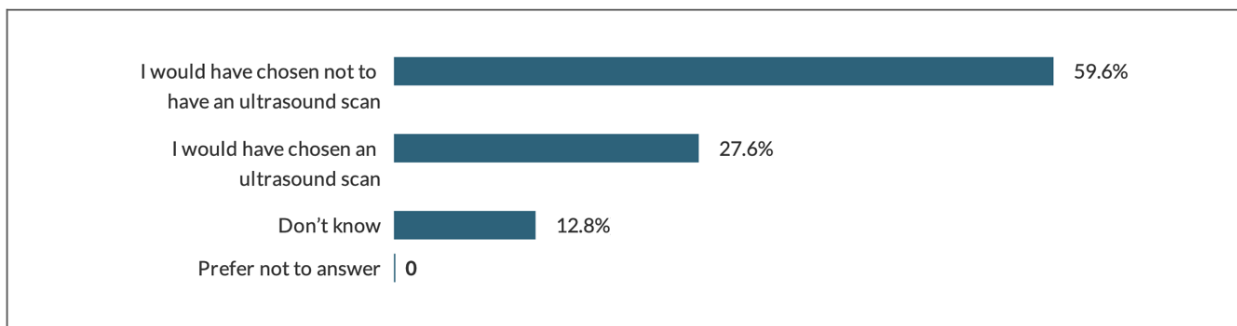


Pre-abortion ultrasound scan

Just over half (56%) of all respondents had a pre-abortion ultrasound. Of this group, two thirds agreed that they were fine about having an ultrasound before they could start treatment, but 19 respondents (11%) stated that they would have preferred not to have ultrasound.

Of the 156 who did not have ultrasound, 60% stated that if given the choice, they would have chosen not to have ultrasound and 28% would choose an ultrasound (Figure 3).

Figure 3. Response to question 'if you could have chosen whether or not to have an ultrasound scan before taking medical abortion pills, what would you have chosen?'



Medical abortion pills at home

85% of respondents took both mifepristone and misoprostol at home. The remainder took mifepristone in a clinical setting followed by misoprostol at home.

94% of respondents collected the medications from a clinic, others had them delivered by courier (4%), and the remainder by delivered by post or collected from a pharmacy. When medications were delivered by courier they arrived same day or next day.

Wider sexual and reproductive healthcare

98% of respondents indicated that at the pre-abortion consultation they were offered a discussion on contraception and 84% were also offered supplies of contraception in their medication pack.

In 70% of cases, respondents recalled that they were offered a test for sexually transmitted infections such as a swab to take home or a test at a clinic. A further 21% indicated that they did not want testing for sexual infections. 6% stated that they were not offered testing, but would have liked to have been offered.

71% of all respondents stated that they had been questioned about gender-based violence at the pre-abortion consultation, 20% had not and 9% were unsure.

Continuation of current arrangements for medical abortion at home

When asked 'Do you think that patients should continue to be offered the option of having a telephone/video/internet consultation for abortion?' 92% were in favour, 4% were not in favour and 5% answered 'don't know'.

97% responded 'Yes' to the question: 'Do you think women who are eligible for an abortion at home should continue to be offered the option of taking both pills for medical abortion (mifepristone and misoprostol) at home?' 2% stated 'don't know' and 1% stated 'no'.

87% of respondents supported continuation of the option to deliver or post abortion medications. 92% also supported continuation of the option to collect abortion medications from a community pharmacy. 5% were not supportive and 3% indicated 'don't know'.

Patients were also asked about their overall satisfaction with their abortion care. In response to the question 'Overall, how satisfied were you with the care you received from the clinic before, during and after the abortion?', most (92%) indicated satisfaction. Specifically, 83% were very satisfied, 9% slightly satisfied, 5.5.% neutral, 2.4% slightly dissatisfied and 0.3% very dissatisfied.

Free text comments

A total of 155 respondents made free text comments. Some made more than one point, giving a total of 206 discrete comments. These 206 comments were categorised by the research team as positive (68%) or negative (32%) and were grouped into themes. Many of these comments were general comments about the abortion service and so not directly relevant to the questions covered by this evaluation, but they still provided useful feedback. The most common theme, which is relevant to this evaluation, was 'praise for aspects of the EMAH service' (38%). Many of these comments indicated support for continuation of the current models of service delivery, noting a range of benefits including convenience, privacy, comfort and flexibility. The second most common theme - also from within the 'positive' category - was 'expressions of thanks to staff' for care received at abortion services (30%). In these comments, respondents reported gratitude towards staff for their kindness, non-judgmental and caring approach.

Negative comments were less common. 12% of comments were critical of aspects of the service including: the appropriateness of the procedure within the home setting, the location of clinics (and their being insufficiently close to home), and perceived negative attitudes of staff. Another 10% of respondents commented on the procedure and noted that their experience of bleeding and/or pain was worse than they had expected. 6% of comments indicated a preference for more follow up to be available following abortion. 3% commented that intimidation by anti-abortion protestors/vigils outside the clinic had negatively impacted their experience of accessing abortion. One comment (0.5%) cited limited availability of contraception.

Work Package 4: Staff perspectives on provision of abortion care

Findings from the ENHANCES study will be reported and published in peer-reviewed journals in due course. The main findings related to the research questions for this evaluation are outlined below.

Key benefits of changes to provision of EMAH

A key benefit of the 'new' model of EMAH articulated by staff was that it enabled treatment and care to be provided 'at the right time, in the right place'. Staff noted this was critical during the COVID-19 pandemic when access to clinics and hospitals was limited. However, enduring benefits of the EMAH model for patients accessing abortion were also highlighted, including**:**

- enabling timely access to abortion care
- overcoming geographic barriers to (timely) care
- reducing the need for travel

- reducing need for multiple appointments and associated time and travel costs
- enhancing patients' control and autonomy over the abortion process

These dimensions of the new model were understood by participants to enhance patient-centred care.

Telemedicine for EMAH was described as particularly important in rural and remote areas ("a lifeline for rural services") because it enabled staff to provide high-quality care via phone/video, even when in a different geographic location. For patients living in remote island communities, telemedicine also helped address issues around privacy and 'visibility' for those who did not want to disclose their abortion.

> "[in rural and remote locations] the chances of you coming across a relative or somebody that you know are huge – it's high, very high. And the confidentiality of this process…or even early pregnancy process in itself, trying to keep a pregnancy within cover, you know, to allow the woman the privilege to release that information to people that she wants to know."

(P10, Nurse)

Telemedicine provision of abortion care was valued by staff because it has enabled timely provision of care in the context of ongoing workforce pressures across NHS Health Board areas. From a practical perspective, it was noted that it offered increased flexibility in managing staffing within services. For example, telemedicine consultations offer flexibility when managing staff absence (within and across Health Boards) by enabling staff to contact patients in various geographic locations.

> "COVID has really shown up how fragile various parts of healthcare systems can be. And we've ended up with situations where suddenly staff haven't been able to work because they were shielding for long periods of time or because they were self-isolating. Being able to provide telemedicine has been really helpful from that point of view."

(P2, Consultant)

Telemedicine consultations also enable services to manage 'demand' for consultations by, where possible, scheduling additional 'telephone clinics'. Although the widespread adoption of EMAH provision via telemedicine was seen as broadly positive, staff noted that EMAH should not be understood as 'optimal care' for all patients, especially where home circumstances may not be conducive to EMAH. In such cases, staff voiced a commitment to supporting patients to access the form of abortion care best suited to their needs.

> "[the service aims to] make it easy for people to access us and also that there's some choice in that. So if somebody does want to come in and see us face-to-face, or after a chat on the phone says no, I'd rather just come in and see somebody, that we've got that ability to do that and it's not just one pathway or one size fits all."

(P13, Consultant)

There was widespread agreement across staff from all professional groups that reverting to former (pre-COVID-19) models of care (in-person consultation, ultrasound for all and administration of mifepristone on clinical premises) would reduce flexibility in service delivery and increase waiting times and delays to treatment and care.

> "I think it would just be disastrous, to be honest, if we were to go back [to previous models of EMAH]. Because along with COVID, access to contraception just fell. So abortion rates have gone up a little bit but the access to contraception's gone down. I don't know we would manage our capacity […] I think people would be having to wait longer, abortions would be happening at a later gestation, they wouldn't be happening earlier."
>
> **(P9, Consultant)**

This would be likely to lead to more abortions at later gestations, increased demand for medical and surgical abortion in hospital settings and greater costs to NHS services. Staff also expressed concern that for patients, reverting to former models of care would also mean more appointments, more time for appointments (away from work, challenges in managing childcare, etc.), increased requirement to travel (with time and cost implications) all of which reduce access and convenience of care for patients.

Variations among and within boards in telemedicine EMAH service delivery

The COVID-19 pandemic required rapid changes to abortion processes and models of care including**:**

- remote consultations
- abortion medications being delivered at home
- ultrasound scanning only where clinically indicated
- implementation of revised protocols and screening processes

The mapping and analysis of clinical abortion care pathways (WP2) identified variations in elements of telemedicine services across NHS Health Board areas. This was reflected in staff interview accounts. Staff at senior levels acknowledged variations in the implementation and provision of care across Scotland linked to several issues, including:

- challenges around workforce
- service demand and capacity
- funding
- location of the service (geography, community or hospital-based) and
- effects of non-participation in abortion care by some staff (in some cases described as 'conscientious obstruction')

For example, staff reported that many NHS abortion services have, and continue to, experience intense workforce pressures related to issues such as the ongoing effects of the COVID-19 pandemic; staff sickness and 'burnout'; and staff leaving NHS. Increased demand for abortion care, without a concomitant increase in workforce and other resources, was also reported.

Staff commented on the ways in which the location of services could pose specific challenges. One way in which this manifest was through competing priorities and demands

across services. For example, within abortion services located in community sexual and reproductive health settings, there are demands for provision of other clinics beyond abortion, such as access to effective contraception, testing for sexually transmitted infections (STI) and other specialist services. In hospital-based services, staff described a necessary focus on obstetric and gynaecological emergencies, and competing demands for surgical beds for cancer treatment.

Changes to EMAH service provision were described as easier for services with strong medical leadership, and for larger Health Boards that were (and are) better resourced in terms of staffing. In large, research-active abortion services, implementation was supported by experience from ongoing research, and some staff noted that this made it easier for these services to rapidly pivot to new model(s) of care.

Some smaller board areas, including those where services are predominantly nurse-led, experienced challenges due to lack of strong medical back-up and 'championing' of abortion care. Some staff noted challenges for services where there has historically been a lack of visible (senior) support for abortion care, and in areas where there are high levels of staff non-participation in abortion care. Nevertheless, 'smaller' boards adopted innovative, collaborative approaches to enable the continued delivery of abortion care. For example, staff described strong inter-organisational working and relationships between NHS Health Boards and key individuals, including support from clinical leaders in larger boards and the sharing of protocols and examples of best practice.

> "…we've adapted a lot of [name of large Health Board service] information. They kindly shared their resources and things with us. So, we've been able to sort of model a lot of our paperwork and things for governance on them. I think the fact that these places have been up and running and it's been successful has allayed some of the fears."

(P12, Specialist Trainee)

Although evidence for the safety and effectiveness of telemedicine delivery of abortion care (delivered in line with clinical guidelines) was acknowledged, some participants noted that concerns circulating among staff about adverse outcomes, such as late diagnosis of an ectopic pregnancy or inadvertent treatment at a later gestation, served as a barrier to consistent implementation of telemedicine care**,** in particular the use of selective, rather than routine use of ultrasound. This most obviously manifested in differential 'appetites for risk' in relation to selective rather than routine use of ultrasound.

Although staff reported the rigorous application of clinical guidance when assessing the need for ultrasound scanning, and as part of safeguarding assessments (see process maps developed as part of WP2 for overview of safeguarding processes and pre-abortion clinical investigations undertaken in different Health Board areas), they noted that concerns and anxieties amongst staff, particularly during the transition to 'new' models of care (at the start of the COVID-19 pandemic), posed challenges to the implementation of telemedicine care.

In line with previous research in Scotland , staff reported that as telemedicine provision became an established way of working, confidence in clinical protocols (to minimise risks) increased and they became less anxious about selective use of ultrasound. Staff accounts suggested that this worked most effectively in services where there were clear pathways in place for seeking medical support and advice from senior leadership (nursing and medical).

Similarly, staff reported that any initial concerns they had about their (and colleagues') ability to identify safeguarding issues, including coercive control and domestic violence, because of the absence of visual cues during telemedicine consultations, diminished over time and that assessment tools for identifying safeguarding issues had been refined over time. Furthermore, staff described that as new EMAH models became established, confidence in their ability to pick up non-verbal cues developed, enhancing their ability to identify safeguarding issues.

> "…all of our staff are well trained at picking up the sort of, I suppose, non-verbal cues […] There are lots of things that you can pick up without actually seeing, and I think we've probably all learned that from all our different types of consultations.
>
> **(P14, Consultant)**

Staff also emphasised that provision of 'safe abortion care' extends beyond evidence-based clinical care (and mitigation of risks) and encompasses issues such as: addressing abortion stigma at multiple levels, enhancing opportunities for training and shared learning, and extending research, audit and evaluation. It also requires continued commitment to maintaining, and extending, access to legal abortion and addressing barriers to access including the implementation of buffer zones. Staff described such endeavours as contributing to safe abortion care by reducing barriers to access, enhancing patient-centred care and improving patient experience, all of which were understood to improved the quality and safety of abortion care.

Leadership and 'abortion care champions'

The importance of medical leadership was consistently highlighted by abortion care providers. Support from medical leaders enhanced staff confidence in protocols to ensure safety, and helped increase staff confidence in following key clinical guidance and conducting assessments (including selective ultrasound and safeguarding) during telephone consultations.

Strong clinical leadership (including abortion care champions) and support was understood by staff as critical for sustainable provision of high-quality, equitable care across Scotland. The importance of ongoing training and support for future generations of abortion care providers (across all professional groups - doctors, nurses, and midwives) was highlighted by staff across professional groups.

Staff identified the value of 'champions' of abortion care. 'Champions' were described as key staff who advance and support abortion services at both 'strategic' and 'local' levels. Examples of leadership and 'championing' of abortion care were cited across professional groups, not only at consultant or service lead level. For example, staff described the importance of consultants and service leads who visibly advocate for resources to support high-quality service provision at a 'local' level (within Health Boards), and improvements to equitable provision of care at a strategic level. Examples were also highlighted of nurses and midwives 'championing' local service improvements, such as increased availbility of community ultrasound scanning (where required).

Enhancing support and training, and nurturing future abortion care champions, across professional groups was described as important in enabling innovation in future abortion care provision.

Sharing lessons learned and future opportunities

Staff highlighted that lessons have been learned and expertise shared between NHS abortion services, such as sharing of telemedicine and safeguarding protocols. Services that have limited capacity for research have benefited from the expertise of research-active services in other Health Boards, through enhanced refinement of protocols over time.

The Scottish Abortion Care Providers (SACP) Network was described as an important mechanism for advancing high-quality abortion care in Scotland through the development of guidelines, opportunities for collaborative research, and peer support. Staff highlighted the importance of bi-directional learning between services providing care in urban and rural areas, and opportunities to strengthen and advance learning across varied service contexts. For example, staff described the value of training visits to other services to learn from good practice.

> "Us going to see how their service runs […] I've already worked in [name of large abortion services] see what their setup is like, because when you're setting up a service you think, I wonder if I've got this right, what else could I do […] Because you do feel vulnerable if you're just doing it on your own, but you need these people to support you."

(P10, Nurse)

Some nursing and midwifery staff voiced a desire for increased opportunities for inter-board/service learning and peer support, especially where there is limited intra-board/service support. For example, staff articulated the value of sharing learning at the (formerly) annual SACP Network Conference and intra-board training events. Such learning was emphasised as being important in managing experiences of professional stigmatisation linked to involvement in the delivery of abortion care.

The value of drawing on patient experience to inform service delivery and improvement was emphasised by staff across professional groups. Staff highlighted both formal (research and evaluation, patient engagement and involvement) and informal ('in the moment' patient feedback) mechanisms to support service improvement and redesign.

> "I think we've got to listen to the service users […] our job is to work, you know, within evidence-based practice and within the guidelines. Over and above that, we should listen to the service users as much as possible about how they think we could make this not really difficult for them".

(P1, Nurse)

Discussion

The evaluation set out to determine whether the new models of telemedicine delivery of EMAH in Scotland, which were introduced in response to COVID-19, are safe and effective. It also aimed to address: patient experiences; the advantages and disadvantages of the different models of care, how they impact on different groups; and wider aspects of care such as wider sexual health care provision. The findings as they relate to the specific research questions are examined below.

1. What are the clinical benefits and risks of delivery of early medical abortion at home in Scotland without an in-person appointment?

WP1 was designed to consider the question of risks and benefits of EMAH with or without an in-person appointment. The findings from analysis of the national data on outcomes and complications (WP1) showed continuing effectiveness after the changes introduced in March 2020 that included the switch from in-person consultations before EMAH to increased use of telephone consultations, with a subsequent in-person visit only if required. Indeed, no statistical difference was seen in the high success rate. Although it is acknowleged that the numbers of rare complications were too low to test robustly, serious complications were observed to be low over both time periods examined with no cause for concern and consistent with existing published literature[18] .

Another risk previously identified is that the shift to a telephone consultation may mean that staff may miss visual cues that would alert them to safeguarding issues. Staff interviewed in WP4 also reported that, with the shift to telephone consultations, they had initially been concerned that they may be less able to detect safeguarding matters by phone. However, they reported that their confidence with conducting safeguarding by phone grew over time and they felt confident with telephone questioning to determine who may have safeguarding issues and so subsequently needed to make an in-person visit. The patient pathways from the Health Boards (WP2) showed that questioning on safeguarding was indeed a routine part of the telemedicine pre-abortion consultation and that assessment tools for identifying safeguarding issues were in use by some.

The patient survey (WP3) showed that 7 out of 10 respondents could recall being asked about domestic violence or a partner being abusive to them. Staff (WP4) also noted that services had considered safeguarding issues, including being alert (during a telephone consultation) to safety issues without patients having to directly voice their concerns. For example, staff described how any concerns, voiced by the patient or picked up through other cues, triggered staff to arrange an in-person visit for them to be seen and assessed further. The findings from staff interviews echoed those from earlier qualitative research of abortion staff working in the NHS Lothian region, which outlined the use of 'safe words' that when used during a telephone consultation would trigger alternative arrangements and an in-person appointment (9). In addition, consultations can also be conducted by video call to gain more visual cues. Abortion service leads (WP2) reported that although video calls were an option available to them, they seldom used it.

In the patient survey (WP3), most respondents had a telephone consultation, either exclusively or before an in-person visit, and most reported they were able to speak privately. Furthermore, when asked which form of consultation they would choose in the future, the most common response was telephone consultation. An earlier qualitative study in Lothian, reported that woman valued the privacy, convenience and comfort afforded by a telephone consultation, and some felt better able to ask questions of the provider about abortion by telephone[19]. The same factors: privacy, convenience, comfort and flexibility were also cited in positive free text comments made by patients in this national survey (WP3). However, it is also notable that a sizeable minority (33%) would have preferred to

[18] Effectiveness, safety and acceptability of no-test medical abortion (termination of pregnancy) provided via telemedicine: a national cohort study

[19] Telemedicine medical abortion at home under 12 weeks' gestation: a prospective observational cohort study during the COVID-19 pandemic

have a consultation in the clinic in future, therefore reiterating that patients value being given a choice.

Findings from staff interviews (WP4) were consistent with the patient survey in identifying the benefits for patients. A further benefit of the shift to consultations by telemedicine noted in staff interviews was around its use in rural and remote areas because it enabled them to provide high-quality care via phone, even when in a different geographic location. Staff also noted that the current approach helped reduce waiting times for treatment for patients compared to what they would otherwise have been and allowed staff to work more flexibly. Staff reported that telemedicine provision of abortion care also offered benefits for the wider NHS in the context of ongoing workforce pressures across NHS Health Boards. From a practical perspective, staff felt that it offered increased flexibility in managing staffing within services. There may also be cost benefits for the NHS with a telemedicine EMAH model. Although this evaluation did not include a cost effectiveness analysis, findings from England and Wales provide evidence of modest cost savings with new models of telemedicine EMAH care[20].

2. What are the advantages and disadvantages for patients of the current approach to early medical abortion at home versus the pre-March 2020 approach?

There are advantages for patients with the new approach to EMAH care, notably improved access to abortion as identified by staff in WP4. Data for 2021 on termination of pregnancy statistics from PHS also provides indirect evidence for improved access to abortion with this model of care as they show a decrease in average stage of pregnancy of patients having abortions of around one week following the introduction of changes. National evidence-based guidelines on abortion care advise that abortion is safer at earlier stages of pregnancy and that there is less pain and bleeding with earlier compared to later medical abortion procedures.

The findings from the patient survey (WP3) contribute understanding of patient experiences of the new model(s) of care and provide evidence of strong support from patients for keeping the current approach to EMAH. Indeed, most survey respondents (92%) were either very satisfied or slightly satisfied with the overall EMAH care they had received. They expressed support for retaining the options of: a telemedicine consultation; administering both abortion medications at home; and having medications delivered to their home or collected from clinics or a community pharmacy. Findings from the staff interviews (WP4) also provided support for keeping the new models of EMAH care. Staff considered that the changes had been positive, resulting in improved access and patient-centred care, and giving patients more autonomy over the process. They noted that the new model resulted in less clinic appointments for patients, and so less time off work and less need to arrange childcare or carer duties. They also noted that the telemedicine appointment may offer less 'visibility' for those patients who may be concerned about maintaining privacy and confidentiality of their care. Staff noted that this might be particularly relevant for abortion services in small or remote and rural communities.

Furthermore, avoiding an in-person visit would avoid feeling intimidated or harassed by anti-abortion protests or vigils outside clinics, as raised in some of the negative feedback

[20] See RCOG Telemedicine cost-effectiveness working group. Early medical abortion by telemedicine in the United Kingdom: a costing analysis. BJOG, 2022

in free text comments in the patient survey (WP3). However, it should be noted that it was clear from the Health Board pathways and the patient survey that the great majority of patients still visited a clinic to collect their medication, even if they did not have an in-person appointment.

Staff interviews also pointed out that the new models of care had provided greater choice and flexibility around the various elements of EMAH care. There was widespread agreement that reverting to former models of care with in-person visits and routine ultrasound for all would reduce flexibility in service delivery, and increase waiting times and delays to treatment and care. This in turn would be likely to lead to more abortions at later gestations and increased need for procedures in hospital settings.

However, the staff interviews also noted the importance of building in more choice, as whilst some elements of the new model of EMAH care might be desired by most patients, they may not be the preference for others. An example of this is the pre-abortion ultrasound, which was routine before March 2020, but subsequently was conducted upon clinical need. In the patient survey WP3, responses from those who did not have an ultrasound showed that, whilst most did not want an ultrasound, around one in five might, choose to have one if given the opportunity.

In terms of disadvantages for patients, the shift to telephone or video call consultation from an in-person visit removes the opportunity to provide certain methods of contraception to patients at that time. Methods such as contraceptive pills, condoms or even supplies of the contraceptive injection for self-administration can be provided in the medication packs for patients to start after EMAH. However, methods such as the contraceptive implant require to be fitted by a healthcare provider and so this means that patients wishing to use such methods after EMAH need to make a subsequent clinic visit. Review of the patient pathways (WP2) did show variation in the methods of contraception that abortion services across Scotland were providing after EMAH. It will therefore be important moving forward for services to review how they can ensure patients can access a comprehensive range of contraceptive methods in a timely fashion after EMAH.

The loss of an in-person visit also removes the opportunity to undertake testing for sexually transmitted infections (STIs) at the clinical appointment. This does not prevent a discussion about STIs and the offer to arrange testing either by arranging for them to be sent a self-sampling kit to return by post, or to arrange a subsequent clinic visit for this for patients who want this or are at high risk of having a STI. The review of patient pathways (WP2) showed that Health Boards did have pathways in place for STI testing with the new models of care and the patient survey (WP3) showed that seven out of 10 respondents could recall having been offered STI testing. This suggests that the new models of care are largely managing to mitigate these potential disadvantages.

3. To what extent have different groups of patients been impacted in different ways by the delivery of early medical abortion at home in Scotland without an in-person appointment, how and why?

In staff interviews (WP4), staff reported that the new model of care offered advantages that may particularly benefit certain groups, such as those facing geographic barriers to care as it was associated with fewer visits, less travel and time off work or reduced need to make arrangements for those who were carers for others. Staff noted that this way of delivering

care was especially important in rural and remote areas because it enabled them to provide high-quality care via phone/video, even when in a different geographic location.

The patient survey (WP3) showed high support for continuing the current models of care. Whilst most respondents were from the two largest Health Boards, it did have respondents across Scotland. In addition, just under one half of all respondents were from the most deprived postcode areas, showing that the new ways of delivering EMAH care are supported by patients from both deprived and affluent backgrounds. Unfortunately though there were not sufficient numbers of responses from either patients from minority ethnic groups or from patients reporting having a disability to allow for any comment about how the approach to EMAH affected them.

Analysis of the EMAH pathways across Scotland (WP2) revealed some variations in EMAH service delivery, most notably in what proportion of patients had ultrasound, whether patients were given options in how they could access their abortion medications and access to a comprehensive range of ongoing contraception. In addition, not all Health Boards provided EMAH up to 12 weeks of pregnancy as per WHO recommendations[21] and in line with what is permitted in Scotland[22] . This means that in some Health Boards patients may have more or less choice of elements of care than in others.

4. In comparison with the pre-March 2020 approach, how effective are the different approaches adopted to delivery of early medical abortion at home in different NHS Health Boards in terms of:

Patient safety

Given the high rates of safety and effectiveness in both time periods, and extremely small numbers of any adverse outcomes, any meaningful comparison of the relative safety of the approaches between different Health Boards was not possible.

Patient experience

The overall responses to the patient survey suggested that the great majority of patients were keen to be offered choice in how they accessed the service, which suggests those Health Boards offering greater flexibility were more likely to be welcomed by patients. Findings from the staff interviews recognised that some Health Boards, particularly smaller services, faced greater challenges than others in ensuring flexibility for patients or adapting to changes in Ministerial approvals.

However, similarly to patient safety, unfortunately whilst there were responses from patients in all except two of Scotland’s Health Board areas, many of the Board areas had too few responses to allow for any real comparison of how responses between patients in different Health Board areas varied.

Access to and uptake of wider sexual health service provision

The patient pathways (WP2) showed that some Health Boards were providing a wide range of contraceptive methods along with abortion medication. For those patients that wanted to use a method such as the contraceptive implant or intrauterine device that

[21] World Health Organization (WHO). Abortion care guidelines, 2022.

[22] Abortion – improvement to existing services – approval for Misoprostol to be taken at home

require to be fitted by a health care professional, Health Boards had pathways in place to help the patients access this and at the same time provided them with a short term supply of temporary contraception. The pathways did however show that some Boards were less proactive in offering contraception for patients. It will therefore be important for other abortion services that are not currently doing this to review how they can ensure patients can access a comprehensive range of contraceptive methods in a timely fashion after EMAH.

The review of patient pathways (WP2) showed that all Health Boards did have pathways in place for STI testing with the new models of care and these included sending self-sampling kits to patients, providing antibiotic prophylaxis to those at highest risk of STI or offering for the patient to reattend for testing or signposting them to local sexual health clinics.

Strengths and limitations

The strengths of this evaluation are that it is a Scotland-wide evaluation that examines the effectiveness of the new model of EMAH care and considers views of patients and staff across the country. The study design permitted comparison of outcomes of EMAH and complications in a six month period immediately before and 12 month period immediately after introduction of changes to EMAH and review of cases of complications and adverse outcomes for validation.

The evaluation has some notable limitations. In particular, the rarity of serious complications with EMAH means that the sample size is too small to detect differences in rates of rare events. In addition, not all NHS Health Boards contributed data on outcomes and complications; those not providing full data tended to be smaller Health Boards with limited staff resources. However, data from PHS on numbers of hospital readmissions (for validation purposes) suggested that numbers of complications related to abortion in small Health Boards were likely to be few in number.

Another limitation was that due to the protracted approvals process and the requirement for individual Quality Improvement Team (QIT) approval for the patient survey by each Health Board, the survey had a delayed and staggered start and most respondents came from the two largest boards of NHS Greater Glasgow and Clyde and NHS Lothian. However, these large boards were also early adopters of telemedicine EMAH and so were those mainly using this model of care. In addition, although the survey was national, patients had to actively choose to participate in the survey and so it is possible that patients who chose to participate may differ from those who chose not to.

Conclusion

The findings of this evaluation support the effectiveness, and acceptability of the current models of EMAH in Scotland and the work packages all indicate that the benefits of the current model outweigh any risks. The move to not routinely using ultrasound was associated with a small number of adverse outcomes (later than expected stage of pregnancy or delayed diagnosis of pregnancy of unknown location/ectopic) out of thousands of EMAHs conducted, and not all would have been averted even if ultrasound had been conducted before treatment in every case. The findings of the patient survey show that patients value choice and options around their EMAH care. Patients value the option to have a telephone or in-person consultation, to have or not to have an ultrasound

(unless clinically required), to have options on where they can access abortion medications and the option to be able to administer these at home. The findings from WP2 on variations in models of care across Scotland, along with feedback from the staff interviews, also lend support for optimising pathways by sharing patient information resources and protocols nationally and closer joint working by providers across Health Boards with more opportunities for collaborative research and peer support.

Recommendations

1. **Continuation of approval for home administration of mifepristone for EMAH.**

   The evaluation was commissioned to inform this decision and provides evidence to support effectiveness and acceptability to patients and staff of home use of mifepristone. Whilst there was insufficient data to draw robust conclusions on safety in relation to rare complications, there were conversely no indications to suggest any concerning increase in complications. There should therefore be continuing approval for home use of mifepristone.

2. **Develop quality information around abortion care for national use.**

   All Health Boards provide patient information on EMAH that they have developed locally, but some boards may find it more difficult than better resourced boards to keep this information updated when changes are introduced to models of care. The Health Board pathways and responses to the patient survey suggested some differences in the written and oral information provided about the abortion and other related services. There is an opportunity with the national website NHS Inform to provide standardised, quality information in a range of formats (including audiovisual animations or films) and languages easily accessible to support informed choice and access to telemedicine EMAH across Scotland. This should include clear information on what the procedure involves, including better information to help patients understand the pain and bleeding they are likely to experience in line with feedback from the patient survey.

3. **Improve equity of access to telemedicine EMAH across Scotland.**

   The Health Board pathways showed variations in access to appointments for abortion consultations across Scotland. With availability of telemedicine there is the opportunity to provide consultations more flexibly across the week to improve consistency of the service patients are offered across different Health Boards. Given the challenges faced by smaller Health Boards, consideration could also be given by boards to formalising arrangements for one or more boards to work more closely together to bridge gaps in availability of telemedicine EMAH services.

4. **Optimise the patient pathway for EMAH across Scotland with more choice of options around elements of care including a wide choice of post-abortion contraception.**

Given variability between Health Boards in the models of EMAH and the patient survey feedback reflecting the desire for choice of options, patient pathways should be optimised across Health Boards to ensure they are patient-centred. Specifically, choices should be offered on: the mode of consultation - in-person or telephone/ video (unless there is a clinical need for an in-person visit)[23]; whether to have an ultrasound scan (unless this is clinically indicated); choice to have EMAH up to 12 weeks' gestation; choice of how to access medications, and a wide choice of contraceptive options and availability of options for testing for sexually transmitted infection

[23] Note this is in line with the level of choice already requested of Health Boards in the CMO letter of 9 December 2021

5. **Increase support (funding, training, leadership) for staff of abortion services to help them implement improvements to EMAH care.**

   This recommendation is applicable to abortion services more generally. Through staff interviews in particular it was apparent that because abortion services in Scotland are part of a larger services (hospital or sexual and reproductive health) they must compete with funding or staffing in other parts of the service to implement service improvements. Smaller Health Boards with fewer staff may find this most challenging. Continuing support for the abortion care providers network across Scotland will provide support for service improvements, including the development of shared national guidelines, opportunities for collaborative research, and peer support.

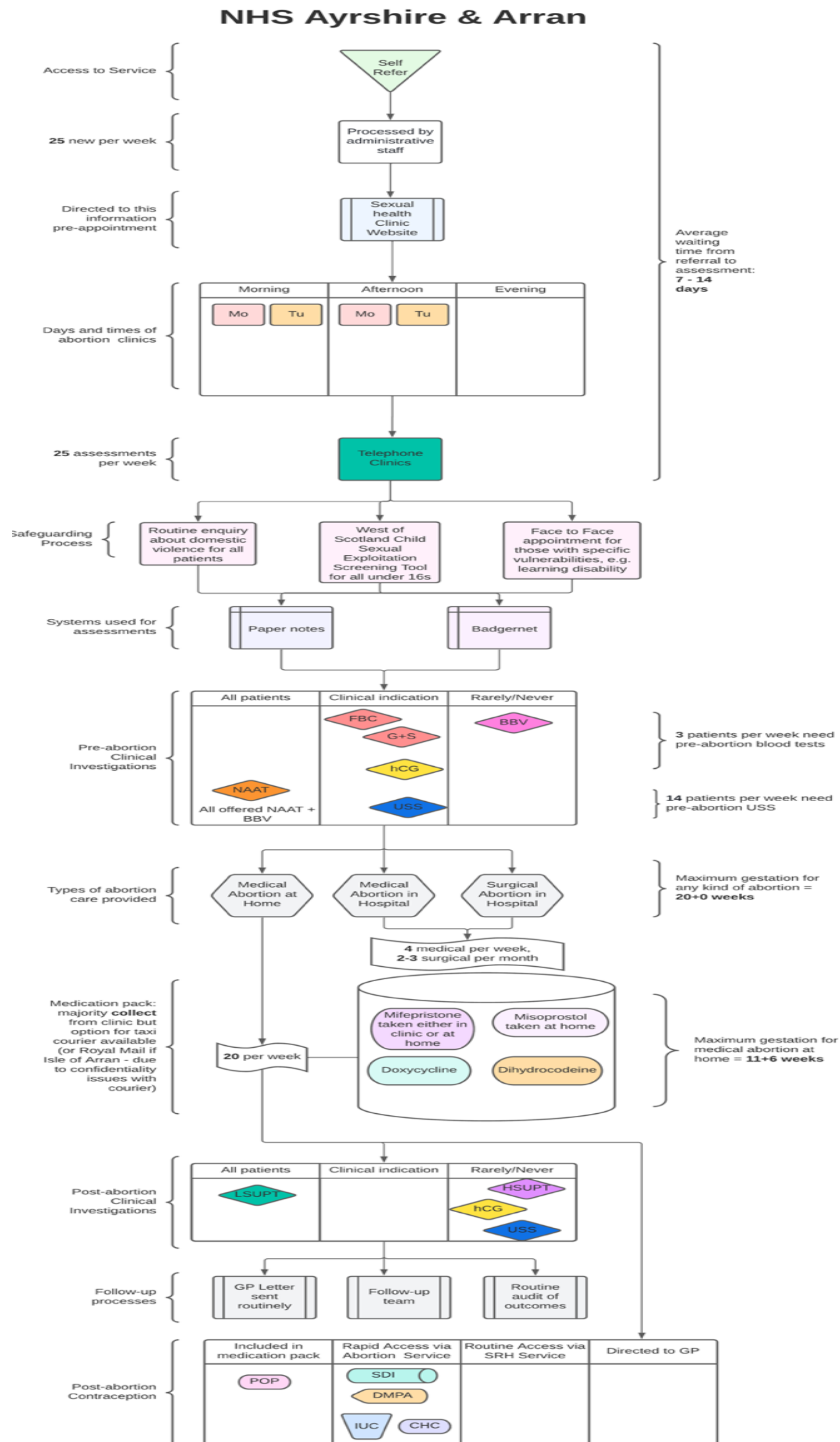
Appendix 1 – WP2 Board Pathways

Key to abbreviations and terms:

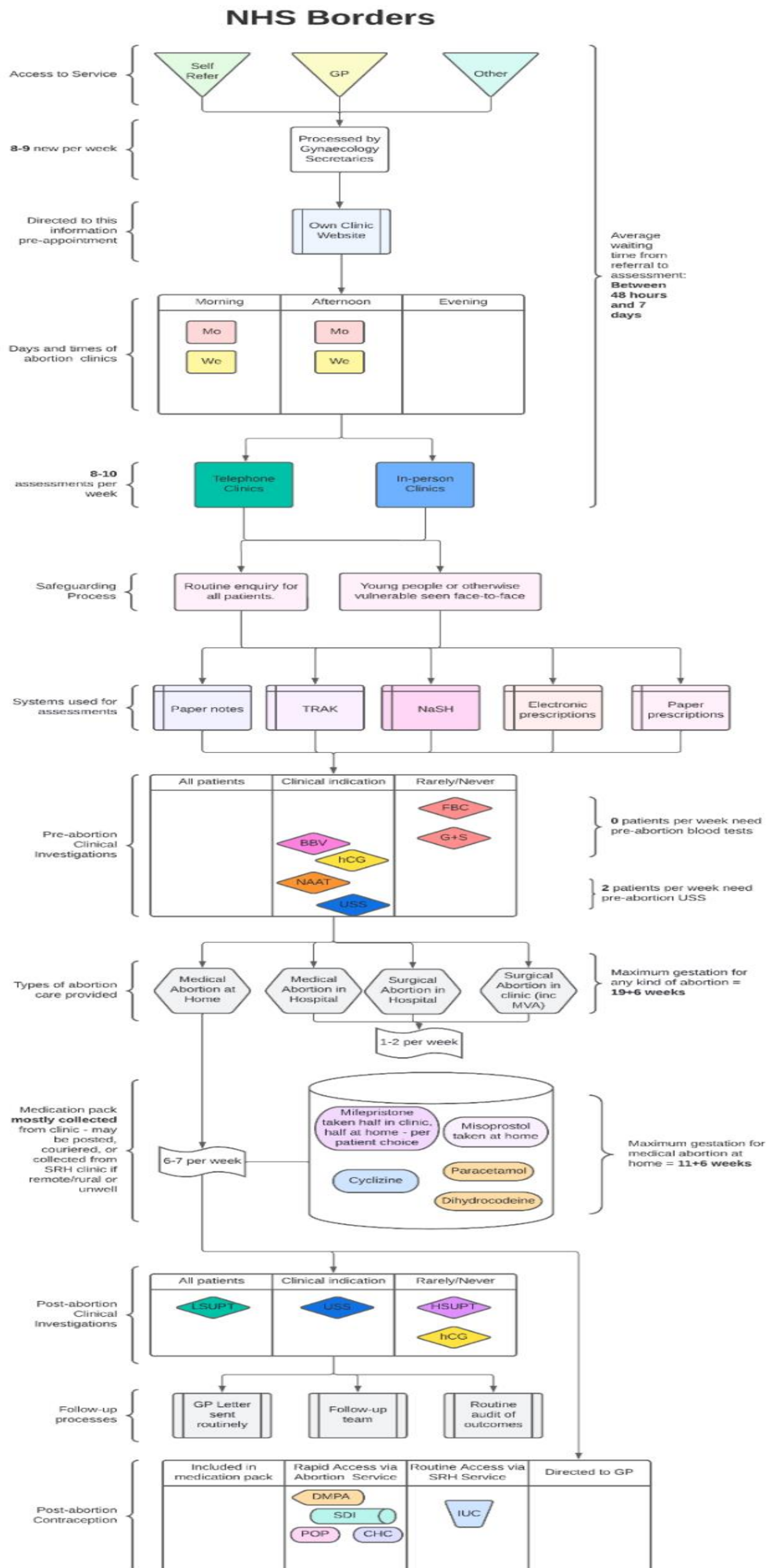
Abbreviation/Term	Full form/Explanation
Badgernet	Electronic patient records system used in some health boards in Scotland (and elsewhere in the UK) for early pregnancy and maternity records
BBV	Blood Borne Viruses (typically HIV and Syphilis, but can include Hepatitis A, B, and C)
CHC	Combined Hormonal Contraception (includes pills, patches and rings)
DMPA	Depot medroxyprogesterone acetate
FBC	Full Blood Count
Fr	Friday
G+S	Group and Save (a blood test to determine blood group and rhesus status)
GBV	Gender-based Violence
Gestation of X+Y weeks	X is the number of completed weeks and Y is additional days, for example 11+6 weeks means 11 weeks and 6 days.
GP	General Practitioner
hCG	Human Chorionic Gonadotrophin (the hormone of pregnancy – in the context of the maps, this refers to a blood test for this hormone)
HSUPT	High sensitivity urine pregnancy test (becomes positive at 30 units hCG, some products become positive at even lower concentrations hCG)
IUC	Intrauterine contraception
LAAC	Looked after and accommodated children
LSUPT	Low sensitivity urine pregnancy test (becomes positive at 1000 units hCG)
Mo	Monday

MVA	Manual Vacuum Aspiration, a form of surgical abortion
NAAT	Nucleic Acid Amplification Test (common test for *chlamydia gonorrhea*)
NaSH	National Sexual Health System – an electronic patient records system, used specifically for sexual health in Scotland. Developed by Exelicare.
PIL	Patient Information Leaflet
POP	Progestogen-only Pill
Pt	Patient
Sa	Saturday
SDI	Subdermal Implant
SRH	Sexual and Reproductive Health
STI	Sexually transmitted infection
Th	Thursday
ToP	Termination of Pregnancy
TRAK	TrakCare – an electronic patient records system developed by InterSystems
Tu	Tuesday
USS	Ultrasound Scan
We	Wednesday

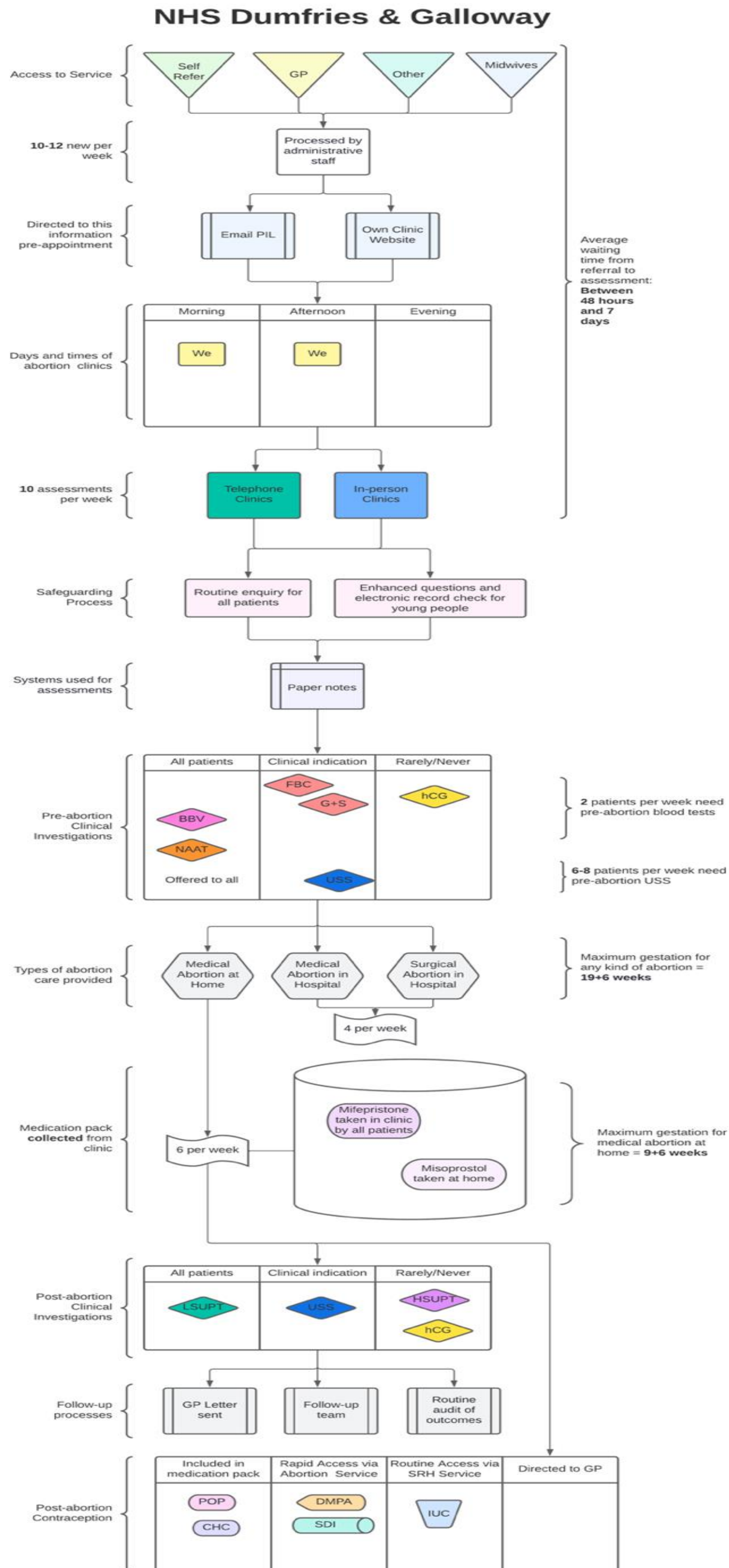
Appendix 1a – Ayrshire and Arran



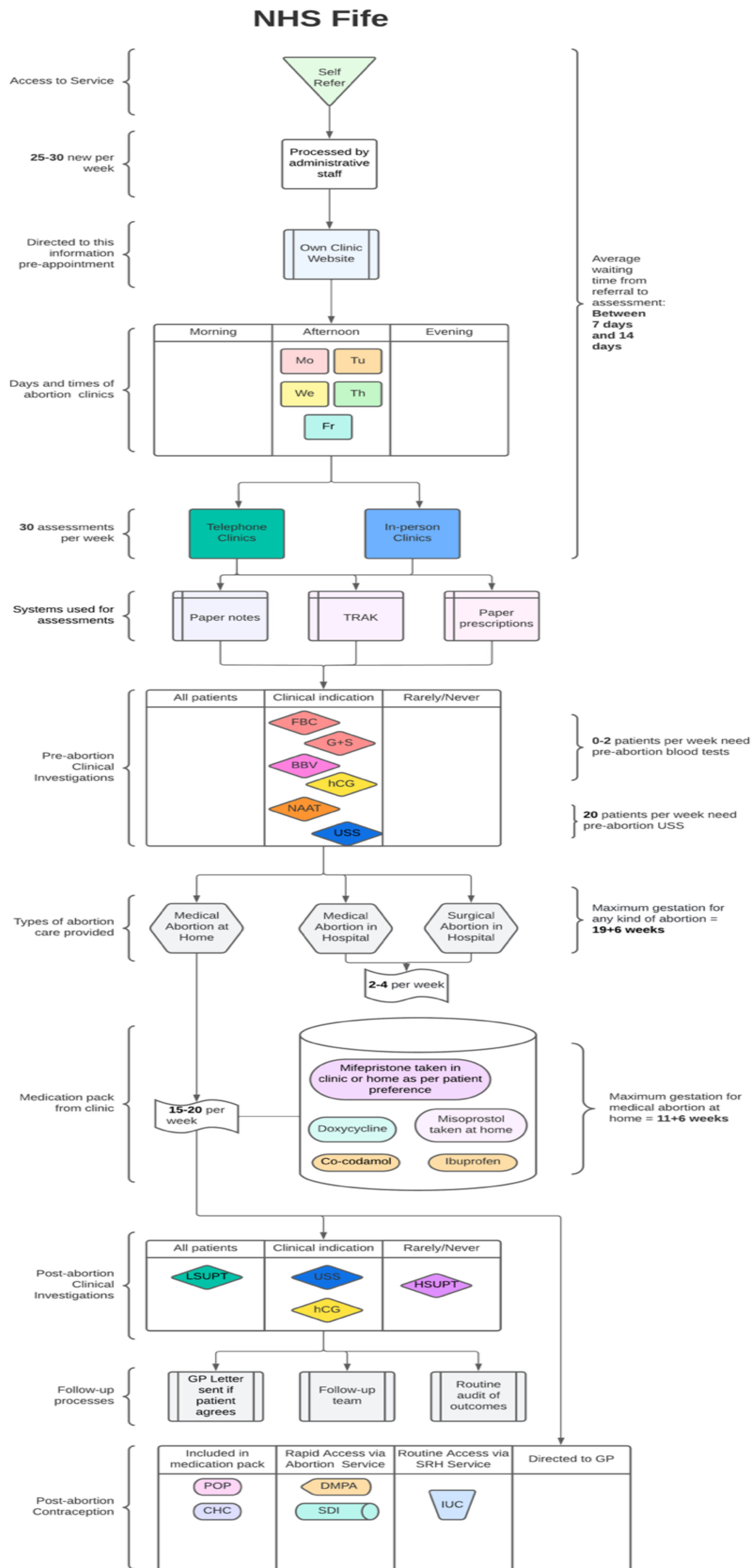
Appendix 1b – Borders



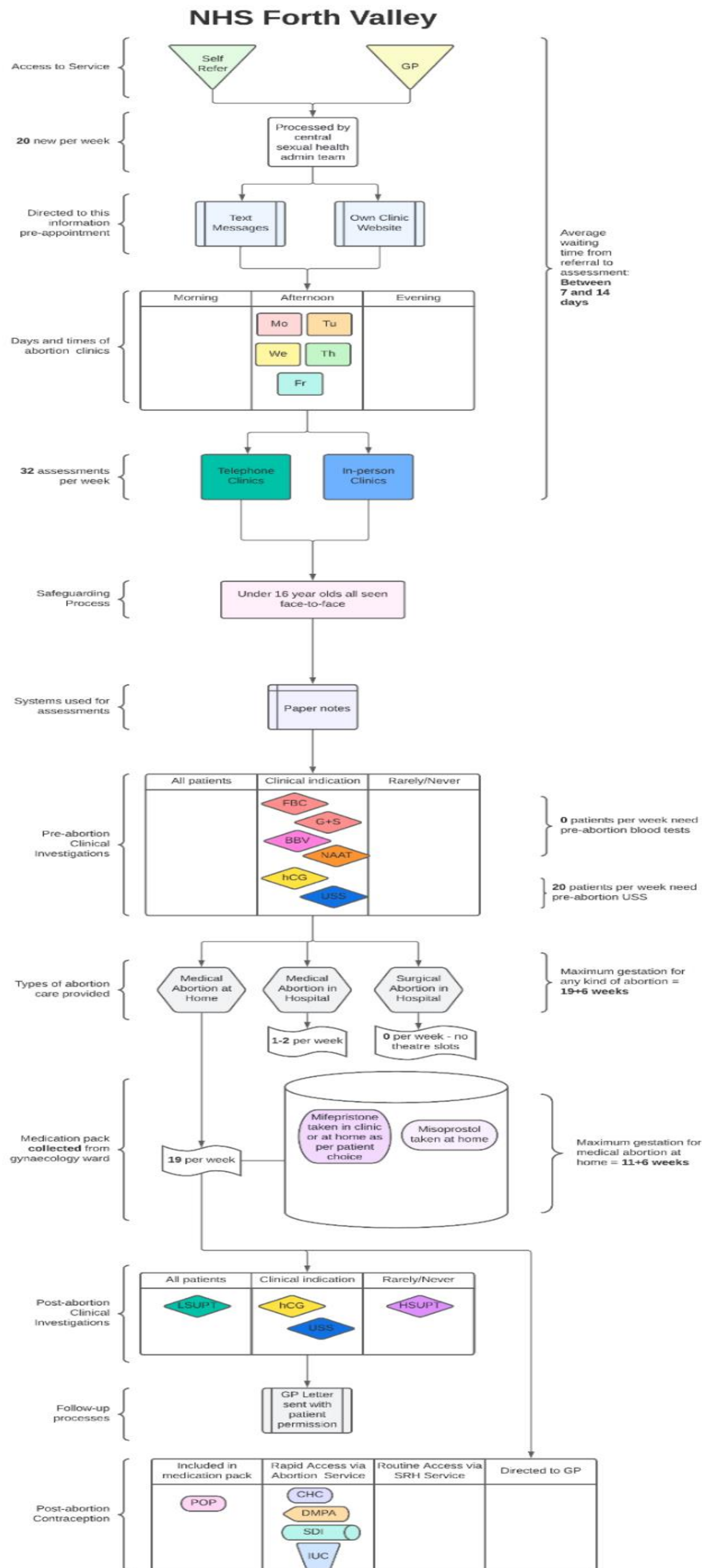
Appendix 1c – Dumfries and Galloway



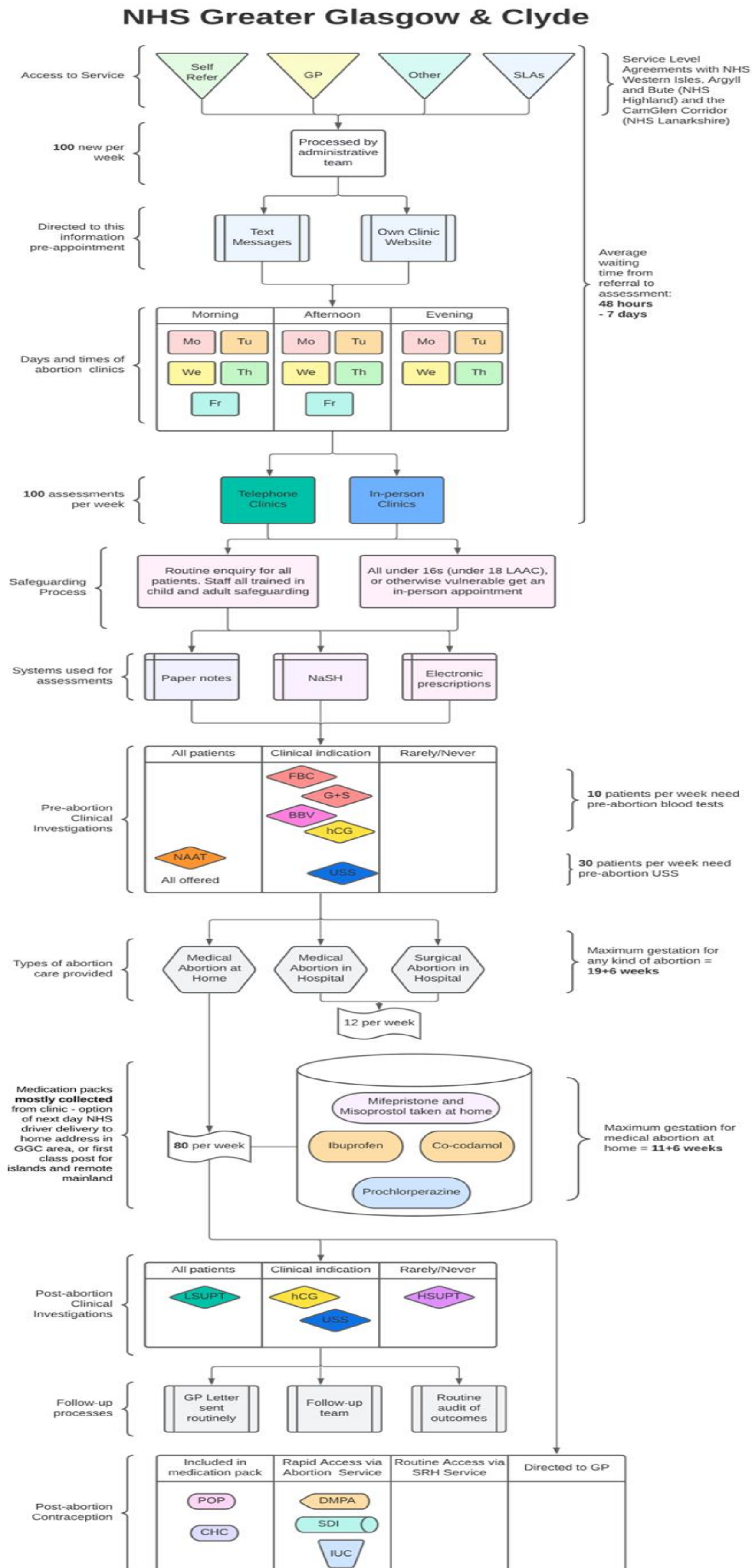
Appendix 1d – Fife



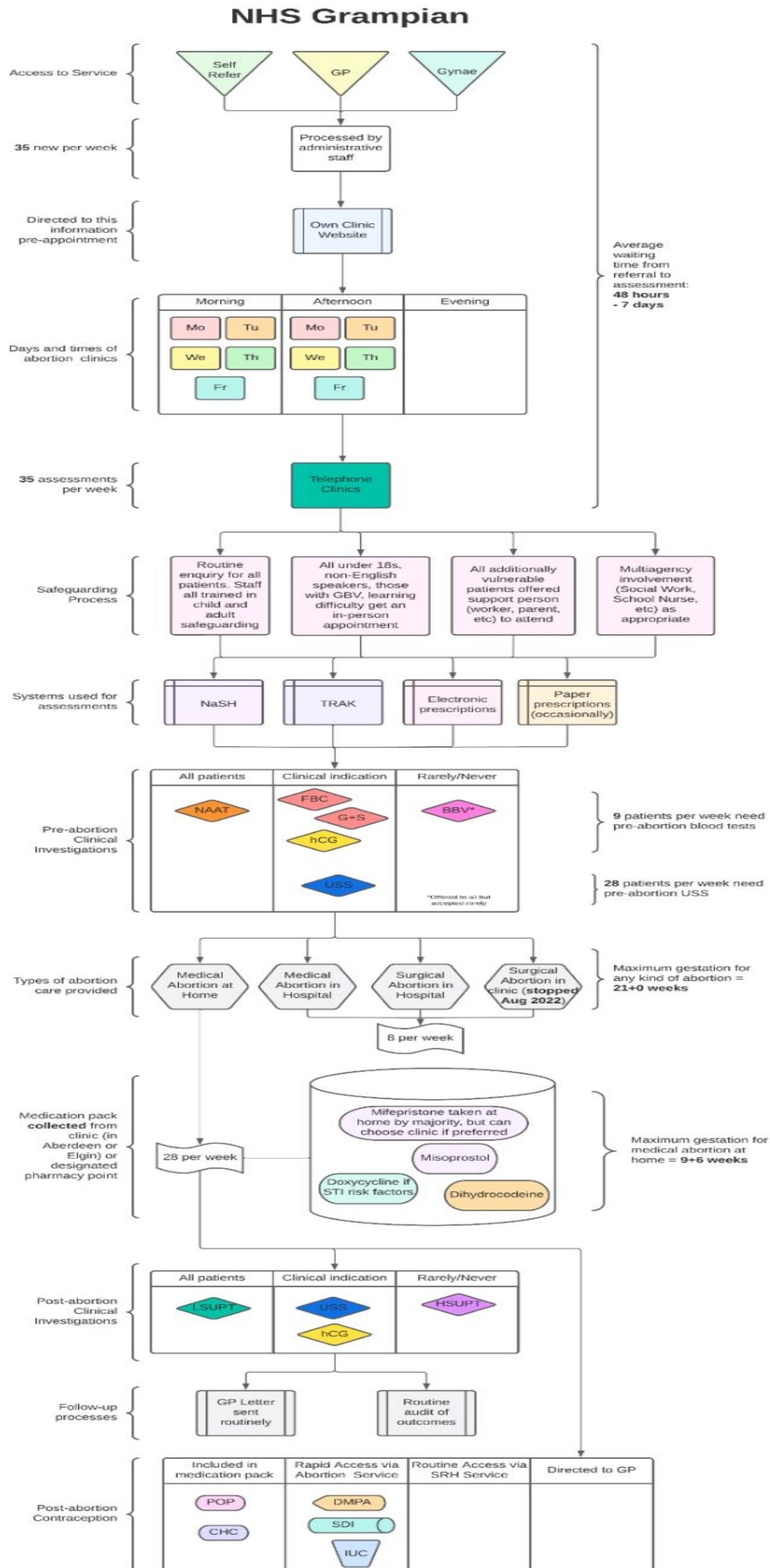
Appendix 1e – Forth Valley



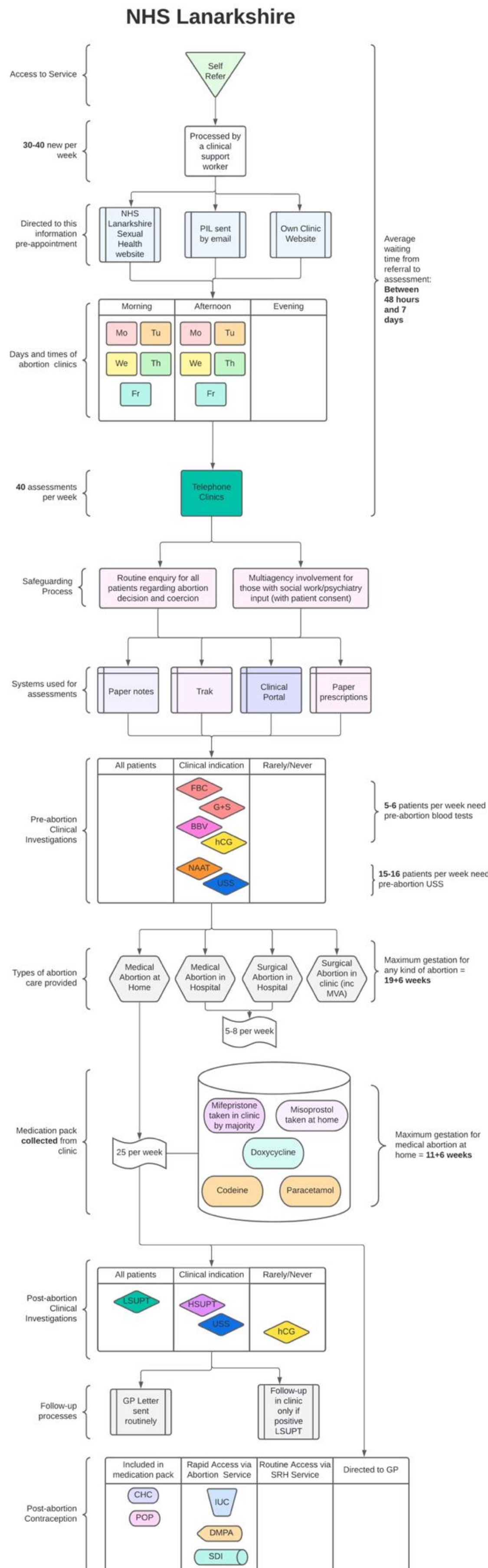
Appendix 1f – Greater Glasgow and Clyde



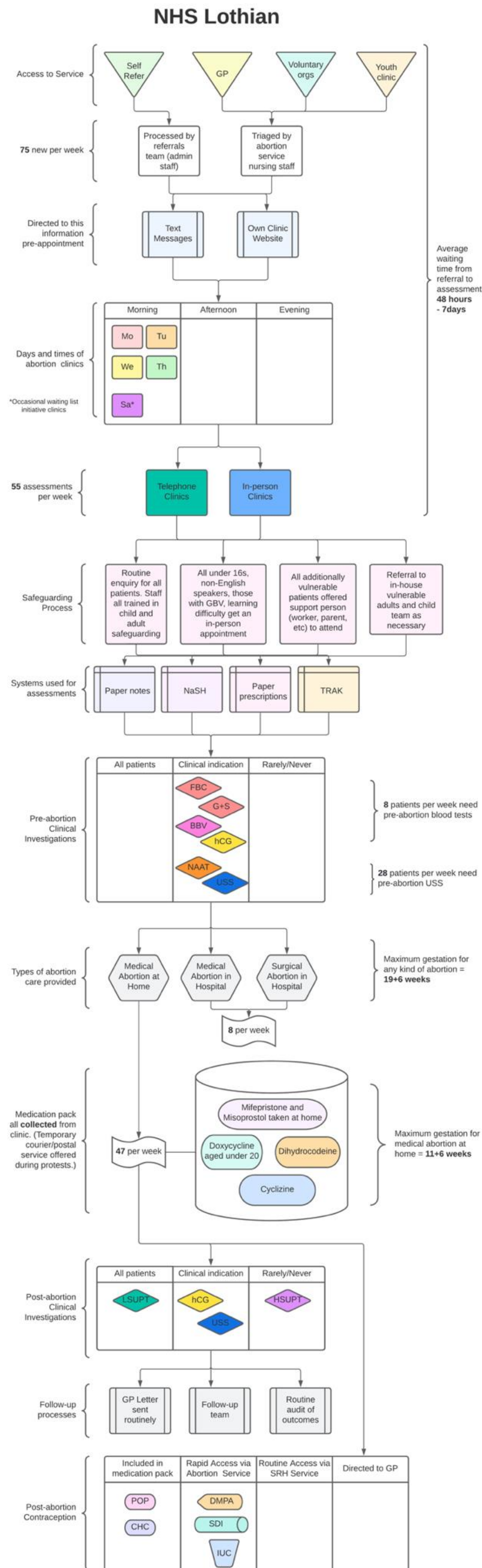
Appendix 1g – Grampian



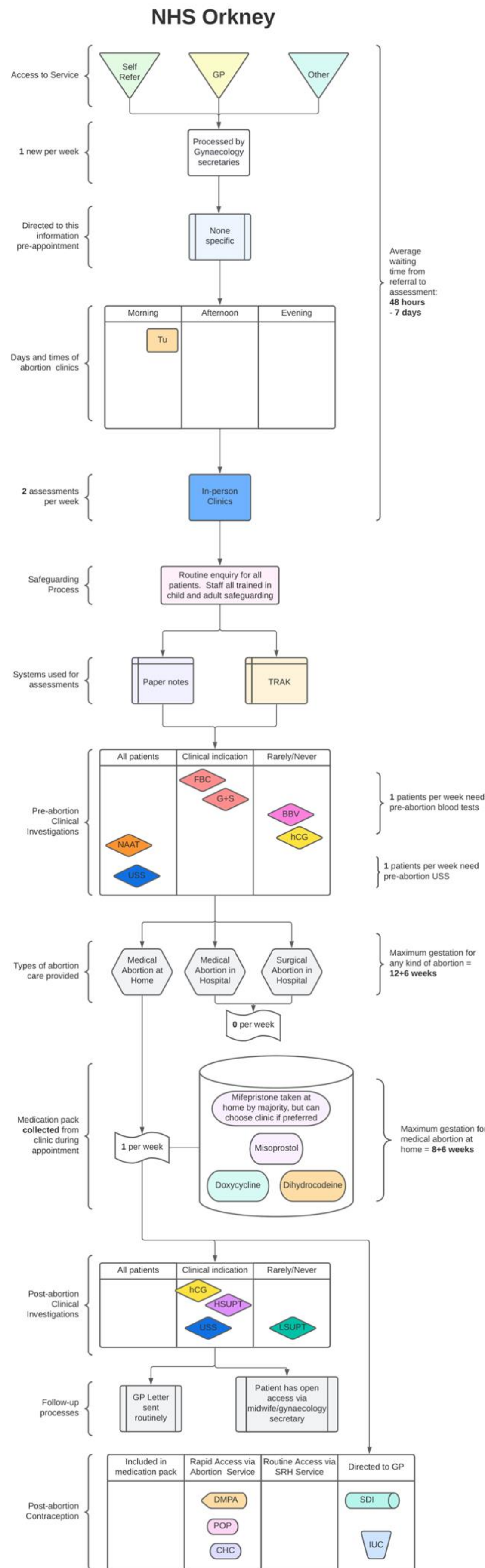
Appendix 1h – Lanarkshire



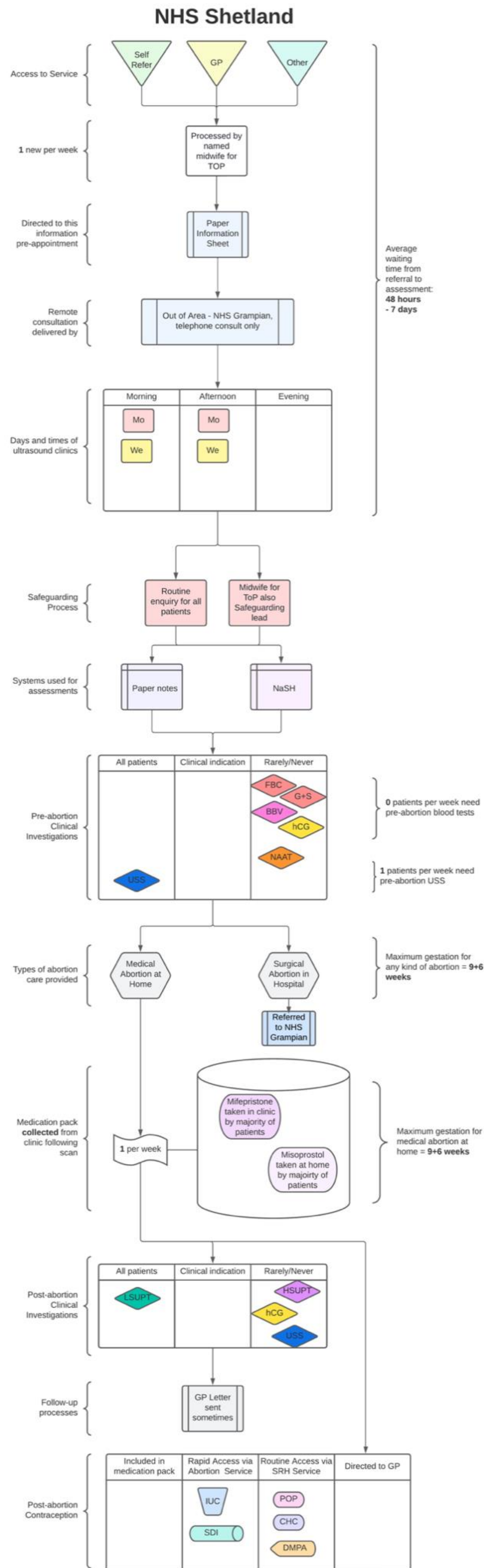
Appendix 1i – Lothian



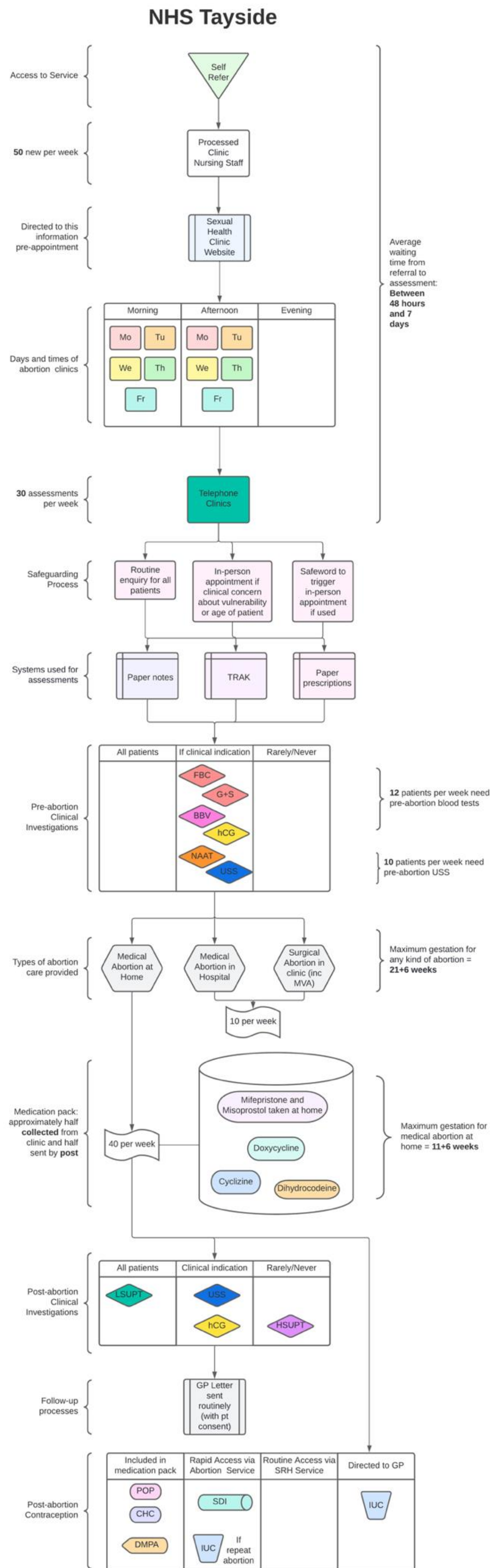
Appendix 1j – Orkney



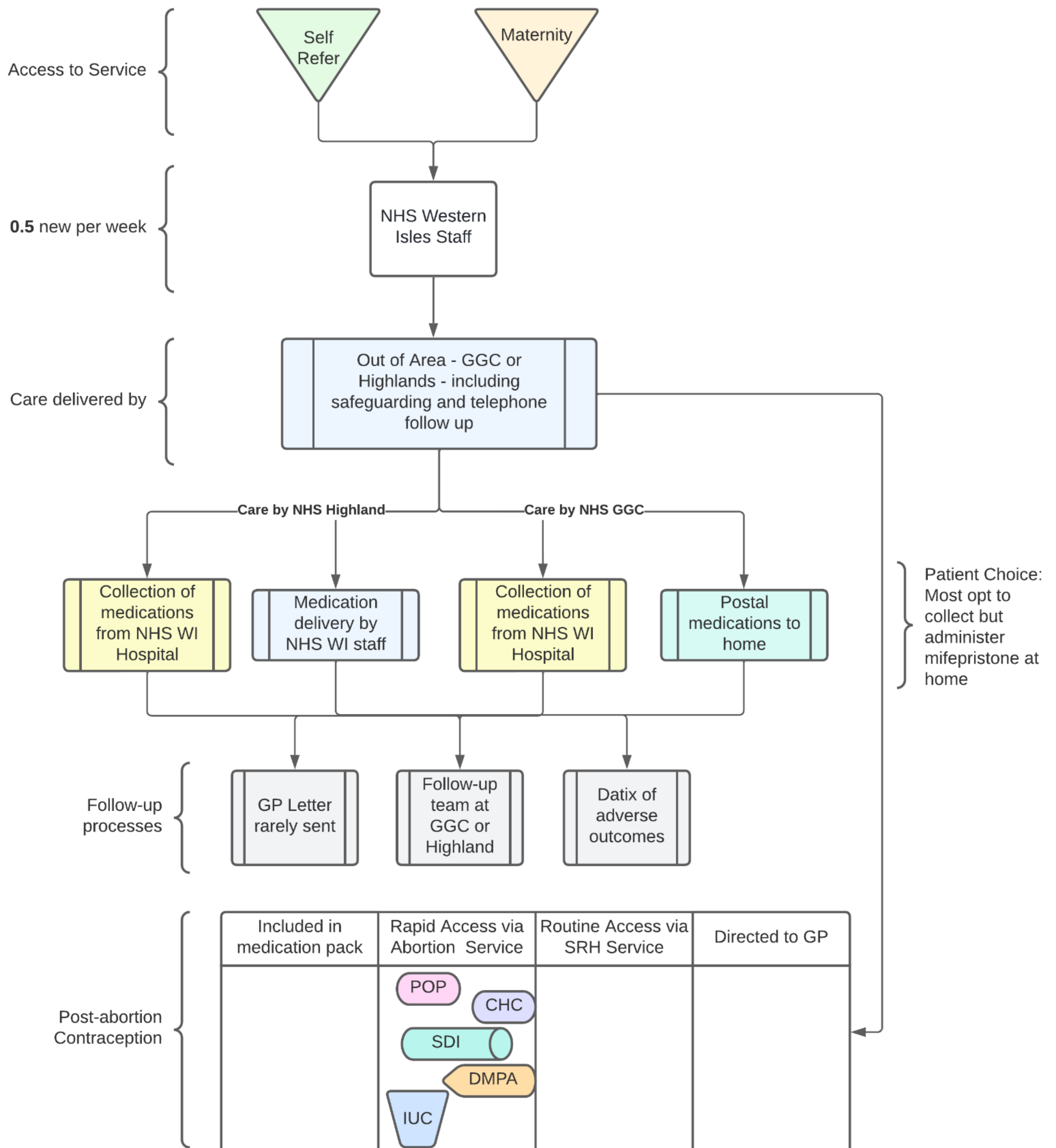
Appendix 1k – Shetland



Appendix 1I – Tayside



Appendix 1m – Western Isles



Appendix 2 – WP2 Survey Questions

Which Health board are you responding on behalf of?

- Ayrshire & Arran
- Borders
- Dumfries & Galloway
- Fife
- Forth Valley
- Grampian
- Greater Glasgow & Clyde
- Highland
- Lanarkshire
- Lothian
- Orkney
- Shetland
- Tayside
- Western Isles

How do patients access your service?

- Self-referral
- GP referral
- Referrals from other services (e.g. Gynaecology/Sexual Health)
- Other

How many new referrals do you have per week (on average)?

What information are patients directed to/sent prior to their appointment?

- Own clinic website
- Other website
- Text messages
- Paper letter
- Paper information sheet
- Nothing
- Other

Which days of the week do you have clinics?

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

What time of day do you have clinics?
- Morning
- Afternoon
- Evening
- Changes depending on the day
- Other

How do you usually conduct assessment appointments?
- In-person
- Telephone
- Video/NearMe
- Other

On average, how many assessment appointments can you provide per week?

On average, how long does it take from referral to assessment appointment?
- Same Day
- Within 48 hours
- Between 48 hours and 7 days
- Between 7 days and 14 days
- Longer than 14 days
- Other

What systems are used for the assessment consultation?
- Paper notes
- NaSH
- TRAK
- Paper Prescriptions
- Electronic Prescriptions
- Other

Do you conduct any of the following investigations BEFORE abortion?
- Ultrasound Scan
  - Yes - all patients
  - Only if clinical indications
  - Rarely or never
- Full Blood Count
  - Yes - all patients
  - Only if clinical indications
  - Rarely or never
- Blood Group
  - Yes - all patients
  - Only if clinical indications
  - Rarely or never
- HIV/Syphilis blood test
  - Yes - all patients
  - Only if clinical indications
  - Rarely or never

- Chlamydia/Gonorrhoea swab test
    - Yes - all patients
    - Only if clinical indications
    - Rarely or never
- Serum hCG
    - Yes - all patients
    - Only if clinical indications
    - Rarely or never

On average, how many patients receive ultrasound scans PRE- abortion each week

On average, how many patients receive blood tests PRE-abortion each week

What types of abortion care are offered via your service?

- Medical abortion at home (patient passes pregnancy at home)
- Medical abortion in hospital (patient passes pregnancy in hospital)
- Surgical abortion in outpatient clinic (incl. MVA)
- Surgical abortion in hospital/day surgery unit
- Other

On average, how many medical abortions AT HOME are performed per week?

For medical abortions AT HOME only:

- Where do patients take Mifepristone?
    - Mostly at home
    - Half take at home, Half take in clinic
    - Mostly in clinic
- Where do patients take Misoprostol?
    - Mostly at home
    - Half take at home, Half take in clinic
    - Mostly in clinic

For medical abortions AT HOME only, what supplementary medications are typically given FROM CLINIC?

- Paracetamol
- Ibuprofen
- Codeine
- Dihydrocodeine
- Morphine
- Cyclizine
- Ondansetron
- Metoclopramide
- Doxycycline
- Azithromycin
- Other

For medical abortions AT HOME only, what is the upper gestational limit for this?

- 8 weeks + 6 days
- 9 weeks + 6 days
- 10 weeks + 6 days
- 11 weeks + 6 days
- Other

On average, how many other kinds of abortions are performed per week?

What is the maximum gestation for any kind of abortion delivered by your service in area?

- 8 weeks + 6 days
- 9 weeks + 6 days
- 10 weeks + 6 days
- 11 weeks + 6 days
- 12 weeks + 6 days
- 13 weeks + 6 days
- 14 weeks + 6 days
- 15 weeks + 6 days
- 16 weeks + 6 days
- 17 weeks + 6 days
- 18 weeks + 6 days
- 19 weeks + 6 days
- Other

Which of the following tests are used POST-abortion?
Ultrasound Scan

    - o Yes - all patients
    - o Only if clinical indications
    - o Rarely or never
- Serum hCG
    - o Yes - all patients
    - o Only if clinical indications
    - o Rarely or never
- Low Sensitivity Urine Pregnancy Test (positive >1000iU hCG)
    - o Yes - all patients
    - o Only if clinical indications
    - o Rarely or never
- High Sensitivity Urine Pregnancy Test (positive >50iU hCG)
    - o Yes - all patients
    - o Only if clinical indications
    - o Rarely or never

Do you contact the patient's GP?

- Yes - routinely
- Sometimes
- Rarely/Never

Do you have a 'follow up' or 'office' team who manage post-abortion follow up/patient queries?

- Yes
- No
- Other

Do you routinely audit complications/further unscheduled contact?

- Yes
- No
- Other

For post-abortion contraception, how do patients access this

- CHC
    - Included in medication pack
    - Rapid Access Clinic (via abortion service)
    - Routine Contraception Clinic (via SRH service)
    - Directed to GP
- POP
    - Included in medication pack
    - Rapid Access Clinic (via abortion service)
    - Routine Contraception Clinic (via SRH service)
    - Directed to GP
- DMPA injection
    - Included in medication pack
    - Rapid Access Clinic (via abortion service)
    - Routine Contraception Clinic (via SRH service)
    - Directed to GP
- Subdermal Implant Included in medication pack
    - Rapid Access Clinic (via abortion service)
    - Routine Contraception Clinic (via SRH service)
    - Directed to GP
- Intrauterine Contraception
    - Rapid Access Clinic (via abortion service)
    - Routine Contraception Clinic (via SRH service)
    - Directed to GP

Appendix 3 – WP3 Survey Questions

How did you have your abortion assessment/consultation with the doctor or nurse (the appointment BEFORE you had the abortion)?

By telephone call
By video / internet call (e.g. skype, WhatsApp, Near Me)
I had a telephone call with the doctor/nurse but then had to attend the clinic for a consultation
I attended a clinic to be seen in person
Prefer not to answer

Did you feel you could talk privately during the consultation without risk of being overheard by people?

Yes
No, but privacy was not important to me
No
Prefer not to answer

How satisfied were you with having your consultation this way?

Very satisfied
Fairly satisfied
Neutral
Slightly dissatisfied
Very dissatisfied
Prefer not to answer

If you could have chosen a particular type of consultation to discuss abortion, which would you have chosen?

Telephone call
Video / internet call (e.g. skype, WhatsApp, Near Me)
Attend a clinic
Don't know
Prefer not to answer

Were you asked whether you were experiencing domestic violence / a partner being violent towards you?

Yes
No
Don't know
Prefer not to answer

Did you feel you had enough time and opportunities to discuss how you were feeling about having an abortion or any uncertainty, and to allow you to decide whether to have an abortion?

Yes
No, but I didn't feel I needed to discuss this
No
Don't know
Prefer not to answer

Do you feel you were given enough information (online, written and/or verbal) about the abortion and any potential side-effects?

Yes
No
Don't know
Prefer not to answer

Did you receive an ultrasound scan to confirm the weeks of pregnancy BEFORE your treatment?

Yes
No
Don't know
Prefer not to answer

How did you feel about having an ultrasound scan BEFORE you could start treatment?

I was fine about having an ultrasound
I wanted to have an ultrasound
I would have preferred not to have an ultrasound
Don't know
Prefer not to answer

If you could have chosen whether or not to have an ultrasound scan before taking medical abortion pills, what would you have chosen?

I would have chosen not to have an ultrasound scan
I would have chosen an ultrasound scan
Don't know
Prefer not to answer

How certain were you of the date of your last period and the number of weeks pregnant you were?

Very certain
Fairly certain
Slightly uncertain
Very uncertain
Prefer not to answer

How many weeks pregnant were you when you had the abortion? Please round down to nearest completed week e.g. if you were 10 weeks and 5 days pregnant, please write '10'. If you can't remember exactly, please estimate. If you don't know, please type in '99'.
Please enter a whole number (integer). Please make sure the number is between 0 and 99. Your answer should be no more than 2 characters long.

Where did you take the medical abortion pills (mifepristone and misoprostol)?
- I took both pills at home
- I took the first pill (mifepristone) in the clinic/hospital and the second pills (misoprostol) at home
- I took both pills in the clinic/hospital
- Somewhere else
- Prefer not to answer

How did you get your abortion medications?
- I got the medications at the clinic/hospital
- Delivered to me by post
- Delivered to me by courier
- I got the medications at a pharmacy
- Something else
- Prefer not to answer

How long did it take for your medications to arrive?
- Arrived the same or the next day
- Arrived within one week
- Arrived over one week later
- Prefer not to answer

Were you offered a discussion about contraception at your consultation?
- Yes
- No
- Don’t know
- Prefer not to answer

Do you feel this contraceptive discussion met your needs?
- Yes
- No
- Don’t know
- Prefer not to answer

Were you offered supplies of contraception at your consultation?
- Yes
- No
- Don’t know
- Prefer not to answer

Do you feel the contraceptive supplies you were offered met your needs?

Yes
No
Don't know
Prefer not to answer

Were you offered a test for sexually transmitted infections (such as a swab to take at home, or a test at the clinic)?

Yes
No, but I did not want a STI test
No, and I would have liked a STI test
Don't know
Prefer not to answer

Overall, how satisfied were you with the care you received from the clinic before, during and after the abortion?

Very satisfied
Slightly satisfied
Neutral
Slightly dissatisfied
Very dissatisfied
Prefer not to answer

Do you think that patients should continue to be offered the option of having a telephone/video/internet consultation for abortion?

Yes
No
Don't know
Prefer not to answer

Do you think women who are eligible for an abortion at home should continue to be offered the option of taking both pills for medical abortion (mifepristone and misoprostol) at home?

Yes
No
Don't know
Prefer not to answer

Do you think women who are eligible for an abortion at home should continue have the option of having abortion medications delivered directly to them? (This would include delivery by post or courier)

Yes
No
Don't know
Prefer not to answer

Do you think women who are eligible for an abortion at home should be able to choose to collect the abortion medications from a local community pharmacy?

- Yes
- No
- Don't know
- Prefer not to answer

Which age category do you belong to?

- Under 16 years
- 16-19
- 20-24
- 25-29
- 30-34
- 35-39
- 40 or older
- Prefer not to answer

Please tell us the first part of your postcode. This cannot identify exactly where you live but just tell us the general area. We need everything except the last two letters and please include the space. If your postcode is 6 characters, e.g. EH3 9ES, just write EH3 9. If your postcode is 7 characters, e.g. EH54 6PP, just write EH54 6.

Where was the clinic/hospital in Scotland that you received your treatment from?

- Ayrshire and Arran
- Borders
- Dumfries & Galloway
- Fife
- Forth Valley
- Greater Glasgow and Clyde
- Grampian
- Highland
- Lanarkshire
- Lothian
- Tayside
- Orkney
- Shetland
- Western Isles
- Prefer not to answer

Do you consider yourself to have a disability (physical, mental developmental or other)?

- Yes
- No
- Prefer not to answer
- Please tell us about the nature of your disability

What is your ethnic group?
- White, White Scottish or White British
- Mixed or Multiple ethnic groups
- Asian, Scottish Asian or British Asian
- Black, African, Caribbean or Black Scottish or Black British
- Arab, Scottish Arab or British Arab
- Other ethnic group
- Prefer not to answer
- Please specify further

What is your sex?
- Female
- Male
- Intersex
- Prefer not to say

What is your gender?
- I am a woman
- I am a man
- I am non-binary
- Prefer not to answer

What is the highest educational or school qualification that you have?
- Primary school
- Secondary school
- College
- University
- Other
- Prefer not to answer
- Please specify

Have you ever given birth before?
- Yes
- No
- Prefer not to say

Have you ever had a miscarriage before?
- Yes
- No
- Prefer not to say

Have you ever had an ectopic pregnancy or a pregnancy of unknown location (outside womb and usually in tube)?
- Yes
- No
- Prefer not to answer

Comments

Do you have any further comments you would like to make about your experience or about future abortion care in Scotland ? If so please enter them here – BUT please do not enter any details that could identify you or another individual:

Appendix 4 – Survey start times at each health board

Health Board	Survery Started
Ayrshire and Arran	25/07/2022
Borders	21/07/2022
Dumfries and Galloway	22/08/2022
Fife	01/09/2022
Forth valley	11/10/2022
Grampian	22/08/2022
Greater Glasgow and Clyde	22/08/2022
Highland	31/10/2002
Lanarkshire	08/09/2022
Lothian	04/07/2022
Orkney	07/11/2022
Shetland	15/11/2022
Tayside	25/08/2022
Western Isles	11/07/2022

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This publication is available at **www.gov.scot**

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The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

ISBN: 978-1-80525-374-7 (web only)

Published by The Scottish Government, March 2023

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA
PPDAS1214022 (03/23)