D5.2: Model Strategic Plan

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Introduction and background

The purpose of this document is to demonstrate how change management processes can be used to support strategic planning to introduce a polypharmacy review programme at local, regional or national level in EU countries.

Information gained from studying polypharmacy management in a range of European countries from the SIMPATHY consortium, will help other healthcare organisations (local, regional, National) develop their own polypharmacy management strategic plans. This document will be of value to those with responsibility for introducing programmes of change in health relating to safe and effective medicines use. This includes policy makers, those responsible for strategic planners and also those at the patient facing role who want to implement a change in the way that services are delivered.

Stimulating Innovation Management of Polypharmacy and Adherence in The Elderly (SIMPATHY) is a European Union Health Programme project involving eight European countries. Common research methods were used by each country to study their polypharmacy management programmes. Insights gained have been collated to provide this model strategic plan.

SIMPATHY recognises that the worldwide population shift to an increasing proportion of elderly people with multiple long-term conditions is one of the most significant healthcare challenges faced today. Of crucial importance is the safe use of multiple medicines for patients. Polypharmacy management programmes provide a framework for implementing robust and timely reviews of patients prescribed multiple medicines. This situation is compounded by the fact that there is a lack of guidance that addresses multiple morbidities as most guidance is disease specific based guidance.

The eight countries involved are at different stages of polypharmacy management programme development and examination of all programmes provides a rich source of information on what works and what barriers might be expected.

The SIMPATHY Route Map has been developed to help the nine partners identify where they are in the development of their polypharmacy management programmes. The following examples provide a flavor of the range of route map positions of different countries:

![Figure 1. SIMPATHY Route Map for Polypharmacy Management in the EU](image-url)
In general, Sweden could be considered a country that has already had quite some progress in terms of the SIMPATHY route map. However, the exact position is hard to point out, because of the regional differences within the country. Regional authorities are responsible for the provision of healthcare in Sweden and have a very high degree of autonomy. This means that national initiatives may be implemented to a varying degree throughout the country.

Polish healthcare system is at the beginning of the route to better polypharmacy. The awareness of the problem is high among clinicians. However, a review performed within Work Package 6 of SIMPATHY Project proved that currently, there are no relevant guidelines in place. Therefore, healthcare professionals have no standardized ways to deal with patients suffering from polypharmacy. This supports the notion that there is still a lot of work to be done in the field of inappropriate drug intake. Patient awareness is also low as there are no public campaigns which could inform society about possible harm of polypharmacy.

In the SIMPATHY project Campania represents a sample of the Italian situation. Considering the roadmap: on the patient/clinician section it is currently at the ‘Case studies outputs’ stage; on the clinician section it is currently at the ‘Workshops and Knowledge sharing’ stage; on the health care services section it is currently at baseline; on the health care processes section it is currently at ‘stakeholder interviews signal need for policy change’.

The Germany Route Map demonstrates how the tool can be used to identify and define the landscape of a National polypharmacy management programme.

Figure 2. Germany Route Map
There is no one size fits all strategy.

Countries and regions are at different stages of development in addressing polypharmacy management and must consider their individual strategic plans. The diagram below illustrates the different positions of the SIMPATHY partner countries and regions in some key areas relevant to polypharmacy management.

![Diagram of Polypharmacy Management stage of development](image-url)
Chapter 1. The methodology for a strategic polypharmacy management plan

Kotter\(^1\), Normalisation Process Theory (NPT)\(^2\), Strengths Weaknesses Opportunities Threats (SWOT)\(^3\), PESTEL\(^4\), are the change management tools used within the SIMPATHY programme.

The Kotter 8 step process is the core tool which enables healthcare organisations to: analyse the existing polypharmacy management programme; identify at what stage of development the programme is and to provide direction for the next steps. Recognised as identifying important elements of organizational change, the model is based around a clear vision, good communication, empowering employees, leading by example and celebrating success. An important principle of the model is that it is most successful when used for continuous improvement.

Successful organisations that have transformed their delivery and performance use Kotter’s steps with strong leadership that is adaptive to drive change. Heifetz, Linksy and Grashow in their work distinguish between adaptive leadership and authoritative solution to tackle problems and that implement technical solutions to resolve problems that will arise, this will often then result in short term solutions to underlying problems that will still exist when the crisis passes, such as the current economic crisis. Scotland spends almost a tenth of its healthcare budget on medicines and so dealing with the challenge of an aging population with increasing numbers of multiple morbidities that will require additional numbers of medications is a challenge that needs to be addressed as a matter of urgency in the economic crisis. This issue is likely to be a challenge beyond the economic crisis and is an issue that not only is a patient safety issue now but one that needs addressing as public health challenge so that the potential harm from inappropriate polypharmacy can be avoided both in terms of harm to patients but also the additional healthcare costs that are associated with this. Addressing problems in different ways through change can generate anxiety, which may be associated with the fact that the activities that are required are different, or that there may be a loss of existing roles. Individuals need to be challenged with the reasons not to maintain the status quo. Major change will require the whole organisation making the change so that allowing individuals a role in a collaborative solution will build momentum, ownership and sustainability to the challenges that face the organisation. Leadership in this context needs to acknowledge that there will be others that have a vested interest in no change and the leader should anticipate the barriers that this might create and disrupt progress and that like the strategy continual reflection in this aspect is important. There were many leadership challenges that needed to be overcome in order to implement this work, the most challenging being openly addressing anxieties regarding roles and a different approach to address medication burden.

Normalisation Process Theory (NPT) has been used to provide additional richness to the insights obtained through Kotter. NPT can be used to support the evaluation and implementation of complex interventions, such as healthcare. It studies what people do (action) rather than how they feel about what they do (attitudes), or what they say they are going to do (intentions). NPT helps to understand complex interventions by studying how people make sense (coherence), engage with (cognitive participation), act in (collective action) and appraise (reflexive monitoring) work.

SWOT analysis is an acronym for strengths, weaknesses, opportunities and threats. It has been used to identify the strategic fit of each polypharmacy management programme. Essentially this looks at each programme’s advantages and disadvantages, when compared with others. This then allows promotion and support of the advantages and chance to address any disadvantages.

\(^2\) NPT: [http://www.normalizationprocess.org/](http://www.normalizationprocess.org/)
\(^3\) SWOT: No definitive reference for Strengths Weaknesses Opportunities Threats analysis has been identified
\(^4\) PESTEL: No definitive reference for Political, Economic, Social, Technological, Environmental, legal analysis has been identified
PESTEL analysis is an acronym for political, economic, social, technological, environmental and legal. It has been used to analyse how external factors have an influence on the development of polypharmacy management programmes.

In Sweden, more clinical pharmacists are currently being integrated into multidisciplinary healthcare teams, which are considered an opportunity that can have a high impact. The greatest threat we identified within our PESTEL and SWOT analyses is the combination of: higher healthcare costs; growing lack of healthcare professionals; an increase in elderly patients and more expensive therapies. These threats could put major pressure on healthcare accessibility in Sweden.

Lack of polypharmacy guidelines in most European countries was one of key findings of SIMPATHY Work Package 6 literature review. Most of European Union member states have no policies dealing with the problem of polypharmacy. That is why a strategic plan of polypharmacy management development is a must.

**The use of Kotter’s steps in Strategic Planning**

The following section illustrates how the use of Kotter’s framework in Scotland contributed to the development and ongoing iterative implementation of a strategic plan and improvements in polypharmacy management.

*To broaden the range of experiences in the use of this framework some of the key points to consider in each of the steps are then addressed in the context of conditions in other EU countries.*

**Step 1. CREATE a sense of urgency - Craft and use a significant opportunity as a means for exciting people to sign up to change their organisation.**

Scotland provides an EU regional story of strategic planning and implementation. The following subchapters present a methodology for analysing and developing a polypharmacy management programme using Kotter, supported by NPT, SWOT and PESTEL. Rich insights are provided by all nine countries participating in SIMPATHY.

- Prescribing Data analysis demonstrated that polypharmacy is a problem- what can be done, ideally across both primary and secondary care settings?
- What does your PESTEL and SWOT show you? Consider your findings in line with existing commitment to health and care policies -
- Is there any appetite from the public and clinical community that polypharmacy is an issue for them now?
- Do you have a business case that you could build to show the cost benefit analysis from any pilot work undertaken and how you might sustain such a programme?
- Do you have the staff/ resource to deliver?
- Have you got a clear elevator speech that you can start engaging stakeholder s so that you can start to build support? You need to engage with your opposition as well as those who you regard as your supporters.
- Be clear about issues/ people that will try to jeopardise your plans and consider human factors of working across professional boundaries
- Do you have suitable training materials / framework that would allow you to start working with early adopters quickly so that you can build evidence?
- Do you have a means to prioritise patients that need targeting as it won’t be possible to deliver for the whole population- how will you do this? Think about your long-term solution to deliver this as planning/ policy makers will want to know is this a short term project or is it a new way to deliver?
Demographic trends in Scotland are well documented and it is anticipated that by 2024 the population of over 75 year olds will increase by 29%. This demographic trend will continue to be a strong driver for polypharmacy programmes both in terms of the needs of the frail elderly but also due to the increasing numbers of adults of all ages who have multiple morbidities. Although service costs have been considered so that there is high predictability and low possibility of unforeseen changes to 2025 with respect to service provision, service planning has not predicted the need for individual medication reviews to ensure appropriate polypharmacy. Prescribing data analysis shows that as well as an increase in the number of medications people being taken the number of prescriptions that taking and specifically high risk medication or combination is increasing. High risk prescription medicines linked with admission to hospitals and was a driver in the outlining how the economic constraints of healthcare spend necessitated improvements in the management of polypharmacy.

In many health boards, polypharmacy review is being progressed due to the urgency of financial pressures associated with direct medicine costs and also from a recognition that medicine related adverse effects can have an impact on hospital admissions. Communicating the sense of urgency to policy makers was led by clinicians at health board level and with clinicians and policy makers (who also have a clinical role) at government level. A key driver was the recognition that clinical guidelines for single disease states and remuneration models put patients at risk from over-prescribing and there was an urgent need for guidance to address multiple morbidities and a change in prescribing incentives. The PESTEL analysis identified that this was an issue that could be predicted with certainty, and an area that the health boards should prioritise to address. The Scottish polypharmacy guidance sets out why addressing appropriate polypharmacy is important and all the health boards across Scotland started to follow the guidance published in 2012. After initial implementation, feedback from representative members from the groups responsible for producing the guidance, was considered revised acknowledging that Kotter’s eight steps are iterative,. The guidance was refreshed to address issues raised in feedback. The second version (2015), was broadened to incorporate consideration of multiple morbidities as well as frailty, responding to increasing prevalence of multiple morbidity in Scotland. A 7 step process was defined to guide clinicians when making prescribing decisions. Process design of implementing services across the country was considered when introducing reviews into the general practitioner contract and also Prescription for Excellence action plan published in 2013. This laid out that pharmacists supporting general practitioners to undertake the reviews would be independent prescribers to prevent additional work load for the doctors. If this issue had not been addressed, it would have been regarded as a possible barrier to implementation.

Policy across the UK has recognised that limitations in workforce and capacity in general practice together with the increasing prevalence of multiple morbidities requires collaborative multidisciplinary working. Scottish Government and NHS England are accelerating at pace the provision of clinical pharmacists to be embedded in GP practices to provide capacity in the care of patients with long-term conditions where the pharmacists’ key role is to review and support patients with polypharmacy. Prescription for Excellence which was launched in 2013 set out the 10 year plan for pharmacist provision in patient care and this has been supported by the current government who have committed £16.2M over 3 years commencing 2015 to start recruitment of 140 additional pharmacists.

There is maintained support from clinicians and policy makers for the review of appropriate polypharmacy but continual challenge from management at health board level necessitates re-articulation of the sense of urgency in the evolving landscape. Some of this information is apparent at health board level from the case studies but might have been missed had we just looked at the information that was gathered from the PESTEL alone. The focus group discussed the power of patient and public opinion in driving the sense of urgency. In order to support health boards to develop and build the economic case for health board planners, the 2012 guidance and the 2015 refresh contained an evaluation that had been developed by a health economist using data gathered from findings from reviews undertaken in health boards. This was essential as there were


competing priorities for the funding to address other areas of prescribing, but also for the limited funding that was available for the implementation of the programme.

PESTEL discussion identified the potential impact of access to services such as hospital beds, outpatient appointments and non-medical community services relative to the growing size of the population in terms of future requirements for polypharmacy review.

The legislation in Scotland facilitates the wider role that pharmacists can play within the polypharmacy reviews and the design of the delivery can be organised so that the reviews are part of the pathway of the delivery of care and do not create additional work load for an already stretched medical workforce. For example, most of the pharmacists delivering the reviews are independent prescribers so that they can change an individual’s treatment without having rely on changes for recommendations being made by the doctor. This also means that the patient immediately benefits from the changes. This can also been seen as a strength of the situation.

Can you access and analyse Prescribing Data analysis to demonstrate the problem?

Prescribing data analysis shows that as well as an increase in the number of medications people being taken the number of prescriptions that taking and specifically high risk medication or combination is increasing. High risk prescription medicines is linked with admission to hospitals and this was a driver in outlining how the economic constraints of healthcare spend necessitated improvements in the management of polypharmacy.

In many health boards, polypharmacy review is being progressed due to the urgency of financial pressures associated with direct medicine costs, and also from recognition that medicine related adverse effects can have an impact on hospital admissions. Communicating the sense of urgency to policy makers was led by clinicians at health board level and with clinicians and policy makers (who also have a clinical role) at government level. A key driver was the recognition that clinical guidelines for single disease states and remuneration models put patients at risk from over-prescribing and there was an urgent need for guidance to address multiple morbidities and a change in prescribing incentives.

What does your PESTEL and SWOT analysis show you?

In Sweden, more clinical pharmacists are currently being integrated into multidisciplinary healthcare teams, which is considered an opportunity that can have a high impact. The greatest threat we identified within our PESTEL and SWOT analyses is the combination of: higher healthcare costs; growing lack of healthcare professionals; an increase in elderly patients and more expensive therapies. These threats could put major pressure on healthcare accessibility in Sweden.

Is there any appetite from the public and clinical community that this is an issue for them now?

One programme identified in Catalonia targeted polypharmacy management for older adults admitted to hospital; long-term care or nursing homes. This institutional network programme benefit from a “culture of geriatrics” that created a tangible appetite for medication optimisation among participants and the leading team. This underlying culture greatly facilitated the adoption.

Conversely this was less palpable in another programme sponsored by the government Here the appetite for appropriate polypharmacy management did not emerge spontaneously. However, it was clearly understood, by primary care physicians and pharmacists as part of the wider strategy for a comprehensive management of patients with chronic conditions. This strategy, described in the Catalan Health Plan, provided a common umbrella for both programmes.
Interestingly, albeit the importance (“the appetite”) for appropriate polypharmacy existed in both settings— with different emphasis, as explained above—this did not translate, or not totally translate into a comparable sense of urgency.

Do you have a business case to show the cost benefit analysis from any pilot work undertaken, and how you might sustain such a programme?

In Scotland evidence was collected from pilot work that demonstrates the economic and clinical benefits of undertaking the reviews and a business case was initially prepared for work to be undertaken by one of the larger health boards in Scotland. This included the skill mix and members of the healthcare team needed to undertake these reviews if the reviews were rolled out, time taken to achieve this, number of medicines stopped and potential harm avoided. The business case for further rollout included evaluation of the outcome form the roll out so that if successful, the data would be used to support the rollout over Scotland. This was in fact the journey undertaken in Scotland.

Business cases were not developed in any setting in Catalonia. In fact, one hospital administrator stated that it was so clear that polypharmacy and needed to be addressed, that he did not need any financial data to support the initial pilot project. Although this might be acceptable in the pilot phase, to scale up the Catalan institutional model and gain support for additional staff in different practice settings, an economic evaluation will be needed. The lack of these data is currently seen as a barrier to scaling up in this setting.

Do you have the staff and resources to deliver a polypharmacy management programme?

The resources needed to develop the Northern Ireland Medicines Optimisation in Older Persons’ model were provided on an ‘invest to save’ basis and the project was continuously evaluated for evidence of benefit, including return on investment. In Northern Ireland a Medicines Optimisation in Older Persons’ model has been developed, tested and evaluated during the period 2012-2016. The model is a consultant pharmacist led case management service providing clinical medication reviews for older people to optimize health benefits through appropriate polypharmacy and improved adherence. During 2016-17 Government support was secured for the scale up and national roll out of the model across Northern Ireland. This will involve the recruitment of a consultant pharmacist for older people plus four specialist pharmacy posts in each hospital Health Trust. By March 2017, the model will have the staff and resources needed to start to deliver improved polypharmacy and adherence support to older people in hospitals, care homes and intermediate care settings nationally. The integration of the model with primary care will be supported by the national roll-out of a practice based pharmacy initiative which will recruit pharmacists for all 351 GP Practices in the country by 2019.

Have you got a clear elevator speech that you can use to start engaging stakeholders and build support? You need to engage with both opponents and supporters. (An elevator speech is a clear, concise pitch, explaining who you are and what you want, and, should last about 30 seconds.)

Ask yourself who your main stakeholders are and how they would respond to your programme? Be aware of the main messages from the PESTEL, SWOT and any other studies undertaken. Build your arguments on the weaknesses of the current system, and show how innovation can improve the situation for each stakeholder group.

The ATHINA project is a training programme for community pharmacists that started in 2014 in the German state Northrine-Westfalia. Since then it has been taken up by the Chambers of Pharmacy in three more German states. With ATHINA pharmacists learn to perform a medication review for patients on polypharmacy. They are trained to perform a systematic review using a tailored IT-programme with standard forms for communicating their results to their clients and doctors. The main stakeholders are the community pharmacists, doctors, patients, health care politicians and the health insurance funds. By using previous research you can identify the main gains for each stakeholder group, as summarised in the following table:
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<th>STAKEHOLDER</th>
<th>CURRENT PROBLEM</th>
<th>POSITIVE MESSAGE</th>
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<tr>
<td>Community pharmacists</td>
<td>Have reputation as a salesperson</td>
<td>Expand your role and take part as a healthcare practitioner</td>
</tr>
<tr>
<td>Doctors</td>
<td>Fear competition</td>
<td>Pharmacists support you in your prescribing decisions by adding their special expertise</td>
</tr>
<tr>
<td></td>
<td>Too busy to undertake lengthy medication reviews</td>
<td>Pharmacists can save your time</td>
</tr>
<tr>
<td>The public and politicians</td>
<td>Growing vulnerable groups on complex medication regimens</td>
<td>Individual: A medication review ensures the best fit and facilitates your understanding of your medications. Population: Increasing public awareness. Government drives innovation. The standard medication plan for patients on 3+ drugs is now introduced.</td>
</tr>
<tr>
<td>Health insurance funds</td>
<td>Medication expenses are on a record high in Germany with spendings of 35 billion Euros. Follow-on costs through adverse drug events</td>
<td>The German government is investing into medication management research and evidence on the benefits of medication reviews is accumulating.</td>
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Table 1. Main gains for the stakeholder groups under the current German situation

Having thus prepared for the elevator pitch, start by highlighting the problem, suggest the solution addressed to the particular target stakeholder group and provide some compelling evidence. Anticipate the concerns and incorporate them into your elevator pitch as questions so that they can serve as points for discussion.

The German government and the large non-governmental stakeholder group of pharmacists create a sense of urgency. Pharmacists have a strong self-interest in this matter. Managing polypharmacy is an issue that receives a rapidly growing political and public awareness. The ageing of Germany’s society is more pronounced than in many other countries worldwide, and health politicians are seeking to facilitate healthy ageing without discomfort. Two governmental national health goals have been proclaimed, “Healthy Ageing” and “Patient Safety”, that deal with polypharmacy as an iatrogenic health risk needing to be tackled. Additionally, the German Health Ministry issued detailed action plans on medication safety with continued tenders for projects that deliver solutions on medication management issues. Special emphasis has been laid on developing and implementing the nationwide standard medication chart. Since October 2016 every person with three or more medications is entitled to receive such a medication chart on paper equipped with a QR-code, so that pharmacists and doctors can digitally read, update and exchange information on medicines (§31a SGBV). The governmental aims are clear and input is strong in this field considering that Germany has a system of sharing powers between the government, the health insurances as self-regulated non-profit organizations and the health professional entities. Community pharmacists drive this development forward as they are keen to extend their role from a traditional salesperson of pharmaceuticals to a provider of health care.

Be clear about issues and people that will try to jeopardise your plans and consider the factors of working across professional boundaries

To introduce changes in a system, as for example the implementation of new practice guidelines, is important to get people involved and help them to understand the urgency and necessity of the change. It is

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7 [http://www.bmg.bund.de/themen/gesundheitssystem/gesundheitsziele.html](http://www.bmg.bund.de/themen/gesundheitssystem/gesundheitsziele.html)
8 [http://www.akdae.de/AMTS/index.html](http://www.akdae.de/AMTS/index.html)
essential to explain to professionals, some working for more than 20 years, the importance and the need to move forward. It is important to get everyone on board including users, Top leaders, and work together through a common learning process.

Among the general barriers to implement polypharmacy management programs are related with: 1) Lack of awareness: it is necessary to demonstrate that polypharmacy is an urgent health issue and why is necessary to implement such a programme; 2) Problems with deficient ITs and lack of a national patients’ data registry; 3) Lack of human resources and exhaustion of workers due to accentuated costs reduction and 4) The absence of common goal centered in the patients’ needs. But in relation to human factors the main obstacles are related with: 1) The lack of multi-disciplinarity in healthcare teams and the difficulty to implement it, due to the absence of previous collaborative experiences between workers; 2) The lower motivation of healthcare workers; 3) The difficulty to accept top-down decisions without previous consultation/ involvement of experienced workers.

Do you have suitable training materials and a framework that would allow you to start working with early adopters quickly, so that you can build evidence of improvement?

Lack of management programs and working policies in Italy regarding polypharmacy prescription and adherence to drug therapy and management, particularly among older adults, raised the awareness that there is an urge to implement training programs to address the challenge of polypharmacy that characterizes multimorbidity patients. To this purpose, FOUND has been carrying out the literature search connected with WP6, retrieving a number of studies, that are being elaborated into a review. Indeed, tools and expert recommendations emerge, to help providers in their efforts of optimizing therapy in older adults. The Italian Medicines Agency (AIFA), the national authority responsible for drug regulations in Italy, reported 13 quality indicators addressing polypharmacy, adherence to treatment of chronic diseases, prescriptions, under treatment, drug-drug interactions, and identified drugs to be avoided. In their report, the prevalence of low adherence and under treatment increased with age, with the highest prevalence occurring in patients > 85. The “REgistro POliterapie Societa’ Italiana di Medicina Interna” (REPOS) registry was designed in 2008 by several stakeholders: 1) to describe the prevalence of co-occurring multiple diseases and treatments in hospitalized elderly patients; 2) to correlate clinical characteristics of patients with type and number of diseases and treatments; and 3) to evaluate primary clinical outcomes at hospital discharge and adverse events during hospitalizations. Results from REPOS project showed that quality of prescriptions in patients discharged from hospitals was poor, and a substantial rate of this population did not receive adequate treatment for chronic diseases. These evidences are also coherent with the preliminary data emerging from the FOUND SIMPATHY pilot, showing that multimorbidity patients are discharged without any change of their prescription regimens, thus missing the opportunity to implement a medication review in a highly specialized medical context. The integration of this activity as a systematic step of the hospital stay would benefit clinical outcomes, but requires an organization effort ensuring multidisciplinary intervention.

Do you have a means to prioritise patients that need targeting, as it won’t be possible to deliver for the whole population? Think about your long-term solution as planners and policy makers will want to know whether this is just a short term project, or whether it is a new way to deliver healthcare?

Patient prioritisation requires risk stratification. Multi-morbidity patients are affected by a number of chronic conditions whose prevalence varies across loco-regional contexts. In Campania, pharmaceutical data and hospital discharge data on the entire resident population are available from local health agencies, where they are collected for administrative purposes. These two data streams can be integrated for epidemiological purposes, to detect prescription patterns and patients related factors that can potentially predict the features of the subjects more at risk of sliding doors phenomena, adverse drug reactions, acute events, etc. These data should help define an algorithm model where further information can be taken into account, in order to apply subsequent medication review.

A long term solution will require an organizational model where periodic, high specialty level revision are ensured to complex, multimorbid patients in politherapy, followed by regular monitoring at second and first level for specific indicators.
Step 2. Build a Guiding Coalition - assemble a group with the power and energy to lead and support a collaborative change effort.

- Assemble a group with the power and energy to lead and support a collaborative change effort.
- The approach here needs to work across disciplines and across care settings so that there are many people championing the cause. Many people need to be your evangelists - do you have them - if not how are you going to build them? Will need meetings etc.
- You need to make sure that across the transitions of care you address this so that there is consistency in the message you are trying to sell.
- Your guiding coalition should include importantly the public who should be empowered to expect and want this as part of their care so that their outcome

In 2016, the Chief Medical Officer’s report acknowledged the need to practice realistic medicine which includes discussion of over-treatment with medication. Prior to this publication, there was support from the CMO for the polypharmacy guidance and indeed the SIMPATHY project with willingness to co-author letters to individuals to be ambassadors and to sign up for the benchmarking survey. Engagement at this level together with the national group of clinicians, looking at effective implementation of the polypharmacy guidance has helped Scotland continue to form and gain from powerful coalitions illustrating the iterative nature of Kotter’s principles. As structures change, for example integration of health and social care, there is a need to continually bring together stakeholders who have not traditionally worked together to collaborate across disciplines and professions to work towards a holistic view of the patient. Equally there is need to engage specialists to ensure future advances in common long term conditions are considered in holistic guidance. Representation from all stakeholder groups in the guiding coalition was considered important to facilitate future engagement from their respective groups. This included representatives from patient groups.

The initial group set up to develop the national Polypharmacy Guidance (2012) was the first established national coalition to design and implement the guidance. The group included multidisciplinary representation from health boards across Scotland. It included clinicians (doctors, pharmacists and nurses) from primary care, secondary care and also from education and the professional bodies as well as patient and public engagement. A sub group of the national group, the model of care group, identified the 7 steps for review, included in the second
version 2015\textsuperscript{11}. SIGN (Scottish Intercollegiate Guideline Network) agreed to signpost the polypharmacy guidance on the national clinical guidelines website and the reported feedback from SIGN in March 2016 is that the polypharmacy guidance is the most downloaded of all the guidance documents. There is an expectation in a centralised tax based healthcare system that national clinical guidelines are followed to enable provision of equitable best practice irrespective of the healthcare setting. This was supported by the SWOT that identified the centralised role of government both in terms of governance and an executive agency in development of policy. However, currently, the structures for delivery are undergoing revision due to the fact that health and social care delivery are being brought together under new structures so it will be important to ensure that all the stakeholders across these areas see the delivery of appropriate polypharmacy as an important area to address. However, it can also be seen to be an opportunity, as it should result in the development of an integrated system in primary healthcare in particular, potentially with health care professionals playing a central role as gatekeepers, coordinating communication across disciplines to work towards a holistic view of the patient; active stakeholder participation. The SWOT also identified the potential difference in practice between the healthcare professionals for longterm conditions but also a difference between policy or guidance and practice. There was rationale to mitigate this risk by working with specialists across both primary and secondary care as well as different healthcare professionals to ensure consistency in development of the guidance and policy. An iterative approach to the guidance and policy development was seen to be a key feature in selection of patients for review; this was supported by the PESTEL that identified that the development of the guidance together with the management of policy by policy makers was an essential feature to ensure delivery. The PESTEL also identified the importance of patient engagement in ensuring support for policy makers to prioritise and address the management of polypharmacy.

NHS Education for Scotland (NES), the national board responsible for professional education for pre and post registration healthcare trainees were also engaged and supported development of a mobile app to guide clinicians from all disciplines and settings through the 7 steps to undertake holistic reviews and promote active stakeholder participation. Some educational institutions have adopted the ‘7 steps’ guidance into their syllabus. This guidance helps focus the learning on evidence based medicine, delivery of appropriate polypharmacy reviews, delivery of preventative medical care, or clinical outcomes and economic impact. Adoption of the ‘7 steps’ has the potential to impact upon the future delivery of polypharmacy services, and it will be important to evaluate the impact in practice.

\textit{The approach here needs to work across disciplines and across care settings so that there are many people championing the cause. Consider how you would identify the members of your Guiding Coalition.}

\textit{The proposal in Greece is to form a coalition between: the Main Insurance Fund; the Pharmacology Department of the Faculty of Medicine; the Pharmacy Directory in MoH; Health Economists and Patients. This coalition structure is required in order to “reach” the frontline professionals (doctors and pharmacists) in all Health Care settings and convince them to prescribe under the appropriate polypharmacy approach.}

\textit{Who could be the evangelists? Enable the Main Insurance Fund and the University (Faculty of Medicine, Department of Pharmacology) to guide an initiative towards building new guidelines and pathways to be followed by all health care providers, irrespectively the setting they work. The critical issue in this initiative is to impose them the idea that they are champions on the topic, in the country, and to develop the feeling of ownership in a pioneers’ work. The two suggested organizations have the power and the influence, as well as the authority, to guide and even to control the prescription practice. They both can have a clear and direct guiding role: (a) they can both work on guidelines, (b) The Main Fund has the authority to control the implementation by introducing rules or reimbursement, (c) the University will educate the next generation of professionals when it can also train the currently working staff.}

\textsuperscript{11} \url{http://www.sign.ac.uk/pdf/polypharmacy_guidance.pdf}
Work across disciplines and health care settings: in Greece -as a first feasible step- we can use the e-prescribing system in order to spread widely the appropriate protocols (those mentioned above as still needed to be specifically developed and controlled).

The coalition between the aforementioned bodies (first paragraph) will support, under the guidance of the Medical Faculty of University, as well as the UoP to run studies in order to provide evidence on how the landscape is developed and what the relevant costs but also benefits are.

We can begin with workshops and then build an annual thematic conference where all stakeholders will participate and gradually the coalition will be broader, stronger and finally influential.

You need to make sure that there is a consistent message across the transitions of care

The initial group set up to develop the national Polypharmacy Guidance (2012) was the first established national coalition, to design and implement the guidance. The group included multidisciplinary representation from health boards across Scotland. It included clinicians (doctors, pharmacists and nurses) from primary care, secondary care and also from education and the professional bodies as well, as patient and public engagement. A sub group of the national group, the model of care group, identified the 7 steps for patient review, which was included in the second version of the Guidance (2015). The Scottish Intercollegiate Guideline Network (SIGN) agreed to signpost the polypharmacy guidance on the national clinical guidelines website, and the reported feedback from SIGN in March 2016 is that the polypharmacy guidance is the most downloaded of all the guidance documents. There is an expectation in a centralised tax based healthcare system that national clinical guidelines are followed to enable provision of equitable best practice irrespective of the healthcare setting. This view was supported by the SWOT analysis that identified the centralised role of government both in terms of governance, and an executive agency in development of policy. However, currently the structures for delivery are undergoing revision due to the fact that health and social care provision is being brought together under new structures. It will be important to ensure that all the new stakeholders across these areas see the delivery of appropriate polypharmacy as an important area to address. This should also be seen as an opportunity for promoting holistic patient care within this more integrated system in primary healthcare. The SWOT analysis also identified the potential difference in practice between the different healthcare professionals for long-term conditions.

The Guiding Coalition should include members of the public, who should be empowered to expect and want this as part of their care

There was rationale to mitigate this risk by working with specialists from both primary and secondary, other healthcare professionals and members of the public, to ensure consistency in development of the guidance and policy. An iterative approach to the guidance and policy development was seen to be a key feature in selection of patients for review and this was supported by the PESTEL analysis. The PESTEL also identified the importance of patient engagement in ensuring support for policy makers to prioritise and address the management of polypharmacy.

Step 3. Form a Strategic Vision and Initiatives - shape a vision to help steer the change effort, and develop strategic initiatives to achieve that vision.

- Have a very clear picture of what you are trying to deliver (your elevator pitch but for policy makers) and make sure this includes clearly what by how much when and by whom.
- Make sure you can back this up with data and evidence. After a period of time you should reflect on your goals so that they are real.

The strategic vision that was set out was that benefits from medicines would be optimised and harm from inappropriate polypharmacy would be minimised by addressing this as a public health issue. In order to do this,
the patients at most risk from harm from polypharmacy would be prioritised for review and that this would be done by a multidisciplinary team. National data sets were used to identify those patients at most risk and this was identified by consensus with the model of care group which was composed of clinicians and policy makers.

Whereas the PESTEL group felt that, with a high degree of certainty, changes in the elected government in Scotland would have little effect on Polypharmacy policy, there was a high degree of certainty that (changes in) the execution of the governance or decision-making role of public bodies such as the government's Health and Social Care Directorate, regional Health Boards and other regulatory bodies such as the Care Inspectorate would have a high impact on how the reviews might be executed.

Attitudes and beliefs of clinicians were all seen as potentially playing a high-impact role in implementing changes in polypharmacy reviews. There could for example be cases of lack of clinician buy-in to proposed changes due to held beliefs, or limitations to inter-professional collaboration. For the polypharmacy guidance, its implementation was very clearly led by clinicians and managers or policy makers that were also clinicians. In order to ensure successful implementation, Kotter’s cycle should be iterative and adaptive in nature. Constant revision even of the guidance that addressed the kinds of patients to identify for the review was essential. For example, based on risk, all patients older than 50 in a care home were identified for review whilst in the previous guidance those on 10 or more medications were prioritised.

The vision for delivering optimum patient outcomes from medicines whilst minimising patient harm and waste has been set in the context of Scotland’s 2020 Vision, National Quality strategy and Prescription for Excellence. The PESTEL group were relatively certain that the nature of interfaces between various health care elements, active stakeholder participation and the nature of decision making with respect to prescription of medicines were seen to have a strong impact on future changes in polypharmacy management. There has been endorsement by professional bodies (both doctor and pharmacists) and the British Medical Association for the role of the pharmacist embedded within GP practices to help address and manage the issues from polypharmacy. This has been supported by a recognition of the changing demography of the population and changes in workforce capacity. As health and social care partnerships develop, the vision will need to be clearly articulated to the social care professionals within the integrated joint partnership boards, which will have operational responsibility for implementation.

Financial challenges in the economy mean that there is constant scrutiny on the healthcare budget and in particular the drugs bill which in Scotland represents a tenth of total spend on healthcare. In particular the new GP contract which is currently under review in Scotland, and the integration of Health and Social Care will have a significant impact from the clinical pharmacists’ point of view. These will have direct influence on funding (from local area councils and health boards), access to care homes, and on the overall interaction between primary care and social care. It was therefore essential that this could be supported by data collected from the reviews that showed that there was a benefit both in quality of prescribing as well as cost.

Likewise, divergences between policy and practice in specific areas of morbidity such as diabetes, hypertension or coronary heart disease, or the introduction of specific policies in these areas were also seen to have a high impact on the future management of polypharmacy. Policy changes are expected to be relatively stable in Scotland up to 2020 given the Scottish Government’s 2020 Vision but there is more uncertainty around the scale and acceleration of policy changes after that. Increases or decreases in the ratio of hospital beds, the availability of outpatient appointments and non-medical community services relative to the size of the population were all seen to have a very high impact on the rate of Polypharmacy to 2025 and this was felt with a reasonably high level of certainty as medicines are thought to contribute and so influence the vision to manage appropriate polypharmacy.

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12 http://www.gov.scot/Topics/Health/Policy/2020-Vision
The PESTEL group was very certain that accessibility issues to health care services for identified population groups would impact on any changes made to appropriate polypharmacy management. These groups included patients living in remote areas, patients with mobility difficulties and other specific population groups such as elderly people. Overall, the impact of such access issues was felt to be moderate and it was also noted that, to some extent developments in, e.g., remote areas such as NHS Highland could influence policy centrally with respect to efforts to ensure consistency (post-code prescribing and post code safety). Vision that has been developed for the provision of the current reviews highlights that tele-health and technology are ways to ensure delivery in remote and rural locations and that these may also be employed for urban settings to help with capacity issues.

In the ‘A Better Life for Elderly Sick People’ programme in Sweden, the vision was stated as: “I can age in comfort and autonomy with access to good health and social care.” A management team was formed with representatives from the most important stakeholder groups including people with change management experience and connections with politicians and higher decision makers. Several strategies were developed to facilitate programme implementation.

The National Association of German Pharmacies (ABDA) has published a strategic vision for 203014. Here they clearly state their role and reinforce their developing position as a healing profession in concert with doctors and other health professions. Medication safety, medicines review and analysis as well as the pharmacist-patient relationship receive special emphasis. The message has arrived at the community pharmacists. An interviewee stated, “The professional qualification of the pharmacist is our future. The healing role is paramount!” Doctors, in contrast, have not made such a public statement, perhaps because their strong position seems to render it unnecessary.

Have a very clear picture of what you are trying to deliver and use this to inform your elevator pitch. For policy makers, make sure this includes clearly what by how much, when and by whom.

The Catalan Health Plan, updated every five years, is a strategic planning document that outlines the vision of health in Catalonia. It defines priorities and objectives. The current plan sets out targeted priorities for the rational use of medicines in primary care, with less specific recommendations for hospitals.

The government sponsored programme was in full alignment with “Project 2.6. Implementation of programmes for the rational use of medicines” that aims to guarantee a safe and efficient medication plan that meets the needs of each chronic patient. The clear established objective for 2015 was to revise and reconcile 100% of pharmacological treatments, including all the healthcare areas and guaranteeing quality, facilitating access and improving treatment adherence. This has been executed by CatSalut –the public insurer- by including the revision and reconciliation as part of the contracts with Primary Care Centres. Each Primary Care Centre, in turn, has translated the objectives of the contracts into objective for each of the practitioners. This was supported by additional actions: development of software to support the review of medication and specific training courses to professionals assumed to act as team leaders.

The institutional network programme was less influenced by the requirements of the contract with CatSalut since it is less specific for institutions other than primary care centres. However, there was a clear alignment among the managerial team, the head of pharmacy and the head of the geriatrics unit to include patient-centered prescription as a core element of the comprehensive management of chronic patient. This was effectively communicated to a team composed of a pharmacist and a geriatrician. This team took the lead on a day-to-day basis. The team was supported by the actions adopted by the head of pharmacist and the head of the geriatrics unit that allocated time to undertake the joint team assessment of the patients.

14 https://www.abda.de/fileadmin/assets/Apotheke_2030/perspektivpapier_150112_ansicht.pdf
Make sure you can back this up with data and evidence. After a period of time you should reflect on your goals so that they are real.

There are multiple mechanisms within the institutional network and government sponsored programmes to evaluate the programme goals. The government sponsored programme focuses primarily on the contractual requirements to conduct medication reviews, and there has been less focus on evaluating the quality and impact of these reviews. The new Catalan Health Plan is currently being written and will provide the opportunity to reflect on the goals of this initiative and assess if they are realistic or obtaining the intended results. The institutional network model has established a research team to evaluate the programme. The data from these evaluations are shared internally and externally, and are being used to expand the programme to other settings.

Step 4. Enlist a Volunteer Army - raise a large force of people who are ready, willing and urgent to drive change.

- Work with groups that are innovators and are prepared to start working with you to deliver this in practice and believe that what you are trying to do here is a good thing
- Work with senior decision makers and regularly update them on the results so that change can be driven forward by enabling funding resources

When the work started, clinician support and managerial support for the reviews was built through education sessions and clinical reasoning as to impact on patient outcomes in parallel with engagement of health board members as to how these reviews contributed to the strategic objectives of the health boards. Once these clinicians agreed to pilot the reviews and they began to see the benefits on feedback about the outcomes of the reviews, data was used to feedback to other practices within their localities, easing the introduction of national policy. The wide variety of clinicians that were involved in developing the national guidance meant that they bought into the relevance of the guidance for their patients and could see the value of it. They were then advocates to other colleagues which was discussed as part of their role on the national group. As the clinicians from different areas of practice across Scotland were on the group they shared their data from the reviews. The health economist used this data to provide financial viability for the reviews by undertaking a cost benefit analysis. This collectively was felt to contribute to the success in implementation of the guidance in practice in that it was led by those delivering front line services and dove tailed with managers and policy makers to design the national service.

Education and training was delivered at UK wide professional bodies and education sessions to increase awareness of the importance of addressing appropriate polypharmacy for individuals, as opposed to reviews that are based on individual therapeutic classes alone. Likewise, communication routes such as personalised education of the patient and care giver on multidisciplinary approaches, training the trainers and public information initiatives are based on policy objectives and will therefore be predictably, and strongly influenced by changes to polypharmacy guidance or polypharmacy policy. Therefore there has been a focus on engaging patient groups as part of the debate in polypharmacy management. From a focus group that was facilitated by a patient organisation, the patients commented that they wanted and valued time to discuss their reviews. These comments and evaluations help inform policy at local and national level.

As discussed above, the PESTEL and SWOT show that the collaborative group of the clinicians and policy makers together with the design of healthcare delivery form the guiding coalition to ensure implementation, acceleration and sustainability of change.

A subsidized training programme is an efficient way of enlisting a volunteer army. The model project ATHINA started in 2013 in one German federal state, and only three years later it has spread to four states. The Chambers of Pharmacists, as the responsible bodies for training in each state, are the initiators. ATHINA is in essence a voluntary training programme, which enables pharmacists to perform intermediate medication reviews in their pharmacies. The continuing education programme has been initiated against the backdrop of an insufficient university education in clinical pharmacology. Only 5% of the university education is dedicated to
clinical pharmacology whereas it is 50% in the UK\textsuperscript{15}. The training programme is low-threshold, so that it avoids overwhelming the target group with an ambitious and time consuming module. It rather offers a seminar followed by tutor supported conductions of medication reviews. Since its rollout in Lower-Saxony in 2014, the state under study here, already every fourth pharmacy has gained an ATHINA trained pharmacist.

**Work with groups that are innovators and are prepared to start working with you to deliver this in practice and believe that what you are trying to do here is a good thing**

Coming back to the endeavours in Germany to install medication reviews into community pharmacies as a door opener to assume clinical responsibilities. In the ATHINA project, the prime target group or the «voluntary army» are the community pharmacists. How has their support been gained? The community pharmacists have been offered what they are most in need of - a training programme for undertaking such reviews. The underlying issue is that the older generation of pharmacists did not study any clinical pharmacy. This subject was only introduced in 2001; and even now an international comparison of academic subjects in pharmacy shows that the teaching time in clinical pharmacy is ten times higher in the UK compared to Germany\textsuperscript{16}. By offering the ATHINA training programme to community pharmacists, the initiators have won over the most important target group. With every new ATHINA graduate not only an implementor has been gained but also a political supporter in their course. Within four years of the ATHINA launch in the state of Lower-Saxony, every fourth community pharmacy has one trained pharmacist in place.

**Work with senior decision makers and regularly update them on the results so that change can be driven forward by enabling funding resources.**

To convince senior decision makers to allocate resource for the program it may be necessary to demonstrate the benefits of the program both at economic and health levels. Senior decision makers may become actual key opinion leaders than coach the change, instead of imposing it.

**Step 5. Enable Action by Removing Barriers - remove obstacles to change, change systems or structures that pose threats to the achievement of the vision.**

- Consider issues that will negatively impact on deliver from your initial SWOT but revise this so that you can by taking feedback and ensuring that your strategy and delivery has an iterative model is constantly revised to ensure improvement and drive change.
- Act on those issues either through policy review / contract change/ etc.
- Work at making your opponents your champions by inviting them to be part of the design framework
- Actively look for and address your barriers that might emerge as the project develops.

In order to remove barriers initially at health board level, work was undertaken in many areas by providing extra resource to facilitate learning but also to allow for the extra time to undertake the reviews. Training was provided at local level so that the clinicians felt empowered to undertake the reviews in a holistic perspective and in particular, understanding concepts such as numbers needed to treat and numbers needed to harm. Discussions were facilitated and peer support provided for these initial reviews by the support of geriatricians as in some instances, clinicians were making decisions that might be seen to contradict single disease guidelines. For pharmacists, one of the programmes set up was ‘teach and treat’ clinics where pharmacists skills development would be supported by experienced pharmacists and have their reviews peer assessed to build confidence.

In order to ensure appropriateness of the reviews, in NHS Lothian, they were integrated into the anticipatory care plans, which was an established model of care. This was possible by learning some of the

\textsuperscript{15}<http://unidaz.de/2014/andere-lander-anderes-studium/>
\textsuperscript{16}<http://unidaz.de/2014/andere-lander-anderes-studium/>
lessons from NHS Highland and Tayside where services were already established. This methodology was then used to introduce the polypharmacy review as part of the anticipatory care plan policy. Two other factors for the general practitioner contract were addressed to achieve stakeholder engagement with the reviews. General practitioners were traditionally remunerated by achieving treatment targets for their patients, in a framework known as the Quality and Outcomes Framework (QOF). These targets were mainly based on national clinical guidelines such as NICE and SIGN guidance for single diseases. As a consequence, treatment for long-term conditions was usually targeted at single disease without consideration for the patient with multiple morbidities. Polypharmacy was therefore a natural outcome. If General practitioners did not meet these QOF targets, then they could lose their income; they could exclude some patients but if they excluded more than the average number, this could be subject to investigation, through payment verification. The case study and PESTEL discussion identified the need to ensure future contracts are conducive to innovation and future change. There was also a reluctance by general practitioners to spend time undertaking the reviews if the patient was going to be restarted all their medication on admission to hospital. In order to overcome this communication issue, a READ code was developed that could be tagged to the patient’s records that would indicate that they had had the review and that medications should not be restarted for preventative reasons without consideration that they may have been reviewed and stopped appropriately.

PESTEL discussion identified accessibility issues which require to be overcome for patients with mobility issues or in remote and rural locations. Consideration of integration of polypharmacy reviews with technological solutions was raised for future consideration. It is important to consider equity of service provision which may be dependent on clinician to patient ratio and also on the range of professionals competent to deliver polypharmacy reviews. Future models and structures for healthcare delivery will influence available funding and the need for polypharmacy reviews requires to be discussed as an integral part of service delivery. This was supported by the SWOT that also identified that the issue of delivering in remote and rural locations was a feature that needed to be addressed to ensure that all the people that needed the reviews could access them. This has included telehealth, where pilot projects included pharmacists to allow delivery of these models together with predictive models such as the SPARRA tool that helped identify affected patient groups. The PESTEL findings highlighted that this was unlikely to be an issue in more urban settings with more professionals available to deliver this. Political and regulatory issues that were identified was the GP contract currently under review in Scotland. The SWOT findings supported that will have a significant impact from the clinical pharmacists’ point of view. This provides the opportunity for delivery in order to make framework more conducive to innovation and change in future and is of high impact on the delivery.

Programme initiators should repeatedly evaluate not only its progress but also the facilitators and barriers of change. Views of all professions involved in the change process are essential. Once all involved professions have been interviewed, the SWOT analysis is a good way to analyse the data and reflect on the successes and difficulties of the running programme. The ATHINA programme has its strengths in that the concept appeals to the pharmacists. As mentioned above, it also offers a low-threshold training programme that is easily compatible with the demands of the every-day working life. However, there are also weaknesses, which mainly relate to the operationalization of medication reviews. Taking the medication history, analyzing the medication followed by a consultation with the patient takes 1 ½ to 2 hours, which is not feasible and inhibits its implementation on a large scale. Patients are asked to pay approximately 60 Euro for a review, but this does not cover the time resources spent. The IT-systems in place for the medication reviews require double entries of patient medications. The lack of doctors’ support is threatening the programme, as pharmacists do not receive the medical history of the patient, and patients are in a double-bind situation between their pharmacist and doctor. Opportunities arise, however, with technical solutions for inter-professional care, such as the governmental implementation of the standard medication chart. The timetable is in place for the upgrade of the e-health card, which carries basic personal data at the moment but will store medical data for emergencies and medication data by 2018 on a voluntary basis. Eventually it will become the electronic patient record by 2019. These governmental driven developments are crucial for pharmacists to receive access to patient data and to participate in the overall health care.

Consider issues that will negatively impact on deliver from your initial SWOT but revise this so that you can by taking feedback and ensuring that your strategy and delivery has an iterative model is constantly revised to ensure improvement and drive change.

In our context, the removal of the obstacles to change in the management of polypharmacy requires systematic interventions at different organizational levels. In order to be successful, it needs to be implemented with a step-wise approach that can rely on a shared vision, but is flexible to integrate the elements that are progressively collected during the implementation. Such an iterative model needs also to rely on adequate tools that can be modified as well: to add emerging indicators; address training and educational gaps; integrate stakeholders and organizations from different levels. The extreme relevance of the challenge is paralleled by the high level of complexity required to address it, that only a strong and joint commitment can bring forward.

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<tr>
<th>STRENGTH</th>
<th>WEAKNESS</th>
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<tr>
<td>Involvement of University for research, education, training and knowledge sharing; Involvement of University Hospital for innovation, training and knowledge sharing; High specialty multidisciplinary services.</td>
<td>Absence of National guidelines; Absence of Regional guidelines; Fragmentation of service provision for multimorbidity patients; Fragmentation of dataflow.</td>
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<th>OPPORTUNITIES</th>
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<td>A1, A2, B3 Action Group of EIP-AHA; Synergy between Impact of Community-based Program on Frailty Prevention and frailty Mitigation (ICP – FPM) National Research Program “Programma di Rete” targeting politherapy and multimorbidity management; € 600k investments from Campania Region, € 600k investments from Italian MoH; High attention from decision makers.</td>
<td>Integration between social and health services for regional service provision; Shared service provision from local (municipalities) and regional providers; Strengthening of the regional platform to integrate dataflow; Inadequate commitment to systematically address the challenge.</td>
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Table 2: SWOT analysis for Campania case

Act on issues either through policy review, contract change, etc.

One of the most common obstacles toward the change is lack of helpful rules, procedures and policies. Reviewing them may give an important insight into current obstacles to polypharmacy management. SWOT analysis performed in Poland proved that the only policy that relates somehow to polypharmacy is an Act on Pharmaceutical Chambers [Act on Pharmaceutical Chambers. Act of 19.04.1991 on Pharmaceutical Chamber]. It describes the role of pharmacist in medication management. It states that pharmacists should ‘implement pharmaceutical care based on documented process, in which pharmacist cooperating with patient and physician and if needed other healthcare professionals, takes care of proper pharmacotherapy in order to improve patients quality of life’. This regulation gives a background for pharmaceutical care which can be a part of polypharmacy management. However, this is only internal act of professional organisation, and no other legislation act referring to polypharmacy currently exists in Poland. This issue, which undoubtedly stands for a barrier to polypharmacy management in Poland, should definitely be addressed.

Model projects are a means of challenging traditional views. The ATHINA project, under study here, helps to consolidate differing views within the profession of pharmacists and to strengthen the coalition with politicians. It provides some convincing arguments that opponents cannot easily overlook. Recent legislation laid the foundation in allowing pharmacists to undertake medication reviews. This has opened up new possibilities for pharmacists to take actions. Representatives of pharmacists became involved in research projects that offer
medication reviews within the community either in co-operation with doctors and nurses (e.g. ARMIN\textsuperscript{18}, AGNESzwei\textsuperscript{19}, WestGem\textsuperscript{20}, AMTS-Ampe\textsuperscript{21}, PROMMT\textsuperscript{22}, IntherAkt\textsuperscript{23}, Hannoversche Heimpilotstudie) or as a stand-alone service, such as Apo-AMTS\textsuperscript{24} and ATHINA\textsuperscript{25} – the latter being the model project that is under examination here. These model projects are explicitly promoted by the government and regulations have been put in place (§63, SGBV)\textsuperscript{26}. The representatives of pharmacists also entered into negotiation with top-level functionaries of doctors with the aim of participating in patients’ medication management. However, doctors have not yet been won over as they fear competition. Yet doctors also recognize the need for a polypharmacy check. A multimedication guideline from a group of GPs has recently been published\textsuperscript{27}.

**Work at making your opponents your champions by inviting them to be part of the design framework**

As we all know, the “opponents” are never clearly declared as such; but we can make the assumption that the opponents may be identified among the bodies or professionals who think that they may lose or really lose something if polypharmacy be “controlled”.

Under this approach, two main “opponents” could be identified: (a) the pharma industry may be an “opponent” that is strong enough to play a role in continuing the existing situation, through guiding over-prescription towards meet individual sales scores and (b) a huge number of individual doctors who may believe that they would sacrifice some “weapons” against diseases if they review their prescribing practice. Other hidden bodies might be “opponents” but we have to begin.

The idea is to enable them, under the guidance of the main Fund and the University (as described in 2.1.1) and provoke answers in specific scientific question, for the benefit of the patient. Workshops, well structured, with the participation of international experts should be held in order to help them to see the future, to discuss on European benchmarks and to give them the opportunity to develop new strategies adapted to the next generation landscape.

It will not be easy, but it will be a stable step in building the future. The relevant “community” of vendor and doctors are mature to be involved in a “Champions’ case” and it is expected that they will perform as champions for our Polypharmacy vision.

**Actively look for and address your barriers that might emerge as the project develops.**

In order to remove barriers initially at health board level, work was undertaken in many areas by providing extra resource to facilitate learning but also to allow for the extra time to undertake the reviews. Training was provided at local level so that the clinicians felt empowered to undertake the reviews in a holistic perspective and in particular, understanding concepts such as numbers needed to treat and numbers needed to harm. Discussions were facilitated and peer support provided for these initial reviews by the support of geriatricians as in some instances, clinicians were making decisions that might be seen to contradict single disease guidelines. For pharmacists, one of the programmes set up was ‘teach and treat’ clinics where pharmacists skills development would be supported by experienced pharmacists and have their reviews peer assessed to build confidence.

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\textsuperscript{18} http://www.arzneimittelinitiative.de/grundlagen/  
\textsuperscript{19} http://www.aerztezeitung.de/politik_gesellschaft/berufspolitik/article/806611/agnes-zwei-multitalent.html  
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In order to ensure appropriateness of the reviews, in NHS Lothian, they were integrated into the anticipatory care plans, which was an established model of care. This was possible by learning some of the lessons from NHS Highland and Tayside where services were already established. This methodology was then used to introduce the polypharmacy review as part of the anticipatory care plan policy. Two other factors for the general practitioner contract were addressed to achieve stakeholder engagement with the reviews. General practitioners were traditionally remunerated by achieving treatment targets for their patients, in a framework known as the Quality and Outcomes Framework (QOF). These targets were mainly based on national clinical guidelines such as NICE and SIGN guidance for single diseases. As a consequence, treatment for long-term conditions was usually targeted at single disease without consideration for the patient with multiple morbidities. Polypharmacy was therefore a natural outcome. If General practitioners did not meet these QOF targets, then they could lose their income; they could exclude some patients but if they excluded more than the average number, this could be subject to investigation, through payment verification. The case study and PESTEL discussion identified the need to ensure future contracts are conducive to innovation and future change. There was also a reluctance by general practitioners to spend time undertaking the reviews if the patient was going to be restarted all their medication on admission to hospital. In order to overcome this communication issue, a READ code was developed that could be tagged to the patient’s records that would indicate that they had had the review and that medications should not be restarted for preventative reasons without consideration that they may have been reviewed and stopped appropriately.

PESTEL discussion identified accessibility issues which require to be overcome for patients with mobility issues or in remote and rural locations. Consideration of integration of polypharmacy equity of service provision which may be dependent on clinician to patient ratio and also on the range of professionals competent to deliver polypharmacy reviews. Future models and structures for healthcare delivery will influence available funding and the need for polypharmacy reviews requires to be discussed as an integral part of service delivery. This was supported by the SWOT that also identified that the issue of delivering in remote and rural locations was a feature that needed to be addressed to ensure that all the people that needed the reviews could access them. This has included telehealth, where pilot projects included pharmacists to allow delivery of these models together with predictive models such as the SPARRA tool that helped identify affected patient groups. The PESTEL findings highlighted that this was unlikely to be an issue in more urban settings with more professionals available to deliver this. Political and regulatory issues that were identified was the GP contract currently under review in Scotland. The SWOT findings supported that this will have a significant impact from the clinical pharmacists’ point of view.

Step 6. Generate Short-Term Wins - consistently produce, track, evaluate and celebrate volumes of small and large accomplishments – and correlate them to results.

- After results from initial pilot work, continue to collect results in different settings and share widely and celebrate this so that people can relate to the findings
- Always keep sharing the health economics data and the sustainability and how you are making improvements – you need for your case to be compelling so that something else is not seen as being more important.

Each of the health boards collected data to demonstrate the benefits in terms of patient outcomes and also financial benefits that could ensure sustainability. As discussed above, as boards continued to implement their service wider across their health boards, data was collected to provide the cost benefit analysis. This information continues to be used to monitor institution of the change, but also clinically to demonstrate the benefits to patient care. Further exploration of data capture using ICT infrastructure developments should be considered for on-going monitoring of services and their innovation. PESTEL discussion and the SWOT analysis identified that developments in data linkage and provision of meaningful outcome data should provide incentives for clinicians to provide polypharmacy reviews if they could demonstrate the clinical benefits to patient care but also if the data could be collected in a more automated way that this would provide data to demonstrate the short term wins but also provide continual data on improvement and the evidence that policy makers and
decision makers at board level would need to sustain the service. This health economic and benefits information was provided to all stakeholders in the both the 2012 and 2015 guidance to allow decision makers to A weakness that was identified was that when patients have an admission to hospital, that where the cause is due to an adverse drug reaction, that this is not documented on admission and that this would be an area to address from a policy perspective. The strength and opportunity identified to address this further would be to develop further the use of the app, developing one for the patients in parallel and that the use of these tools would be of high impact. More recently, there has been development to determine if the national prescribing data set could be used to develop indicators that could easily show the benefits.

A prompt provision of programme results is essential. It opens up the opportunity to make early adaptations or celebrate successes right from the start. Germany experiences a dynamic development in creating evidence in the field of medication management. The new action plan for medication safety has set up a tight time table for advancing results and their implementation. First successes are celebrated, such as the establishment of the PRISCUS-list (list of potentially inappropriate drugs for older people) and the FORTA-list (drug-classification system to optimize medication). An increasing number of national trials are presenting their results on epidemiology, needs of the public and vulnerable groups, innovative procedures, IT-support and sectoral interfaces of medication care. The government paves the way for collecting further evidence by calls for research applications equipped with substantial federal and health insurance funding (Innovationsfond 2016-19)28. So far ATHINA has prioritised spreading the training programme to the community pharmacies. Results are therefore published that broach the increasing number of pharmacists enlisted to ATHINA. However, data on the effect of the medication reviews have not yet been published. The restricted access for a selective group of self-paying patients and the lack of co-operation with doctors could potentially reduce the evidence for a benefit.

After results from initial pilot work, continue to collect results in different settings and share widely and celebrate this so that people can relate to the findings

National quality indicators for the prescription of drugs in elderly patients are being used in Sweden at a regional level to measure prescribing performance. Within the national ‘A Better Life for Elderly Sick People’ programme these indicators were used to measure improvement on a monthly basis. The results on a regional level were accessible and transparent to everyone. These results were combined with a pay-for-performance system in which regions could earn more funding if they scored better on these indicators. Especially the monthly aspect of these indicators was valued, because it allows for relatively quick feedback.

Always keep sharing the health economics data and the sustainability and how you are making improvements – you need for your case to be compelling so that something else is not seen as being more important.

FCRB Institutional network sponsored programme: Interestingly, health economic data was not available and even not requested for adopting the decision to start with the polypharmacy programme. Actually economics were perceived as a weak / counterproductive argument to motivate health professionals to change work practices. As a result, there was no/less emphasis about using it to monitor progress even if the importance of this type of data was acknowledged. As a result, the implementation team was mainly focused on clinical results (with some of them being potentially translated in economic values). Also, the team celebrated professional achievements in the form of personal satisfaction and academic results (publications, PhD thesis).

Specific economic analysis about the impact of inappropriate polypharmacy was not available in the case of the government sponsored programme. Again economic arguments were not seen as the primary selling point to engage professionals although it was acknowledged that they will be eventually important for decisions makers.

28 https://innovationsfonds.g-ba.de/
Step 7. Sustain Acceleration - Use increasing credibility to change systems, structures and policies that don’t align with the vision; hire, promote and develop employees who can implement the vision; reinvigorate the process with new projects, themes and volunteers.

- Consideration needs to be given here about working with public to change practice,
- Cultural work to change attitudes of individual healthcare professionals so that anxieties are addressed and inter-professional and intra-professional work if facilitated.
- Consider if there is scope to make reviews as part of a care pathway for those with multiple morbidities so that it is considered part of routine care to review appropriate polypharmacy.
- Consider use of patients information leaflets, apps for patients and clinicians to ensure consistency in approach to review this

Implementation was supported through contractual incentives. After the pilot phase of implementation of the national polypharmacy guidance (2012), boards introduced local enhanced services for which there was additional funding to encourage clinicians to undertake the reviews. When sufficient evidence of the benefits from polypharmacy review was generated, polypharmacy reviews were introduced into the national general practitioner contract and additional funding continued as this was undertaken in a phased approach. Other national policy initiatives then introduced general practice based pharmacists responsible for undertaking the reviews. These were Prescription for Excellence and ministerial announcement for additional funding for pharmacists that would be in place to allow this to be available for all patients across Scotland.

A collation of senior managers across the NHS and Government formed to address prescribing policies in Scotland and one of its recommendations had been the pace of implementation of the polypharmacy reviews. Aligned to the iterative nature of Kotter’s principles there is continued review of practice models to seek best practice through a national survey of models and current factors to identify patients most needing a review to ensure sustainability and improved outcomes for the patient.

PESTEL discussion identified that testing models in the largest health board would facilitate sustained acceleration. It was felt with certainty that this was driving change and also that this health board had also started to develop work on data capture.

Policy development initially was the development of including review of appropriate polypharmacy as part of the general practitioner’s contract so that it was part of the patient pathway for support patients with multiple morbidities in particular if they had anticipatory care plans. Further policy development in the area, in support of Prescription For Excellence, resulted in significant political investment for pharmacists to be deployed in primary care in general practice to deliver these reviews, with £16.2M being invested initially, with further policy commitment to ensure every GP practice in Scotland would have pharmacist independent prescribers to accelerate this change and support the public in this area. A key driver for this was the medical unions requesting this support from government for pharmacists to deliver this aspect of patient care. Further work to accelerate the change as well as development of the clinician app is the development of the patient app.29

To sustain acceleration, it is important to circumvent or remove barriers and to initiate something like a mass movement in Germany, health professionals and public interest groups need to work towards the notion that medication checks become standard in the health care provision for patients with polypharmacy. This cultural change has not yet fully taken place. The ATHINA programme is momentarily somewhat hamstrung by the opposition of the more powerful group of doctors and the impractical and unfeasible conduction of medication reviews. New energy needs to be invested into a more feasible IT-support and a downsized version of a medication review. The political plan of advancing the e-health card with its underlying IT-systems for practices and pharmacies comes in useful. It will render the double entry of medications for the review unnecessary. Continued

29 http://www.polypharmacy.scot.nhs.uk/about/
negotiations with the main stakeholders (health insurance companies, pharmacist unions, doctors’ representatives) will raise further awareness or even create new allies, especially as the group of pharmacists offering medication checks consistently rises. The initiators of ATHINA have also entered into a new project to reinvigorate their cause. As detailed above they participated in a nursing home pilot study in cooperation with a medical university department. The ATHINA medication review was installed in this setting and proved very effective. This was subsequently recognized and awarded by the national GPs’ society (DEGAM).

Consideration needs to be given here about working with public to change practice.

This strong evidence base enabled the project leaders to build a strong alliance of support among key national decision makers including policy makers, commissioners, chief professional officers, service leaders and medical, nursing and pharmacy professionals. An essential component of this work was public support gained through engagement with leading national charity Age NI. All of this helped gained to sustain the model as it developed and accelerate its scale up nationally. Wider awareness of the model was facilitated through publications in health journals and presentations at conferences across Europe.

To sustain acceleration a steering group including patient representatives and all stakeholders has been convened to oversee the implementation of the model. In 2016-17 the primary focus of the steering group is to embed the model into the patient care pathway for older people with multi-morbidities. Future work will include integration of best practices for polypharmacy review with primary and social care supported by technology such as Apps and adherence aids.

Cultural work to change attitudes of individual healthcare professionals so that anxieties are addressed and inter-professional and intra-professional work is facilitated.

In the course of managing change it can prove difficult to convince all stakeholders involved. Sometimes a new edition of the original version helps to reinvigorate the process. This has been done with the ATHINA project in Germany by giving ATHINA a change in the setting from the pharmacy to a nursing home.

ATHINA was introduced as a training programme for community pharmacists to perform medication reviews in their own pharmacies. The problem is that doctors, who are the most powerful stakeholder group, reacted indifferently or oppositional to this advancement, as they fear relinquishing part of their professional sovereignty. The initiators of ATHINA subsequently took the opportunity to join in a nursing home pilot study in cooperation with a medical university department. The ATHINA medication review was installed and proved successful in two ways: medication use of residents improved demonstrably; and the participatory action approach, which was applied, highlighted ways on how doctors and pharmacists can co-operate. The project was subsequently presented on the national GPs’ conference where it received recognition from doctors with an award for being most relevant to practice.

Consider if there is scope to make reviews as part of a care pathway for those with multiple morbidities, so that it is considered part of routine care to review appropriate polypharmacy.

Medication reviews have demonstrated reducing the burden of polypharmacy. Different professionals can perform reviews, although pharmacists may be better positioned for their educational background and their availability. In different countries, different conditions were established to select patients that should have their medication reviewed. Establishing these conditions, in association with providing incentives (financial or promotional) are key elements to achieve a routine-basis implementation.

Consider use of patient’s information leaflets and ‘apps’ for patients and clinicians to ensure consistency in approach to review this
Stakeholder engagement is key to the adoption of the tools that will support the change management to polypharmacy. In our iterative model, this approach is reflected by early involvement of all categories in early stages of change that will be deployed through targeted interventions.

<table>
<thead>
<tr>
<th>STAGE</th>
<th>TARGET</th>
<th>INTERVENTION</th>
<th>TOOL</th>
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</thead>
<tbody>
<tr>
<td>Early</td>
<td>Professionals</td>
<td>Raise awareness</td>
<td>Dedicated workshop, scientific events, papers</td>
</tr>
<tr>
<td>Early</td>
<td>Professionals</td>
<td>Education</td>
<td>Integrated education routes (masters, specialization, PhD etc.)</td>
</tr>
<tr>
<td>Early</td>
<td>Professionals</td>
<td>Training</td>
<td>New tools</td>
</tr>
<tr>
<td>Early</td>
<td>Decision makers</td>
<td>Raise awareness</td>
<td>Expected Impact: briefing documents, ppt, summaries</td>
</tr>
<tr>
<td>Early</td>
<td>Patients and informal caregivers</td>
<td>Raise awareness</td>
<td>Potential Impact: leaflets, brochures, tutorials, video</td>
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<tr>
<td>Intermediate</td>
<td>Professionals</td>
<td>Testing and validating model</td>
<td>New tools</td>
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<tr>
<td>Intermediate</td>
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<td>Testing and validating model</td>
<td>New tools</td>
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<tr>
<td>Intermediate</td>
<td>Decision makers</td>
<td>Adequate regulatory framework</td>
<td>Regulations</td>
</tr>
<tr>
<td>Late</td>
<td>Professionals</td>
<td>Activity implemented in daily routine</td>
<td>New organizational model</td>
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<tr>
<td>Late</td>
<td>Patients and informal caregivers</td>
<td>Empowered and stratified patients and informal caregivers</td>
<td>Facilitated and appropriate access to medication revision</td>
</tr>
<tr>
<td>Late</td>
<td>Decision makers</td>
<td>Scale-up</td>
<td>Model</td>
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Table 3: Stakeholders engagement, Italy

Step 8 Institute Change - Articulate the connections between the new behaviors and organizational success, and develop the means to ensure leadership development and succession.

- In this section need to consider how you integrate the polypharmacy and adherence work as part of routine practice
- Do you have leadership that will continue to articulate your goals and ambitions?
- Do you have leadership that will be able to deal with the challenges but drive forward your agenda?
- Is your strategy iterative so that it is inclusive of people’s ideas to improve delivery as they try an implement the work in practice?

The measures described above to sustain acceleration have also contributed to instituting change, in particular the current general practitioner contract. It is important however as new contracts are developed and new policies are made that the focus of the benefit of these reviews continue to be highlighted.

One factor that would help is the ability of readily being able to run reports that demonstrate benefit without having to collect data manually. Available prescription information on medication usage and on receipts of polypharmacy reviews is not currently linked to information on hospital admissions related to Adverse Drug Reactions (ADRs) and other, longer-term outcome data in Scotland. There is therefore uncertainty around developments in data-linkage in this area, but it was seen to have a potentially large impact on changes in...
polypharmacy management. Better linkage would enable a clearer view whether PPH reviews are making a
difference to ADR related admissions and it would help validate the process and generate stakeholder (GP)
confidence and engagement. This was both identified in desk top, case studies and further supported by the
PESTEL and SWOT evaluation.

PESTEL discussion recognised the influence education and training has on service provision, therefore the
need to continually review and develop education and training of healthcare professionals and patients to drive
best practice and that this would have a strong and predictable impact on the current and future delivery of the
programme.

The SWOT acknowledged the key strength was that the approach had focused on a multidisciplinary
approach and that the training could be delivered across the different professional groups.
A key political strength has been the recognition of appropriate polypharmacy work as a core part of the
government’s clinical strategy and realistic medicines agenda, and its inclusion as a key priority area for the NHS
board Chief Executives to focus on for delivery as part of the Effective Prescribing Programme that is supported
by the NHS Scotland Chief Executive and the Cabinet Secretary for Health.

Ongoing motivation and endurance need to be upheld to institute change. A route-map with small step
goals may be useful. The ATHINA training programme is running well. It offers continuous webinars to
consolidate the competencies of a clinical pharmacist. The ATHINA programme is spreading across the
federal states. However, the conduction of medication reviews in the pharmacies - and this is what the
ATHINA training programme is for – is not established. A route map may help to get a clear idea about
the next steps.

Consider how you integrate the polypharmacy and adherence work as part of routine practice

Polypharmacy management is in closely related to medication adherence, and vice versa. In general, with
polypharmacy issue addressed, regimens became simpler, and the odds of the adherence rise. Therefore, both the
interventions targeting polypharmacy, and adherence need to be integrated in routine practice, depending on the
local conditions. Countries that do not have polypharmacy management guidelines should firstly focus on
identification of patients with polypharmacy issues. After the problem of inappropriate medication is solved,
patients should be carefully checked for medication adherence. In countries with polypharmacy management
guidelines in place, these local guidelines should be followed at first line. Patient medication adherence checkup
should be done afterward. It is also strongly advisable that polypharmacy and adherence issue should be tackled
by relevant ICT solutions, such as healthcare software, and decision support systems employing artificial
intelligence. Thanks to these, healthcare professionals might be alerted when possibility of improper medications
or nonadherence exist, and supported in implementing relevant interventions.

Do you have leadership that will be able to deal with the challenges but drive forward your agenda?

A key political strength has been the recognition of appropriate polypharmacy work as a core part of the
government’s clinical strategy and realistic medicines agenda, and its inclusion as a key priority area for the NHS
board Chief Executives to focus on for delivery as part of the Effective Prescribing Programme that is supported
by the NHS Scotland Chief Executive and the Cabinet Secretary for Health.

Is your strategy iterative so that it is inclusive of people’s ideas to improve delivery as they try to implement
the work in practice?

PESTEL discussion recognised the influence education and training has on service provision, therefore the
need to continually review and develop education and training of healthcare professionals and patients to drive
best practice and that this would have a strong and predictable impact on the current and future delivery of the
programme.
The SWOT acknowledged the key strength was that the approach had focused on a multidisciplinary approach and that the training could be delivered across the different professional groups.
Chapter 2. Normalisation Process Theory Core Constructs

Normalisation Process Theory (NPT) has been used to provide additional richness to the insights obtained through Kotter. NPT can be used to support the evaluation and implementation of complex interventions, such as healthcare. It studies what people do (action) rather than how they feel about what they do (attitudes), or what they say they are going to do (intentions). NPT helps to understand complex interventions by studying how people make sense (coherence), engage with (cognitive participation), act in (collective action) and appraise (reflexive monitoring) work.

The NPT constructs from the case study will help to inform the detail of some of the issues raised above. This section will offer an alternative framework for developing and assessing a strategic plan.

Coherence is the sense-making work that people do individually and collectively when they are faced with the problem of operationalizing some set of practices.

Of the NPT constructs, coherence was the once most consistently identified within the case studies. On a broad level, there was evidence of coherence around the issue of polypharmacy across the case studies. Evidence comes from policy documents that outline the importance of addressing polypharmacy and from interviews with key stakeholders.

In some countries, especially those without programmes, stakeholders doubted that policy makers understood the significance and impact of polypharmacy, indicating that although there was some evidence of coherence, this was not shared amongst all players necessary to implement a polypharmacy management programme.

Breaks in coherence were also identified in countries that had existing programmes. For example, in Catalonia, the rationale and goals of the polypharmacy management programme differed between administrators, managers, and pharmacists. All agreed that polypharmacy in general was an important problem to address, but the specifics of why it was being addressed varied.

Sweden also noted a lack of coherence regarding the details of their polypharmacy management legislation. Details around what exactly should be done and who should take leadership and responsibility were not clear.

Different strategies were employed to gain coherence. These included process mapping, education and training initiatives (both undergraduate and continuing professional development), and media campaigns. Aligning a polypharmacy initiative within other the context of other priorities was a way to get buy-in on the issue.

Cognitive Participation is the relational work that people do to build and sustain a community of practice around a new technology or complex intervention.

A range of cognitive participation was seen within the case studies, reflecting the various stages of development of different initiatives. In general, it was agreed that to achieve cognitive participation, it was necessary that all key stakeholders, including patients, health care providers, policy makers, and professional associations, should be involved in developing and leading a polypharmacy management initiative.

As with coherence, education and training was cited as a critical component for achieving cognitive participation. Education and training initiatives should target all professionals involved in polypharmacy management and adherence, including nurses, pharmacists, and physicians.
Cognitive participation involves defining the practices and procedures necessary to sustain an action and move it forward. In some situations there was strong evidence of a will to move an initiative forward, such as in the case of Germany. In others, there was no structure or individual responsible for following through with implementation, as was the case in Sweden.

Another significant issue that arose in the context of cognitive participation was who is responsible for what tasks. In situations where this had not clearly been defined, this could lead to break downs in work getting done or in tension between providers. Sometimes defining who would do what tasks also required a redefinition of the role of a particular professional, which in the case of polypharmacy management usually meant the role of pharmacists. In places where there was a conscious redefinition of the role of pharmacists, such as in the UK where pharmacists and other health care providers can undertake additional education and training to become independent prescribers, there was more evidence of successful collective action.

Collective Action is the operational work that people do to enact a set of practices, whether these represent a new technology or complex healthcare intervention.

As with cognitive participation, there was also a range of collective action evidenced within the case studies. There was also a considerable amount of negative collective action, or presence of practices that hindered the implementation of a polypharmacy management initiative. It was noted by multiple key informants that a restructuring of work flow is necessary for the implementation of a new initiative.

Forming multidisciplinary teams was almost universally viewed as a necessary step to addressing inappropriate polypharmacy. It was also agreed that this is often easier said than done. Countries without programmes specifically highlighted a lack of culture that supports teamwork. Even in countries that had programmes, the need for stronger teamwork and improved communication skills, especially interdisciplinary communication, was noted.

Education and training also came up in the context of collective action. It was seen as a way to obtain the skills, both clinical and team building skills, necessary to implement a new initiative. In Sweden and the UK it was noted that physicians and pharmacists obtain undergraduate training in polypharmacy management, facilitating the implementation of teams.

Adequate information and communication technology was also identified as an essential component of collective action. Without the right ICT support, collective action was impossible. This could include electronic prescribing systems allowing relevant health professionals access to a patient’s prescribed medication history, shared electronic medical records to facilitate care transitions, and clinical decision support. In the primary care setting in Catalonia, based on the complexity of their diagnosis and current medication profile, patients requiring a medication review are flagged in the electronic medical record. Review of their medications is supported by clinical decision support software, and providers in multiple settings have access to the current medical record.

Another facilitator of collective action is the reallocation of resources. This can be the reallocation of an individual’s time, or the reallocation of financial resources. In countries where there was the most success, both types of reallocation had taken place. In Northern Ireland, the creation of new consultant pharmacist positions and the scheduling of regular clinical sessions that pharmacist contributed to the success of that programme. In Germany, community pharmacists were fitting in the medication reviews on top of their current work, and felt that it was not a sustainable strategy for implementation.

Reflexive Monitoring is the appraisal work that people do to assess and understand the ways that a new set of practices affect them and others around them.

Reflective monitoring was also identified as a critical component of a polypharmacy management initiative, but participants also discussed the complexity of monitoring. As with collective action, ICT was critical for reflective
monitoring. Those countries without ICT systems capable of providing population level monitoring and evaluation cited this as a major impediment to implementation. Countries that had clear quality indicators and measure of polypharmacy cited these as critical both for the development of the initiative and for the ongoing monitoring for evidence of success.

Another challenge to reflective monitoring is the time frame. Polypharmacy management that occurs in a hospital will not necessarily change the outcome of a particular hospitalization but could affect outcomes in the primary care setting. This requires a more sophisticated, long-term monitoring that takes a health system approach. This is a more resource intensive evaluation. Multiple key informants reflected on the need for both process and outcome indicators, and discussed the need to ensure the quality of a medication review.

In addition to data driven reflexive monitoring, multiple key informants described the benefits of improved job satisfaction, the benefits of colleagues seeing a successful model implemented, and the power of word of mouth.
Chapter 3. Key Lessons for consideration in Strategic Planning

There are many key lessons learnt from SIMPATHY that can be used to help strategic planning for polypharmacy management programmes. This chapter contains further examples to demonstrate key lessons learnt. Germany provides a systematic summary of lessons learnt at each stage of Kotter. Catalonia looks at how there can be two very distinct approaches within the same country. Northern Ireland provides lessons learnt from when an existing programme is at a reasonable state of development. Greece and Poland provide lessons from a country where no polypharmacy management programme exists. Sweden provides lessons on how to understand a country’s baseline from the PESTEL and SWOT. Catalonia provides useful insight into the literature search, and Italy demonstrates lessons learnt from the road map.

3.1 The Eight lessons from Germany

The novel case of involving community pharmacists to undertake medication reviews for people with polypharmacy

- Lesson 1: The German government and the large non-governmental stakeholder group of pharmacists create a sense of urgency. Pharmacists have a strong self-interest in this matter.

Managing polypharmacy is an issue that receives a rapidly growing political and public awareness. The ageing of Germany’s society is more pronounced than in many other countries worldwide, and health politicians are seeking to facilitate healthy ageing without discomfort. Two governmental national health goals have been proclaimed, “Healthy Ageing” and “Patient Safety”, that deal with polypharmacy as an iatrogenic health risk needing to be tackled. Additionally, the German Health Ministry issued detailed action plans on medication safety with continued tenders for projects that deliver solutions on medication management issues. Special emphasis has been laid on developing and implementing the nationwide standard medication chart. Since October 2016 every person with three or more medications is entitled to receive such a medication chart on paper equipped with a QR-code, so that pharmacists and doctors can digitally read, update and exchange information on medicines (§31a SGBV). The governmental aims are clear and input is strong in this field considering that Germany has a system of sharing powers between the government, the health insurances as self-regulated non-profit organizations and the health professional entities. Community pharmacists drive this development forward as they are keen to extend their role from a traditional salesperson of pharmaceuticals to a provider of health care.

- Lesson 2: Model projects are a means of challenging traditional views. The ATHINA project, under study here, helps to consolidate differing views within the profession of pharmacists and to strengthen the coalition with politicians. It provides some convincing arguments that opponents cannot easily overlook.

Recent legislation laid the foundation in allowing pharmacists to undertake medication reviews. This has opened up new possibilities for pharmacists to take actions. Representatives of pharmacists became involved in research projects that offer medication reviews within the community either in co-operation with doctors and nurses (e.g. ARMIN, AGNESzwei, WestGem, AMTS-Ampel, PROMMT, IntherAkt, Hannoversche Heimpilotstudie) or as a stand-alone service, such as Apo-AMTS and ATHINA – the latter being the model project that is under examination here. These model projects are explicitly promoted by the government and regulations have been put in place (§63, SGBV). The representatives of pharmacists also entered into negotiation with top-level functionaries of doctors with the aim of participating in patients’ medication management. However, doctors have not yet been won over as they fear competition. Yet doctors also recognize the need for a polypharmacy check. A multimedication guideline from a group of GPs has recently been published.
Lesson 3: To clearly state a strategic vision to the public is an important milestone, as it stakes out claims.

The National Association of German Pharmacies (ABDA) has published a strategic vision for 2030\(^{30}\). Here they clearly state their role and reinforce their developing position as a healing profession in concert with doctors and other health professions. Medication safety, medicines review and analysis as well as the pharmacist-patient relationship receive special emphasis. The message has arrived at the community pharmacists. An interviewee stated, “The professional qualification of the pharmacist is our future. The healing role is paramount!” Doctors, in contrast, have not made such a public statement, perhaps because their strong position seems to render it unnecessary.

Lesson 4: A subsidized training programme is an efficient way of enlisting a volunteer army.

The model project ATHINA started in 2013 in one German federal state, and only three years later it has spread to four states. The Chambers of Pharmacists, as the responsible bodies for training in each state, are the initiators. ATHINA is in essence a voluntary training programme, which enables pharmacists to perform intermediate medication reviews in their pharmacies. The continuing education programme has been initiated against the backdrop of an insufficient university education in clinical pharmacology. Only 5% of the university education is dedicated to clinical pharmacology whereas it is 50% in the UK\(^{31}\). The training programme is low-threshold, so that it avoids overwhelming the target group with an ambitious and time consuming module. It rather offers a seminar followed by tutor supported conductions of medication reviews. Since its rollout in Lower-Saxony in 2014, the state under study here, already every fourth pharmacy has gained an ATHINA trained pharmacist.

Lesson 5: Programme initiators should repeatedly evaluate not only its progress but also the facilitators and barriers of change. Views of all professions involved in the change process are essential.

Once all involved professions have been interviewed, the SWOT analysis is a good way to analyse the data and reflect on the successes and difficulties of the running programme. The ATHINA programme has its strengths in that the concept appeals to the pharmacists. As mentioned above, it also offers a low-threshold training programme that is easily compatible with the demands of the every-day working life. However, there are also weaknesses, which mainly relate to the operationalization of medication reviews. Taking the medication history, analyzing the medication followed by a consultation with the patient takes 1 ½ to 2 hours, which is not feasible and inhibits its implementation on a large scale. Patients are asked to pay approximately 60 Euro for a review, but this does not cover the time resources spent. The IT-systems in place for the medication reviews require double entries of patient medications. The lack of doctors’ support is threatening the programme, as pharmacists do not receive the medical history of the patient, and patients are in a double-bind situation between their pharmacist and doctor. Opportunities arise, however, with technical solutions for inter-professional care, such as the governmental implementation of the standard medication chart. The timetable is in place for the upgrade of the e-health card, which carries basic personal data at the moment but will store medical data for emergencies and medication data by 2018 on a voluntary basis. Eventually it will become the electronic patient record by 2019\(^{32}\). These governmental driven developments are crucial for pharmacists to receive access to patient data and to participate in the overall health care.

Lesson 6: A prompt provision of programme results is essential. It opens up the opportunity to make early adaptations or celebrate successes right from the start.

Germany experiences a dynamic development in creating evidence in the field of medication management. The new action plan for medication safety has set up a tight time table for advancing results and their implementation. First successes are celebrated, such as the establishment of the PRISCUS-list (list of potentially...

\(^{30}\) https://www.abda.de/fileadmin/assets/Apotheke_2030/perspektivpapier_150112_ansicht.pdf  
\(^{31}\) http://unidaz.de/2014/andere-lander-anderes-studium/  
inappropriate drugs for older people) and the FORTA-list (drug-classification system to optimize medication). An increasing number of national trials are presenting their results on epidemiology, needs of the public and vulnerable groups, innovative procedures, IT-support and sectoral interfaces of medication care. The government paves the way for collecting further evidence by calls for research applications equipped with substantial federal and health insurance funding (Innovationsfond 2016-19)\(^3\). So far ATHINA has prioritised spreading the training programme to the community pharmacies. Results are therefore published that broach the increasing number of pharmacists enlisted to ATHINA. However, data on the effect of the medication reviews have not yet been published. The restricted access for a selective group of self-paying patients and the lack of co-operation with doctors could potentially reduce the evidence for a benefit.

**Lesson 7:** To sustain acceleration it is important to circumvent or remove barriers and to initiate something like a mass movement

In Germany, health professionals and public interest groups need to work towards the notion that medication checks become standard in the health care provision for patients with polypharmacy. This cultural change has not yet fully taken place. The ATHINA programme is momentarily somewhat hamstrung by the opposition of the more powerful group of doctors and the impractical and unfeasible conduction of medication reviews. New energy needs to be invested into a more feasible IT-support and a downsized version of a medication review. The political plan of advancing the e-health card with its underlying IT-systems for practices and pharmacies comes in useful. It will render the double entry of medications for the review unnecessary. Continued negotiations with the main stakeholders (health insurance companies, pharmacist unions, doctors’ representatives) will raise further awareness or even create new allies, especially as the group of pharmacists offering medication checks consistently rises. The initiators of ATHINA have also entered into a new project to reinvigorate their cause. As detailed above they participated in a nursing home pilot study in cooperation with a medical university department. The ATHINA medication review was installed in this setting and proved very effective. This was subsequently recognized and awarded by the national GPs’ society (DEGAM).

**Lesson 8:** Ongoing motivation and endurance need to be upheld to institute change. A route-map with small step goals may be useful.

The ATHINA training programme is running well. It offers continuous webinars to consolidate the competencies of a clinical pharmacist. The ATHINA programme is speeding across the federal states. However, the conduction of medication reviews in the pharmacies – and this is what the ATHINA training programme is for – is not established. A route map may help to get a clear idea about the next steps.

### 3.2 Lessons learnt by comparison of two distinct approaches in Catalonia

**FCRB** Two distinct examples of developed polypharmacy programmes were studied in the case study in Catalonia. Albeit the specifics of the context, some general lessons emerge about what still has to happen to scale-up these experiences. These lessons might be transferable or applicable to other settings.

**Lesson 1:** The importance of keeping it local

Polypharmacy, similarly to other healthcare or social care services, seems to require a local understanding of the needs and resources available in the specific setting where it is being deployed. Albeit challenges might look the same, solutions need to be local.

Remarkably, the culture of an organization and of the particular medical specialty is important—starting in areas where a culture of multidisciplinary teamwork already exists will facilitate early success. An organizational culture of innovation also provides the foundations for a new programme. In the absence of such a culture, innovative approaches to polypharmacy can be considerably hindered.

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33 [https://innovationsfonds.g-ba.de/](https://innovationsfonds.g-ba.de/)
Also, polypharmacy management seems to benefit from being part of large initiatives that are well connected with its core mission, such as comprehensive approaches to the care of older persons. It seems important to make such connections as explicit as possible to have greater chances of success.

Lesson 2: The sensible use of available resources

Any programme should be adapted to the resources at a given institution. The institutional network model was successful in part because there were highly trained clinical pharmacists already working in the hospital, so resources were shifted rather than added to start the initial pilot. The government sponsored model did not provide additional resources or re-purpose existing resources within the primary care setting. Innovative strategies on polypharmacy cannot be based in adding more work. Workflow, personnel, and remuneration need to

Lesson 3: The importance of ICT

Catalonia has a very strong electronic health information system that is universally seen as a major facilitator to both programmes. The IT system facilitated monitoring of medicines use at the population and local level and created communication channels between individual practitioners. ICT was also mention as an aid to normalise and increase the safety of procedures. Lack of adequate ICT, and the subsequent lack of shared information at the patient and population level, was cited as a major barrier to implementing polypharmacy management initiatives.

Lesson 4: Proper planning and leadership is required

Official support of a programme, both from strategic planning documents and committees and in the form of contractual arrangements for services, lends credibility and facilitates the implementation of new programmes. Execution requires strategic planning and leadership at all levels encompassing policy makers, managerial levels and clinicians’ levels.

Lesson 5: The importance of economics

Future evaluation efforts in Catalonia should assess the economic impact of these programmes, including harm avoided such as adverse drug events and hospitalizations. These data, which are currently lacking, are essential to the eventual scaling up of these programmes.

Lesson 6: Training of the workforce

Education was cited as an important issue for both clinicians and patients that will also need to continue with further clarification of which clinicians are responsible for what tasks. Education needs to include both the technical aspects of conducting medication reviews as well as interpersonal skills to facilitate multidisciplinary teams and to encourage shared decision making with patients. The roles of additional providers, such as nurses and community pharmacists, should also be reviewed.

3.3 Lessons learnt from a programme at mid development in Northern Ireland

The Northern Ireland Medicines Optimisation in Older Persons’ model was developed during the period 2012 to 2016, coinciding for 24 months with SIMPATHY. For Northern Ireland the relevant lessons from SIMPATHY are summarised below.

Lesson 1: There is a real need for change
A sense of urgency for change has been crafted by the recognition of challenges of an ageing population, both current and emergent. The increasing demand and complexity of care needs of an aging population are placing pressures placed on medical resources. Sub optimal medicines use, safety and medication errors are known factors impacting on hospital admissions in older people.

Lesson 2: **The political environment in Northern Ireland supports change**

The health and wellbeing of older people is supported by Policy through a cross Government National Strategy for Ageing and an Older Peoples' commissioner. Reform of health and social care services is ongoing and the system is open to change and the adoption of evidence based professional roles, services and technologies. Transformation and change is facilitated by dedicated funding for innovation, pre-commercial procurement and the scaling up of new models of care. A national model for medicines optimisation in older people has been developed, tested and scaled up to all hospitals in Northern Ireland.

Lesson 3: **Having a clear strategic view is essential**

In addition to the National strategy for aging there is a clear strategic direction for improvements in the use of medicines across Northern Ireland. The Medicines Optimisation Quality Framework (MOQF) has been developed to support better health outcomes for the NI population through focusing attention on gaining the best possible outcome from medicines every time that they are prescribed, dispensed or administered. The framework supports quality improvement through the consistent delivery of recognised best practice and supports the development of new, evidence based best practice.

Lesson 4: **Effective change needs integration and a highly skilled multi-disciplinary workforce**

The integrated health & social care system in Northern Ireland is a great strength and enabler of patient centred care. The culture within health and social care supports multi-disciplinary working and pharmacists are involved throughout the patient journey in secondary and primary care. Health outcomes for patients are optimised by pharmacists using their clinical expertise in medicines when working in teams with medical, nursing and allied healthcare professional colleagues. Pharmacists are able to work to the best of their clinical competence, supported by national training and post graduate professional development, including prescribing. Medical and nursing colleagues must be on board.

Lesson 5: **It is important to understand the facilitators and barriers to change**

Positive: There is an economic benefit to medicines optimisation. Evidence shows potential savings associated with drug costs, harm reduction/avoidance and reduced pressure on health and social care services.

Negative: Technology barriers exist in NI however major advances are planned in the future. There is still a fragmented approach in places and better personal and public involvement in co-design is needed.

Lesson 6: **Both clinical and strategic leadership are needed to accelerate and sustain change**

The roll out of the national model for medicines optimisation in older people is led by new consultant pharmacists, supported by a team of clinical pharmacists with experience of working with older people and polypharmacy. Monthly meetings of pharmacists working with older people serve as a forum to overcome barriers as they arise but also to as an essential motivational tool in sustaining and directing efforts. Consultant pharmacists have been recognised as key personnel in tailoring the care for the aging population on a regional and national basis. Strategic leadership is supported by national policy and Medicines Optimisation Leads in all Health Trusts.

Lesson 7: **There is still a lack of awareness of the problem**
Awareness of the problem outside the model for medicines optimisation in older people of care is still low. The model needs to be promoted and ongoing communication is hugely important.

Lesson 8: Threats still exist

There are competing priorities for policy and healthcare leaders and decision makers. Continuous investment is required to sustain change and quality and help embed and integrate new roles and service models.

3.1 Lessons learnt in Greece from a country with no polypharmacy programme

Greece is one of the EU countries without national, regional or local policies, guidelines and legislation regarding inappropriate polypharmacy and medication adherence. The lessons that the Greek team learned from the SIMPATHY project are summarized as follows:

Lesson 1: Issues of inappropriate polypharmacy have been recognized in various settings and geographic areas.

A sense of urgency seems to exist among various healthcare professionals and associated organizations, but further steps should be taken in the direction of raising political and public awareness about inappropriate polypharmacy and medication safety.

Lesson 2: Despite the widespread implementation of e-prescription and efforts to harmonize daily clinical practice and drug prescribing with disease-specific guidelines, the issue of inappropriate polypharmacy has been viewed only from the perspective of direct economic indicators, so far.

Since 2009, constant governmental efforts to reduce healthcare spending under the pressure of the fiscal crisis have addressed only the economic aspects of polypharmacy rather than medicines optimization and patient safety. On the other hand, the economic crisis and the need for quality healthcare services could possibly create an opportunity to develop a new approach towards accepting appropriate polypharmacy.

Lesson 3: Design and implementation of a future polypharmacy management programme should take into consideration potential facilitators and barriers to change.

Widespread utilization of the Electronic (patient) Health Record (EHR), development of a framework to advance collaborative healthcare culture, utilization and processing of e-prescription data, enhancement of patient education, establishment of the role of the “case/care manager” and legislation on medication review policies could facilitate the design and implementation of a polypharmacy programme in Greece. On the other hand, dispensing of OTC (over-the-counter) medications through enterprises other than pharmacies, lack of coordination between institutions and authorities, organizational and other primary healthcare relative issues, personnel and infrastructure deficiencies of healthcare services were recognized as significant barriers to change.

Lesson 4: Upgrading the clinical role of hospital, community and private pharmacists in the Greek healthcare system could be pivotal in the development and implementation of a programme addressing inappropriate polypharmacy and medication adherence.

Health professionals (medical doctors, pharmacists, nurses, etc.) review medication of patients on a voluntary basis. Since 2013, the Hellenic Society of Pharmaceutical Practice (HSPP) has been supporting pharmacists that wish to improve their daily clinical practice, so that it responds to the needs of the patients, the society and the country. However, relevant activities rely on the goodwill of health professionals to address pharmacotherapy, and therefore polypharmacy management, but they are not necessarily representative of what is happening nationwide. At present, there is a growing culture of accepting the significant clinical role of pharmacists in the healthcare system, and pharmacists, from their own side, seem willing to follow appropriate training in order to
adapt better to this new role. Though, it is a fact that hospital and privately practiced pharmacists do not have common interests, profile and collaboration and it has become evident that this might be an issue that should be adequately addressed in the next years.

3.2 Lessons learnt from PESTEL and SWOT in Sweden help to clarify a base line

The PESTEL and SWOT analyses can help Swedish policymakers to take external factors into consideration during strategic planning. The private healthcare sector is increasing in Sweden, which may undermine the power of regional health authorities in the future. It is therefore essential to get private hospitals and other healthcare centres on board in the development of any national strategic plan. Although we consider Sweden to be ahead when it comes to the base line or starting conditions from which to develop a strategy, this example shows that certain gaps within earlier change management steps currently exist.

3.3 Lessons learnt from literature review in Catalonia

Preliminary results from the literature review and benchmarking survey seem to confirm the findings from the case studies regarding benchmarking and assessing a baseline. A limited number of polypharmacy management guidelines were identified, and few respondents to the benchmarking survey were able to provide clear examples of how programmes were measured. This has significant implications for a change management strategy, both from the perspective of Kotter and NPT. Without clear guidelines, there is a lack of clarity around what the work is (NPT coherence) and who does the work (NPT, cognitive participation and collective action). This lack of clarity can lead to incomplete implementation of an initiative, and is therefore critical to address when developing a change management programme. Likewise, the paucity of guidelines and measurement standards also has implications from the perspective of Kotter. Critical early steps in Kotter involve establishing a sense of urgency, creating and communicating a strategic vision, and recruiting a volunteer army. All of these steps depend on having clear policies and measurement standards in place. Without appropriate benchmarking and measurements of polypharmacy, it is difficult to generate a sense of urgency around the problem. Likewise, without appropriate guidelines in place, there is a potential lack of coherent vision, which makes it difficult to recruit the volunteer army. The preliminary results from WP6 indicate that there is substantial work to be done both in creating policies and procedures related to polypharmacy management and in delineating benchmarking standards. These are foundational pieces of a change management strategy and should be addressed in the early stages of developing any new initiative.

3.4 Lessons learnt from the Road Map in Italy

The early stage of establishment of the change management model strongly relies on targeted communication strategies aimed at raising the awareness about the relevance of polytherapy. In order to set-up adequate informative content, referents of the targeted stakeholders need to be involved, to ensure effective communication channels. Specialists and communication experts will help effective exchange of information between stakeholders, in order to outline the best contents and formats. This stage will be paralleled by a stage of collection of data to provide a snapshot of the local scenario: prevalent disease clustering, prescription patterns, involved level of care. Early assessment will also provide the opportunity to identify educational and training gaps, in order to establish adequate strategies that can ensure the capacity of deploying the new model.
3.11 Lessons learnt in Poland

At the moment there is no polypharmacy management program in Poland. While the healthcare data collection and exchange system is being developed under ‘The National Platform for Medical Events Electronic Data Gathering, Analysis and Sharing’ (Project P1), there is no data transfer between healthcare units (hospitals, out-patient clinics, dentist’s clinics and others). The urgent need for this system to be developed, was expressed by many interview participants.

Many key issues were proposed in terms of polypharmacy management program implementation. Key informant interviews shed a new light on the stage preparing for final implementation of the program. The main issues raised in case study were: improvement of contact between pharmacist and physician; special procedures to be prepared for polypharmacy management; limitation of polypharmacy management to a group of patients; sharing of leadership between family doctors and pharmacists; obligation to keep a drug list by each patient; composition of polypharmacy team and that indicators that should be a basis for analysis of polypharmacy management benefits.

SWOT analysis revealed several strengths of Polish healthcare system: strong primary care with community nurses; intellectual potential to implement effective social campaigns; competences of healthcare professionals to manage polypharmacy; teamwork existing at the level of primary care (composed of, between the others, community nurse and community midwife), and, finally, good cooperation between healthcare professionals regarding particular situations, e.g. the campaign against homeopathy.

Identified weaknesses included: lack of pharmacist in the primary care team; small number of community nurse visits performed in the community; lack of proper coordination and fragmented healthcare system; lack of ICT-enabled flow of data; ignoring the patient’s voice by the healthcare system and lack of involvement of patient’s ombudsman in positive cases.
Chapter 4. The Strategic Plan Model to address appropriate polypharmacy across Europe

The purpose of this chapter is to summarise the findings from the nine case study sites and also to draw on other work that is being undertaken that will complement this work. The model strategic plan has been formulated by the partners in the consortium and this relies on the individual countries assessing where they are on the route map to 2025 and then make an assessment of the actions that they need to take using the basic concepts of Kotter’s 8 steps together with the finding from the PESTEL and SWOT. The route map sets out an approach that is multidimensional, and allows individual countries to adapt their approaches on this journey. Any strategies that are established should be tested and continually undergo iterations to ensure they can be adaptive and respond to the needs of the service. For example, there maybe points during the execution of the strategy where the vision is reviewed and revised, following feedback from stakeholders. In addition, wider policy documents, for example from World Health Organisation (WHO) or the EU, may contain specific objectives may mean that countries or regions may need to revise their programmes.

![Figure 2. SIMPATHY Route Map for Polypharmacy Management in the EU](image)

Testing country specific strategies

Porter (1996) states that when strategies to manage problems are drawn up to deal with issues, that, these tends to focus on operational effectiveness rather than a long-term strategy for managing increasing demands on the prescribing budget. A strategy looking at the increasing volume of prescribing would require a review that addresses wider issues such as the need and harm caused by medication, and, improving patient care that will deliver economic benefits for the organisation, not just addressing costs of prescribing by simply switching to more cost effective products. In order to successfully implement the strategy the steps and lessons outlined by Simmons should also be considered.

From the work undertaken in the case studies, different countries were shown to employ different strategies to implement polypharmacy programmes and each will need to ensure that they test these plans as they scale up. For example, the programme in Germany has been extended from one region to three, and, as this has been done issues and barriers have been identified and addressed. These included active stakeholder engagement and sharing of achievements among groups that are reluctant to engage in multidisciplinary team working, particularly between the GP and pharmacist.
Catalonia, have implemented a programme by clinical leadership in the hospital setting but have acknowledged that as they seek to extend the programme they may need to provide economic data for decision makers which was not previously a requirement.

Greece identified that there were competing priorities for implementation of the programme with the economic costs of medicines considered alone, rather than the safety and quality aspects of the review, which is focused on appropriate polypharmacy.

Northern Ireland have identified that the programme is needed as a matter of urgency, but that awareness of the problem needs to be broadened beyond dealing with the older person, and that the focus on undertaking this work may be undermined by other priority areas. Sweden similarly found that increasing costs of healthcare might jeopardise affordability of further roll out of pharmacist led work. Both countries here illustrate the need to address the financial and resource threats to the programmes being implemented.

In Italy, the SIMPATHY programme has facilitated a move in the thinking regarding polypharmacy programmes, and a pilot project has been established in the hospital setting to demonstrate the benefits of such a programme. In Naples, work has been undertaken since 2012 to raise awareness of the public health challenges of appropriate polypharmacy and this has been led through clinical leadership lobbying political decision makers to increase awareness of the issues that need to be addressed.

Similarly, in Poland and Portugal, the SIMPATHY project had started to raise the sense of urgency and this has been facilitated by the stakeholder engagement events to address the PESTEL and SWOT and focus groups that were undertaken as part of the different work packages.

SIMPATHY as a programme is composed of policy, clinical leadership and academic leadership which through the deliverables has worked with policy makers in the EU and globally to raise the sense of urgency to address this public health challenge. This started in 2011 with involvement with EIP AHA, WHO and national and international professional groups such international foundation on integrated care, Geriatrics Societies (British and European).
Diagram to show Application of the Seven Questions Steps in Testing the Strategy:

1. **Who is the primary customer?**
   Communicating to stakeholders the need to change current ways of reviewing medication to benefit patient care. Stakeholders may change if new initiatives emerge.

2. **How do core values prioritize views of those in the organisation: employees and patients?**
   In order to do this, ensure you have assembled a project group that includes all stakeholders that might be responsible in a patient journey. For example, this could include primary and secondary care clinicians from all professional backgrounds (geriatricians, primary care doctors, nurses, pharmacists) along with policy makers and leads form overlapping work. Public health and patient’s views, involvement and experience will inform further development.

3. **What critical performance variables are being tracked?**
   Have you decided what measures are being tracked that will be reported on. For example, this could include impact on patients such as hospital admissions, falls and unwanted adverse drug reactions will be tracked.

4. **The strategic boundaries that have been set**
   Scope of project has been clearly identified together with assessment of the best method to deliver. For example, you may decide that this is specifically for a unit of care or that it is a national programme that needs to be delivered for all individuals.

5. **How creative tension has been generated**
   When you are trying to drive change, it’s important to create the urgency for change and that the status quo is not an option. However, change is difficult and may involve change in roles of individuals and it will be important to ensure that the compelling reason is match by the support required. In addition to this, the biggest obstacle to change will be ownership so providing feedback and adaptation of the protocol for implementation will be essential. Links with other programmes of work and how this contributes to overall strategies can be helpful. For example, with the European programme on active and healthy aging, the aim is to allow the older person to age well and addressing polypharmacy ensures that the older person is free from harm from the medicines that they take.

6. **Commitment of collaborators/employees to help each other**
   It is important to consider here what is being proposed for implementation and that all parties are signed up to ensure success. In order to achieve this, there may be difficult conversations that need to be had with people that might have competing interests or that may not be keen on the programme being proposed. For example, if individuals feel that their existing role or expertise is being questioned they may not be supportive of the change whilst if they see it as a sharing of workload among professions, they may be more receptive to the idea. Other areas to consider here are what Support is being provided to clinicians for the new ways of working.

7. **Strategic uncertainties that could undermine the project**
   When rolling out a national programme, Consideration of national services that are being developed should be reviewed in order to produce a framework locally that models the methodology laid out in the project. It may also be that the project will be complemented by other national or global initiatives. For example, in Scotland, the polypharmacy reviews were introduced into the primary care physician’s contract as part of anticipatory care plans that needed to be established for individuals with complex care needs.

When establishing a framework for implementation, it is important to in considering the techniques that can bring about change; Linsky suggested that an orientation to run experiments is useful for adaptive change. In this manner it is not seen a punishment if an implementation of a project fails. It will allow for learning and then
implementation by another methodology. Also if there is seen to be “fun” individuals may also change their attitude to work. Individuals have to see those in leadership positions exercising this in the workplace in order for it to be implemented.

4.1 Policies, guidelines, measurement and Leadership

The importance of healthcare policies that address appropriate polypharmacy was seen an enabler to deliver the polypharmacy programmes, in particular those that are developed with both clinicians and policy makers. For example, change in the attitudes of the German medical community was seen to be a positive step to allow for wider implementation of the programme in further regions in Germany. Policies may be linked with contractual arrangements that provide an obligation on the professions to deliver the programme, and for this to be successful in implementation, the design should involve those delivering the service.

Policy initiatives may focus on ensuring certain guidance is implemented, so the availability of adequate guidance across the EU, in the different languages will be essential. From the literature review only three guidance documents across the EU were found to be suitable for use (meeting the AGREE II criteria). In order to ensure clinical engagement in their use, it would be appropriate to recommend that these are discussed and agreed for use by the relevant clinical community. This should include those from different healthcare professionals and an agreement to use the same process.

EU policy Initiatives such as the Active and Healthy Aging European Innovation Partnership (EIP AHA), aim to improve the healthy life years for the older person within the next two years. This includes focus on: reducing harm from medicines in the action groups (A1); adherence to treatment and polypharmacy and the integrated care group (B3). Within this work is the need for patient empowerment. All future programmes should consider the role of the citizen as well as the clinician in the management of polypharmacy.

EIP AHA work also considers the scalability of programmes, and that there is sharing among the EU countries for scaling up. Information on country specific programmes has already been shared through the EIP AHA yammer platform, but the outputs and lessons from SIMPATHY are now being shared with partners across the EU through the work plan of EIP AHA A1 action group. The SIMPATHY website will ensure that tools needed for implementation of programmes are available for dissemination across the EU.

WHO has global challenges that address patient safety and one of the parameters it addresses is medicines safety. Previous programmes have included hand hygiene and there was a global challenge to ensure countries globally pledged to take part in the challenge. If bodies such as WHO were to request that polypharmacy should be addressed as a patient safety issue, then this would be an additional driver for the countries across the EU to pledge to be part of a global challenge.

Whilst policies and guidance documents are essential, adaptive leadership to lead and drive forward change, particularly if it is innovative, is needed so that challenges and barriers can be adequately addressed to ensure successful implementation. Change is not a comfortable concept for all and as it may involve change in role for some professionals, there may be personal drivers that present as barriers to change. Leadership should be able to address these issues by engagement and facilitating collaborative working, but more importantly by sharing results from work widely. Leadership will need to address many of the key aspects and may involve a leadership team working together such as political, organizational and clinical leadership to address cultural issues which includes dismantling of professional hierarchies if innovative ways of working can be implemented. It will also enable and empower other professionals to highlight areas of inappropriate prescribing.

In order to see improvement in the management of appropriate polypharmacy and adherence across Europe, countries need to use the benchmarking tools which will be refined so that they can effectively assess where they are on the delivery plan. They will then be able to and monitor a change over time with their stakeholders and feedback to them on the achievement made. The change management package involves a country being able to
see in the readiness of implementation of a programme answering questions raised by Kotter and economic tool that allows for assessment of the benefits vs. the cost of implementation.

The outcome measures should meet many objectives and these should include both clinical improvement from the clinician and patient perspective but also the economic benefits in drug costs avoided and healthcare costs avoided due to lack of harm caused. For example, being able to report on the harm avoided due to medication is an important aspect which can have an impact on consulting another healthcare professional due to the harm caused as well as admissions to hospital.