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Donaldson, Sarah R.; Radley, Andrew; Dillon, John F.

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REVIEW

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Transformation of identity in substance use as a pathway to recovery and the potential of treatment for hepatitis C: a systematic review

Sarah R. Donaldson[1,2] | Andrew Radley[1,2] | John F. Dillon[1,3]

[1]School of Medicine, University of Dundee, Dundee, UK

[2]Directorate of Public Health, NHS Tayside, Dundee, UK

[3]Department of Gastroenterology, Ninewells Hospital and Medical School, Dundee, UK

Correspondence
Sarah R. Donaldson, School of Medicine, University of Dundee, Dundee DD1 9SY, UK.
Email: sarah.donaldson@nhs.scot

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Abstract

Background and aim: People who inject drugs are at high risk of contracting hepatitis C (HCV). The introduction of direct acting antiviral (DAA) drugs to treat HCV has the potential to transform care; however, uptake of DAAs has been slower than anticipated. The strong link between HCV and injecting drug use frames HCV as a shameful, stigmatising disease, reinforcing an 'addict' identity. Linking HCV care to a recovery journey, 'clean' identity and social redemption may provide compelling encouragement for people to engage with treatment and re-evaluate risk and behaviours, reducing the incidence of HCV re-infection. The aim of this review was to identify actions, interventions and treatments that provide an opportunity for a change in identity and support a recovery journey and the implications for HCV care.

Methods: Databases (MEDLINE, EMBASE, PsycINFO, ProQuest Public Health, ProQuest Sociological Abstracts, CINAHL and Web of Science) were searched following our published strategy and a grey literature search conducted. A narrative synthesis was undertaken to collate themes and identify common threads and provide an explanation of the findings.

Results: Thirty-two studies fulfilled the inclusion criteria. The narrative synthesis of the studies identified five over-arching analytical themes: social factors in substance use and recovery, therapeutic communities, community treatment, online communities, and finally women and youth subsets. The change from an 'addict' identity to a 'recovery' identity is described as a key aspect of a recovery journey, and this process can be supported through social support and turning point opportunities.

Conclusions: Recovery from addiction is a socially mediated process. Actions, interventions and treatments that support a recovery journey provide social connections, a recovery identity and citizenship (reclaiming a place in society). There is a gap in current literature describing how pathways of care with direct acting antivirals can be designed to promote recovery, as part of hepatitis C care.

KEYWORDS
Citizenship, hepatitis C, identity, recovery, social network, stigma, substance use

This systematic review is registered on PROSPERO (number CRD 42020209447).

INTRODUCTION

People who use illicit drugs are strongly stigmatised. Those who use drugs may be regarded as acting outside of the acceptable social norms of society and as a result can be viewed as having flawed characters, spoiled identities and are treated as second class citizens [1]. The use of drugs has numerous social consequences for the individual in addition to multiple health implications [2, 3].

A range of health concerns are associated with injecting drug use including the risk of blood-borne viruses because of sharing of injecting paraphernalia [4]. Those with a current or past history of injecting drug use are at high risk of contracting hepatitis C (HCV) [5]. The strong link between HCV and injecting drug use frames HCV as a shameful and stigmatising disease providing an identity of 'junkie', 'dirty', beyond the control of the individual, reinforcing an 'addict' identity [1, 6–10].

Cure of HCV may, therefore, provide an opportunity for a shift from this stigmatised identity toward a new 'clean' identity and a turning point in an individual's recovery journey. Harnessing this opportunity of change may also modify risk taking behaviours to reduce the incidence of HCV re-infection. The course of chronic HCV infection is variable. Some people experience few symptoms for long periods of time; for others, the physical and psychological impact of HCV can have significant effect on daily life. If left untreated, HCV can have serious and potentially life-threatening implications such as the development of cirrhosis, liver failure and liver cancer [11]. Treatment for HCV can be life-saving. Before 2013, treatment for HCV was based on interferon/ribavirin therapies. These regimes required weekly injections and daily tablets. This regime was recognised as gruelling and time-consuming for patients who experienced significant side-effects with only a moderate chance of cure (50%–70%) [11–15]. This resulted in restricted access and low uptake of treatment; healthcare systems perceived an inability to comply with treatment for this patient group and some patients found interferon/ribavirin therapies to be an unacceptable burden to bear.

The introduction of direct acting antiviral (DAA) drugs to treat HCV has replaced the use of interferon and ribavirin in most practice. DAAs provide a highly effective cure rate (~96%), are simple and quick treatment regimes to follow and have few side effects [11–15]. The paradigm shift created through use of DAAs was heralded as a technology of hope, providing the methodology to realise the World Health Organisation's (WHO) target of eliminating HCV as a public health concern by 2030, by increasing treatment uptake and reaching the most marginalised [6, 11, 14, 16–18]. However, despite the relative ease of treatment and the widespread availability of DAAs, the number of people engaging with HCV testing and treatment remains low [19, 20]. Further action is required to reach the key risk groups if we are to realise the full potential of these medicines [21, 22].

Understanding the hopes and expectations from treatment of those in key risk groups may help address low uptake. It has been suggested that people who inject drugs are looking for more than an end to viral infection, as a reason to engage with treatment. This may include the opportunity for an untainted identity, recovery from substance use and social redemption [23]. Recovery from substance use has different meanings for different people. There is no single consensus; however, there has been a shift away from viewing recovery as abstinence toward a view that recovery is process that encompasses other markers of progress such as improved wellbeing, building and maintaining relationships and social inclusion [24–26]. Viewing HCV treatment through this lens of recovery from substance use may help to build an understanding of how HCV care can be harnessed to deliver patient hopes and aspirations and address risk of re-infection through behaviour modification.

Evidence from the interferon-era describes a transformation beyond viral cure for individuals who have managed to overcome the significant burden of treatment. Successful treatment in the interferon-era is acknowledged as providing a sense of achievement and is described as contributing to a change in personal perspectives, identity and a life beyond substance use [6, 13, 27–29]. This transformation has been attributed to the toils of interferon treatment and the discomfort risked by a return to HCV infection and another round of treatment: to 'stay clean'. Those who achieved a cure 'earned' their social redemption [30]. However, successful treatment in the interferon-era may have selected those able to overcome barriers to care and take on the demands of therapy, whereas those unable to do so faced the consequences of the disease. It is therefore, uncertain if individuals who achieved a cure already had access to the support required for a move beyond substance use.

DAAs may provide the opportunity to engage more people in treatment than was possible during the interferon-era; however, it is unclear whether access to the wider benefits achieved through treatment remain after the sense of achievement associated with completion of interferon treatment is removed. Those successfully treated for HCV are at risk of re-infection if steps are not taken to modify behaviours that placed them at risk in the first place. HCV re-infection rates in people who inject drugs are estimated to be 21.5/100 person years, which is higher than previously anticipated (suggested range between 1.77/100 to 2.4/100 person years) [31]. Re-infection has a significant impact for the individual, for onward transmission to others and in global efforts to reach and maintain elimination [29, 30]. Developing an understanding of how to unlock DAAs potential to support individuals to take steps to reduce the risk of re-infection and how DAAs may contribute toward a more holistic recovery, delivering the untainted identity and social redemption desired, may provide compelling reasons for this group to engage with treatment.

Identity transformation is a key component of recovery from substance use [32–37]. Personal identity is derived from the people with whom one associates, and this shapes one's behaviours and influences health and wellbeing [35, 38, 39]. Social identity may provide support and positive influences on health behaviours; however, it may also influence negative lifestyle choices and create a barrier to recovery [34, 40]. The concept of a social identity model of recovery (SIMOR) suggests that recovery from substance use relies on a change in identity of the individual from an 'addict' identity toward a 'recovery' identity. This shift in identity shapes the social network

to one where the use of drugs in not the social norm [33, 36, 41]. A social network, distanced from substance use provides a recovery-enabling environment, a key factor recognised in building recovery capital. The social identity model of cessation maintenance furthers this concept by describing how people with a 'recovering addict' identity may perceive high risk situations and feel in control to amend their behaviour accordingly to maintain this recovery identity [34]. HCV treatment may, therefore, provide the opportunity to accept a new identity and a re-evaluation of risk and behaviours.

The actions, treatments and interventions that provide an opportunity for a change in self-identity and support a recovery pathway toward reclaiming a place in society have not been clearly identified.

AIM

The purpose of this systematic review is to identify and evaluate the types of actions, treatment or interventions that may provide the catalyst for a change in identity and propel an individual experiencing problematic substance use down a recovery pathway. We also look for evidence to support the hypothesis that treatment and cure of HCV may provide the type of mechanism required to initiate this change and therefore, may provide additional mechanisms to engage with treatments at an individual and societal level.

METHODS

This systematic review aims to understand the effect of multiple complex interventions to inform how this knowledge can be applied to HCV care. A narrative synthesis methodology was used to consider a wide range of study designs, producing both qualitative and quantitative findings, to develop understanding of the patterns and characteristics of the intervention implementation and how this learning can be integrated and applied to HCV care to support recovery journeys. This method adopts a textural approach, in this instance based on intervention type, to describe the finding of the selected studies and finally provide an evidence synthesis [42–45].

The scope of the systematic review question was refined through a mapping exercise to identify the types of intervention, study designs and volume of potential literature. This mapping exercise also shaped the search strategy and parameters required to define the search. The resulting studies were subjected to critical appraisal using the appropriate appraisal template relevant to the study methodology and data extracted to describe the implementation of the intervention: the participants, intervention, outcomes and study design. The findings from the studies were then organised and explored to describe the types of intervention and understand the facilitators and barriers and how and why the intervention has an effect. An inductive approach was used to develop thematic analysis of the main findings and conclusions of the studies included. These findings are then drawn together to provide an evidence synthesis to generalise the findings and consider impact for HCV care.

We were guided by the enhancing transparency in reporting the synthesis of qualitative research (ENTREQ) protocol (Supporting information Appendix S1) [46]. This is a deviation from our published protocol as this protocol was subsequently identified as better suited to synthesising qualitative findings [47].

This systematic review is registered on PROSPERO (CRD 42020209447), and the protocol, including search terms and combinations, has been published to ensure transparency and replicability of results [47].

SEARCH STRATEGY

The search was conducted using a planned comprehensive strategy to seek all available studies. We systematically searched the following electronic databases using a mix of free text terms and indexed terms: MEDLINE, EMBASE, PsycINFO, ProQuest Public Health, ProQuest Sociological Abstracts, CINAHL and Web of Science (core collection). The search strategy for the electronic databases was informed by our Population, Intervention (or Exposure), Comparator, Outcomes and Context (PI(E)COC) components described in our study protocol [47]. A grey literature search conference material from the International Network on Hepatitis in Substance Users, Society for the Study of Addictions annual symposium, Lisbon Addictions conference and Improving Outcomes in the Treatment of Opioid Dependency conference from the year 2010 (where available online) was conducted to identify further studies and mitigate potential bias to the review from locating studies from peer-reviewed journals only.

Inclusion criteria:

- Population: people with a reported current or past history of dependent substance use, including illicit use or prescribed medication misuse, including alcohol.
- Interventions and exposures: any action, treatment or intervention for substance use or related health issue, for example, HCV, HIV, hepatitis B and bacterial infection. Interventions, treatment or actions delivered via a community programme, citizenship programme, rehabilitation or treatment programme are included.
- Comparator: studies with no comparator or control are included in this systematic review as the purpose of the review is to identify treatments or interventions that result in the outcomes outlined below.
- Outcomes: a recovery journey from substance use and a change in identity. Recovery journeys include, but are not restricted to, abstinence, reduced frequency of drug use, social functioning, employment status, community activity and citizenship (reclaiming place in society) and changes in self-identity toward a recovery identity, social identity change through a shift in social networks toward groups that provide support for recovery capital, self-concept, quality of life and wellbeing.
- Context: primary qualitative and quantitative studies will be included that are published in the English language since the year 1991, because this is the year that interferon became commercially

available to treat HCV. Studies are from countries culturally similar to the United Kingdom (UK) (United States, Canada, Australia, New Zealand and Western Europe) to allow comparison of similar social identities, which may differ across cultural and political systems.

Exclusion criteria:

- Studies with no original data.
- Studies relating to tobacco use.
- Any treatment or intervention identified that does not aim to result in recovery or a change in self-identity is excluded.
- Papers without sufficient data to determine the interrelatedness of the intervention, action or treatment and a change in identity or the connection between identity and recovery are also excluded.

The resulting articles were title and abstract screened against inclusion/exclusion criteria by two authors (A.R. and S.R.D.). Full texts of the remaining articles were independently screened by the same two authors (A.R. and S.R.D.) and agreement reached where there was differing opinion. We used the relevant Critical Appraisal Skills Programme (CASP) tool and The Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross-Sectional Studies to conduct quality assessments and as an aid to the development of interpretation and analysis [48, 49]. A summary of the critical appraisals is presented in Supporting information Appendix S2. Applying the CASP qualitative tool to the 17 qualitative papers highlighted that 13 of these papers did not provide sufficient detail to determine if the relationship between the researchers and participants had been adequately considered. It was also difficult to establish if two of the qualitative papers data analysis was sufficiently rigorous. The cross-sectional analysis tool used highlighted that three of 12 papers had insufficient detail to identify if confounding factors were considered, and six of the papers did not provide sufficient detail to be certain that outcomes were measured in a valid and reliable way. The results of the critical appraisal tools were discussed by two authors (A.R. and S.R.D.) and consensus reached that all 32 papers provided valid and sufficiently valuable evidence for the systematic review.

NARRATIVE SYNTHESIS

We used narrative synthesis as the process of collation of themes from a collection of studies to identify common threads, with the intention building a narrative picture relating to a particular topic and providing an explanation of the findings of the resulting synthesis [42].

The selected studies were evaluated using a thematic synthesis method based on the constructs identified by the authors of the studies and data (e.g. quotes/transcripts) documented. Both authors (A.R. and S.R.D.) familiarised themselves with the full text of the selected studies and a coding framework was developed iteratively through discussion and agreement between both authors (A.R. and S.R.D.). The authors discussed quantitative papers and agreed on the resulting themes of the papers from the papers results and discussion section. We used NVivo 12 to manage this coding process and synthesis.

RESULTS

Search summary

The data search was run on 8 December 2020 and updated on 29 April 2022. We identified 2175 articles after duplicates were removed, 32 of which met the inclusion criteria (Figure 1).

Study characteristics

A summary of study characteristics is presented in Supporting information Appendix S3. Studies were predominantly from Australia (eight studies), the United States (nine studies) and the United Kingdom (10 studies), three studies were from other European countries (Norway, Belgium and Sweden), a further two studies recruited from online forums (Facebook, Twitter and TikTok). Studies were based on quantitative data (13 studies) and qualitative data (19 studies—15 cross sectional studies, one longitudinal, two cohort studies and one case control study) with three mixed methods studies.

Descriptive and analytical themes

The studies described five over-arching analytical themes of the type of actions, intervention or treatment that provides a mechanism for a change in identity and propels an individual down a recovery pathway. We found that social actions are an important mechanism in substance use and recovery; therapeutic communities, community treatment and online communities were identified as interventions and treatments that provided an opportunity for identity change. Finally, we found specific enablers and barriers relating to actions, interventions and treatment for women and youth subsets. There were common descriptive threads in each of the over-arching themes: identity, group membership and citizenship (Table 1).

Theme 1: social factors in substance use and recovery

Ten papers focused on the social factors that influence pathways into substance use, catalysts for change and sustained recovery [32, 33, 50–57].

Social factors influence pathways into substance use and trigger points

Pathways into problematic substance use and pathways toward recovery are socially negotiated processes [33, 50, 51]. Identity

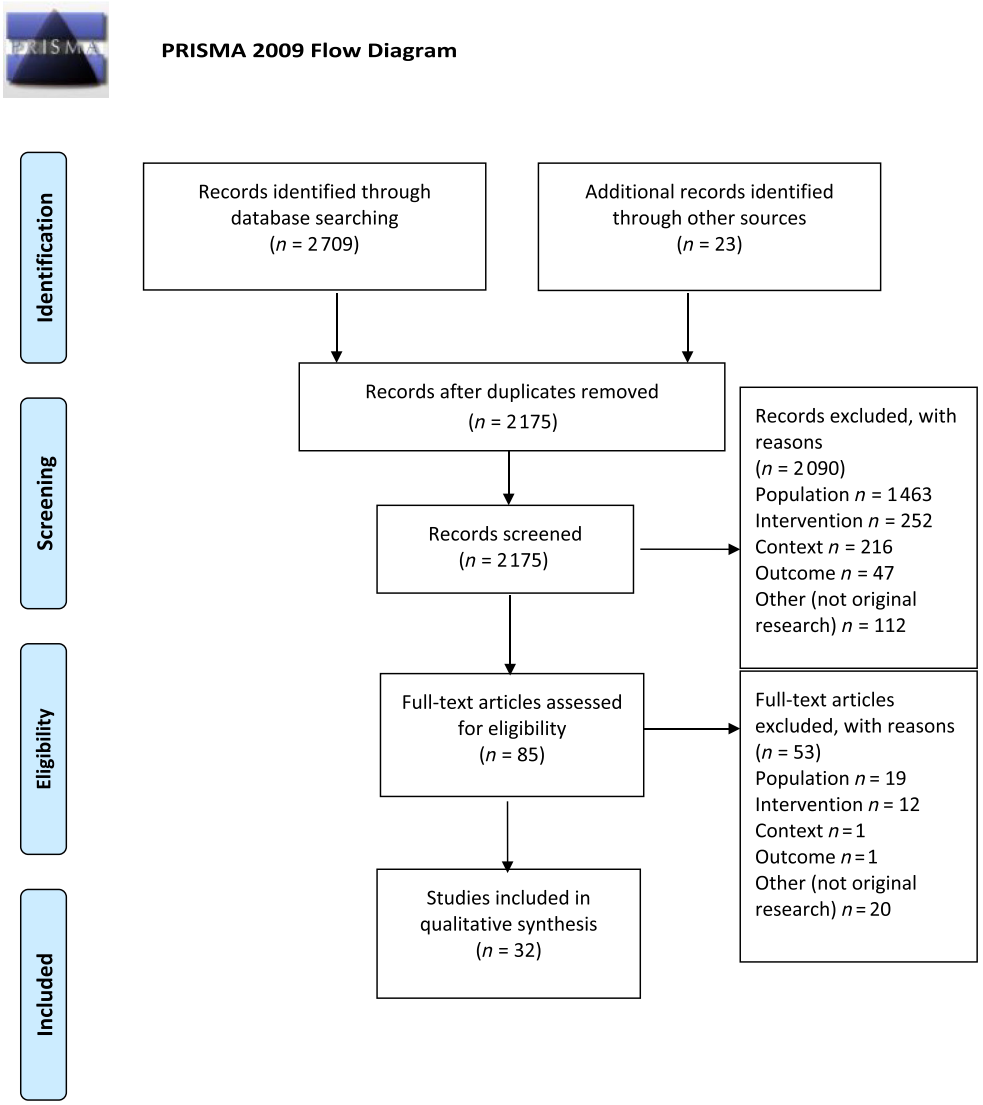

FIGURE 1 Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) search diagram

transition appears to be an important step in a recovery pathway [33, 50]. Yet current treatment models tend to focus on the individual rather than the social group. The social factors that have influenced pathways into substance use and the potential positive social factors that could be harnessed to improve treatment outcomes are often neglected [50].

Social identity and group membership are influential as pathways into substance use as well as a mechanism for recovery [51]. It is suggested that there are two main identity pathways into addiction, one centred on loss of a valued identity and the other, gain of group membership from a position of social isolation [33].

Loss of valued societal roles, such as work, family roles and relationships are suggested to be as a result of increasing engagement in highly stigmatised substance-using activities. These choices create a 'spoiled identity', which override other identities that the individual may hold, resulting in a change in self-perception [50]. Additionally, a population who described social isolation before substance use is identified [33]. Socially isolated individuals found acceptance and a shared identity within a substance-using social network. Although this social support may provide some positive outcomes through a sense of belonging, the prevailing social behavioural norms of the network may be damaging for health and wellbeing [50]. Experience of the social dynamics of the group over time; a realisation that the group social norms are detrimental; experience of conflict or rejection by the group, may act as trigger points for engagement in treatment and recovery.

'Rock Bottom' trigger points

McIntosh and McKeganey [32] looked at narratives of recovery and mechanisms underpinning creation of a non-addict identity. The study proposed that individuals experience a turning point in their life, often described as a 'rock bottom' experience, which was accompanied by a realisation that their drug use had reached a point from which they did not want to go further. This was suggested to be the trigger point to address their 'spoiled identity', which impacted on other valued identities, to reclaim old identities or gain new ones.

TABLE 1 Description of overarching themes.

Overarching theme	Data extracted that support the theme
Social factors in substance use and recovery (*n* = 10)	• Social factors into substance use and trigger factors for recovery • Links to mainstream social networks are beneficial • Social activities provide opportunity for social connections
Therapeutic communities (*n* = 5)	• Residential treatment increases recovery identity and weakens substance use identity • Group membership and citizenship provide the opportunity for this identity change • Improvement in wellbeing and quality of life
Community treatment (*n* = 16)	• Mutual aid groups provide an "in recovery identity" with changes in social networks • Improvement in wellbeing and quality of life • Medically assisted recovery—treatment can initiate change; however, social support is required to maintain recovery
Online community (*n* = 2)	• Source of connection and support 24/7 • Sense of a recovery identity, belonging and instant support
Subsets—youth (*n* = 4) and women (*n* = 3)	• Group substance use has an impact on youth recovery capital • Youth are suggested to have difficulty changing peer network • The importance of family/mother identity in recovery for women

Sustained recovery challenges

Wider community inclusion and multiple group memberships and identities are described as being important in the recovery journey [56, 58]. The 'pursuit for a better life' takes place outside of the clinical setting and incorporates a sense of belonging, participation and undertaking meaningful activities with groups and communities, that is, citizenship [56]. This is supported by Best *et al.* [58], who highlight that social learning is a key component of recovery. There is a strong inter-relationship between being a member of a recovery group, social network support and indicators of wellbeing and recovery capital. However, a wider measure of all social contacts and not just with those in recovery was found to be the strongest predictor of recovery capital [58].

There are challenges to sustain recovery that are out with the individual's control. Geographic communities are suggested to have an impact on an individual's social identity [56]. For communities with tainted reputations because of substance use and negative consequences, individuals have a sense of unworthiness, a negative identity and negative community relations, with high degrees of exposure to substances. This contrasts with the positive relationships within family, friends and support groups that have a positive impact on recovery, providing meaningful activities, a sense of belonging and a source of hope.

Challenges relating to drug treatment programmes are identified where they often move people on, away from social ties to substance using groups, but fail to foster ties with positive social networks in the wider community, outside recovery groups [52]. Individuals with low socioeconomic status often face the greatest challenge in building new positive social capital; choices and options are limited by factors often out of the individuals' control. Recovery networks provide a sense of bonding and bridging, however, linkage to mainstream social networks must also be facilitated for sustained recovery [52].

Moving on

Kelly *et al.* [53] conducted a large national survey in the United States to investigate prevalence and predictors of adopting a recovery identity. This study found that although recovery identities remain for many, some individuals either do not adopt a recovery identity or leave the identity behind them over time. The move away from a recovery identity was associated with a low intensity of substance use, through on-going use of one or more substances or by putting substance use behind them. The strongest predictor of an individual adopting a recovery identity was participation in treatment services, recovery groups or mutual aid groups attended. Adopting a recovery identity may act as a means of self-preservation away from the stigmatised addict identity and also one of enhancement of self-worth by highlighting the ongoing importance of recovery in one's life [53]. Kelly *et al.* [53] found that 25% of those who once considered themselves in recovery drop this self-label, suggesting that some move beyond this identity over time. The concept of recovery is still subject to stigma and discriminating attitudes, linking people to past behaviours and trauma and so for some leaving the label behind is beneficial. Social identity change is important in early stages of recovery; however, this changes in mid to late recovery with individuals distancing themselves from a recovery identity, transitioning to an individual identity [53, 54, 57].

Theme 2: therapeutic communities

Five papers focussed on the overarching theme of therapeutic communities (TC) and the mechanism through which the TC provides the opportunity for change [33, 50, 51, 59, 60]. TCs refer to structured daily activities set in a social context that aid the wellbeing of those participating. TCs can be provided as daily support; however, in this review, all TCs were residential.

Identity transformation

TCs have been shown to provide the opportunity for belonging and acceptance into a group, in which individuals may create positive social connections and as a result, develop positive identities with a strong sense of recovery, hope and opportunity [33]. TC's provide social interactions between residents and staff as the catalyst for change using a community to provide support, structure and learning to facilitate this [59].

The positive recovery identity developed during treatment in the TC is suggested to provide the opportunity to regain positive social identities spoiled through the stigmatising substance use association and to aspire to new identities such as those provided through education and employment [33].

A shift from a substance use identity to a recovery identity may be built on a foundation of reduced substance use rather a recovery identity driving reduced substance use [60]. A similar pattern of identity transition as a result of engagement with a TC was found in other studies [33, 59]. People who regarded themselves as more strongly belonging to a recovery group experienced better psychological health and wellbeing and were less likely to lapse. Interestingly despite differences in the social and legal context of different substances used, there was no difference in identity transition toward a recovery identity [50, 59].

Group membership

At the time of entry into a TC, many people who used substances were found to be members of multiple social groups however, a number were also found to be socially isolated and reported no membership of any group [33, 60]. It is important to note that substance using groups do provide a sense of belonging, friendship and support for some individuals and that it is not simply a case of cutting contact, but rather an act of negotiation to maintain the positive aspects of the relationship while being able to manage the social norms and social influence [60].

Engaging with a TC and the prospect of joining an unknown group is recognised as a time of uncertainty and to some extent fear for the individual [33]. However, the support provided by other group members is described as an important factor in fostering a sense of belonging and acceptance, which is beneficial for both recipient and provider [51].

Beckwith *et al*. [60] found for those who experienced a change in identity from 'drug user' or 'drinker' and increased their strength of recovery identity, there was a corresponding change in social network composition. These individuals reduced social contact with those who are still active users and moved away from groups who have a social norm of substance use toward groups who are more supportive of a recovery pathway. This process of identity change is suggested to be more complex than one identity taking the place of the other. The individual often has membership of multiple groups and will navigate a lifestyle change across all group memberships and negotiate how the social norms of the group support their recovery pathway. It is suggested that it may be easier for individuals with multiple other social identities to relinquish the user identity in favour of the recovery identity as this will aid to re-enforce alternate identities [59].

A strengthened recovery identity and diminished substance use identity and the resulting engagement with 'low risk' groups may provide better substance use outcomes [60]. These non-using and recovery groups are important in maintaining a recovery journey and re-enforcing a recovery identity. Providing links to these positive social group and individuals are an important part of a successful treatment programme [60].

Citizenship

The format of TCs allows the individual to experience a sense of purpose and a meaningful role within a community [33]. These roles are suggested to have positive outcomes for the individual through a sense of giving back, of being important and valued and also provide support and fellowship for other participants in the TC. Taking an active role in a community is an important factor in obtaining a positive treatment outcome, which is consistent with the concept of citizenship where individuals are socially included in the community and allowed to play an active, equal part [33].

TCs provide the opportunity for a move away from social groups where substance use is an accepted behavioural norm toward acceptance and belonging within new social groups with a recovery focus and the corresponding health and wellbeing improvements. Social identification within a TC group may provide the foundation to link and participate with wider community groups and regain citizenship.

Theme 3: community treatment

There were 16 studies that looked at identity change in relation to a recovery journey linked to community treatment [41, 53–58, 61–69]. The literature relating to treatment in the community was split between two concepts—mutual aid groups including 12-step fellowships and Self-Management and Recovery Training (SMART) recovery and treatment services within a wider definition of recovery, including supporting treatment through medically assisted recovery.

Mutual aid groups

Mutual aid groups provide structured programmes focussed on recovery. They offer information, emotional and social support to those participating. Twelve-step fellowships are based on the 12-step guiding principles first suggested in the 1930s by Alcoholics Anonymous (AA). Ten studies provided evidence on 12-step mutual aid fellowships; AA and Narcotics Anonymous (NA) and the opportunity that they provide to build a recovery identity [41, 54, 57, 58, 61–66, 68]. Other mutual aid groups provide structured support for recovery

using cognitive behavioural techniques and other lifestyle change supports. Two of the studies included participation with SMART recovery [54, 65].

Twelve-step mutual aid groups are suggested to provide an environment that supports a reduction in substance using connections and increases connection to groups where there is support for recovery [41, 54, 57, 65]. Kelly *et al*. [61] suggest that in AA groups, it is the reduction in pro-drinking ties that has a greater effect on maintaining sobriety rather than an increase in sobriety network connections. Connectedness is identified as a key component in making the required lifestyle changes to support recovery. These new social networks are suggested to lay the foundation on which to build more mainstream connections and networks [62].

The sharing of stories is identified as a strength in AA and NA meetings, where sharing a story has a reciprocal benefit for the individual and the group by supporting identity transformation [63]. Taking part in activities and taking on responsibilities within the group also re-enforces the recovery identity. Although strong connections to AA and NA groups have positive impact on members, they can also have some unintended consequences and create a barrier to making connections in the wider community and beyond recovery [57]. Bowles *et al*. [68] found that AA/NA philosophy has a negative impact on the uptake and carriage of naloxone, an important intervention to address opiate related overdoses. The acceptance of a harm reduction intervention for potential future lapses by the individual or their social circle is not compatible with a 'recovering' identity and so the individual declines this intervention for fear of loss of acceptance by the group [68]. NA and AA have neoliberal views about the recovery journey that places responsibility with the individual to make the required changes; this approach does not therefore, take account of the important social changes required by members of the individuals' social network, such as family members and the recovery process that they must also make [62].

It is the differentiation in identity preference from 'addict' to 'recovering addict' that provided an increase in self-efficacy and not identification with 'recovering addict' alone [64]. The mechanics of AA/NA membership are suggested to contribute to this finding as members are encouraged to identify with an 'addict' and 'recovery' identity simultaneously through the development of a 'recovering addict' identity [41, 64]. For some, retaining this 'recovering' identity remains central to their self-identity even after individuals stopped attending meetings; for others, there is a time of conflict where the 'recovering addict' identity is not in agreement with their own sense of self. This may be a transition period to moving beyond substance use where a 'recovering' identity is no longer required [57].

Mutual aid groups are suggested to provide the opportunity to develop responsible roles through providing support for others, which has benefit for both those receiving support and those providing it [66]. In addition, mutual aid groups are suggested to provide an important link to recovery support with the length of time in recovery having a positive correlation to quality of life through greater engagement with recovery groups [66].

Recovery is a socially mediated process with resulting changes in social network connections and identity change. Bathish *et al*. [41] demonstrated that at the peak of addiction, the social networks of individuals are limited and typically comprised of other people who used substances with few who are in recovery. As people progress to consider themselves in recovery the proportion of people who are actively using decreases and the number of others in recovery increases with an increase in multiple group memberships. These network changes are mirrored by a change in identification from problematic substance user to a recovery identity. A greater diversity of social network and group membership was found to improve well-being in recovery [58, 67]. It is therefore, important that community treatment programmes are a foundation for fostering new connections in the wider community to support recovery [54, 56, 58, 67].

Medically assisted recovery

Four studies reported on medical treatment (opiate substitution therapy [OST]) in relation to recovery identity [55, 65, 67, 69]. Recovery is recognised as having a wider scope than treatment for substance use. OST may provide the opportunity for initiating recovery; however, recovery needs to be socially supported for it to succeed [55, 65, 69]. The UK Life in Recovery survey found a small proportion of participants identified themselves as being in 'medication-assisted recovery' rather than as 'recovered' or 'in recovery' [67]. This may indicate that for some, the identity as an OST-recipient represents a stage between a user identity and a recovery identity.

Individuals in recovery are suggested to have greater social support and recovery capital than those on OST [65]. This social support is likely to be provided from a social network comprising of increased number of people in recovery and fewer actively using peers. This network composition corresponds to a higher quality of life [55, 65]. Although those on OST were found to have the lowest rates of active users in their social network in a study by Best *et al*. [67], this group was also found to have fewer non-using connections resulting in poorer outcomes and lower quality of life [55, 67].

In one small study, Dawood and Done [69] suggest that routine OST care that is overly focussed on medication may not provide the bespoke care an individual requires to support and maintain recovery. Where psychosocial interventions are delivered alongside OST, patients report improved therapeutic relationships and greater support to develop key enablers of recovery, connection and a shift away from an addict identity [69].

Longer periods of abstinence are suggested to be associated with a wider diversity of social networks and connections, links with more non-users, links to more people in recovery and interestingly more current users, suggesting that individuals in advanced stages of recovery are able to maintain some contact with active users without destabilising their own recovery [55].

Taken together the findings from these studies suggest that there may be an element of social isolation for those on OST. There is a move away from substance using group membership, but there is not

yet a sense of supportive recovery group membership. This highlights a potential gap in medical treatments for substance use and the requirement to harness and propagate the social structure support that will assist recovery.

Theme 4: online community

Online community

Two papers focussed on the support of an online community [70, 71]. As society increasingly engages with digital technology and recognises online communities as a source of connection, belonging and support, it is important to consider how an online recovery community and social media platforms may provide a route for some individuals. Online recovery communities can provide support for the development of a positive recovery identity, which increases recovery capital and acts as a source of ongoing recovery support [70, 71]. The sense of belonging and being part of the community is important and online communities provide instant access to support, which is often lacking in traditional recovery groups. The use of inclusive language such as the use of 'we' helps to build a sense of belonging and retention in online groups and validation by other members of the group 'liking' posts and taking the time to comment are actions that re-enforce a sense of belonging and identification with the group for both the individual and the supporter [70, 71]. This is similar to findings in a TC and 12-step mutual aid groups, where the individual and the supportive member both benefit from the interaction. Visibility of the online group is seen as positive, providing evidence of hope and recovery and a strong positive identity to the wider community.

Theme 5: subsets—youth and women

The review of literature suggested that there are two specific subsets that require consideration in relation to actions, interventions and treatments that support a change in identity: women and for young people.

Women and identity transition

Three papers specifically focussed on identity change for women [72–74]. The discovery of a recovery identity for women is shaped by other identities that women hold [72–74]. The entwined nature of family relationships and a mother identity is described as critical through affirmation or discrediting of a recovery identity [72–74]. It is suggested that identity transformations must be accompanied by turning points in one's life [73]. Activities thought of as normal acts of citizenship including work, study and caring for children are identified as important sources for support [73]. It is through these acts of citizenship that the women are re-integrated into communities.

Family relationships are suggested to add complexity to the development of a recovery identity [72–74]. Family relationships have a shared past with substance use and as a result, women have to renew their valued family self- identity and negotiate validation of this identity from family members [73].

Women may link their recovery identities to reclaiming their mother role within the family [72, 73]. These family relationships can reflect a positive identity back to the individual by reaffirming a good mother identity or may invalidate a recovery identity with a stigmatising 'bad mother' label [72, 73]. Brown *et al.* [74] described the process of adding new supportive members to their social network through engagement with a residential treatment provider and two community outpatient treatment services. They highlight how the women also must manage existing relationships and negotiate recovery through distancing themselves from negative influences.

Risks for relapse include conflict with partners, lack of family support, difficulties with children's behaviours or health and conflict with services, where interaction is perceived as a negative influence, through factors such as being around active substance users. However, the same negative influences can be recovery enablers: desire for increased contact with children and building relationships to build a positive parenting identity. Women required learning skills to manage these existing relationships, as well as support to and create new connections [74].

Treatment services that provided a link to other support and to supportive families provided an opportunity for a new identity were seen as positive [74]. Twelve-step programmes were identified as supports, which may have a positive impact for some women and negative impacts for others. Involvement with 12-step programmes influenced the formation of social networks for some individuals, however, for others the programme provided a negative experience where they did not find a sense of belonging or others let them down within the group [74].

Barriers to network change were identified as stigma, co-occurring mental health disorders, lack of community resources and limited treatment agency options. Opportunities to transform were highlighted as unevenly distributed, with social and economic marginalisation negatively influences opportunity to change [74].

These findings reaffirm the complex web of identities that individuals hold and how they may impact on a recovery identity. There is a requirement to consider a gender-sensitive approach for any intervention that aims to provide the opportunity for identity transformation, as the complexity of family relationships has a large impact on women who are mothers.

Youth identity transition

Four papers focussed on identity transition for young people [35, 75–77].

Social networks are a key component for wellbeing in adolescents. A reduction in the number of substance using peers provides

support for recovery; however, network size is an important factor for mental health and wellbeing [77].

Mawson *et al.* [35] and Chung *et al.* [76] found mixed support for social identity change in young people in both TC and community treatment settings. Chung *et al.* [76] found that although there was a high motivation for young people to remain abstinent from substance use during outpatient community treatment, they were reluctant to reconsider relationships with substance using peers and reduce contact. Peer substance use was predicted to negatively impact treatment outcomes and that the greater the density of substance using peers in a social network, the greater the perceived difficulty in reducing contact. Mawson *et al.*'s [35] study found that lower group substance use was associated with higher recovery capital, but not quality of life.

Identity transformation is suggested to be important both for the individual and the family during community treatment for substance use [75]. Brousseau *et al.* [75] suggest that adolescents can find strength from their struggles with adversity and use this as a catalyst for a recovery identity. Substance use treatment is viewed as an opportunity for change that can support recovery behaviours and attitudes.

These studies, therefore, suggest that it is important that young people are supported to maintain network size, although reducing the number of substance using friends. Assertive linkages to wider community social groups and activities are identified as an important factor for treatment services to consider.

DISCUSSION

This review aimed to identify and evaluate the types of actions, interventions and treatments that may provide a mechanism for identity change and support a recovery journey. The themes identified describe social actions that initiate a change, such as trigger points and social connections. Therapeutic communities, community treatment and online communities are identified as interventions and treatments that provide an opportunity for identity change. We found that women and youths have specific enablers and barriers to identity change that have implications for services providing support for people who use drugs. This review found that no action, intervention or treatment in isolation provides the opportunity for identity change and adequate support for a recovery journey.

The recovery journey is complex, with many factors influencing its progress. However, across all themes discussed in this review, it is clear pathways into problematic substance use and pathways toward recovery are socially mediated processes [33, 41, 50, 51, 54, 56, 58]. The role of peer influence across a large variety of behaviours has been extensively documented [78].

The change from an 'addict' identity to a 'recovery' identity is described as a key aspect of a recovery journey [33, 60]. The differentiation from an 'addict' identity to a 'recovery' identity is suggested to increase the individual's confidence in their ability to recover [64]. People have complex and multiple identities, and it is recognised that it is not simply a case of swapping one identity for another [60]. A 'recovery' or 'recovering addict' identity may be retained by some individuals as it remains central to their self-identity, for others it becomes a barrier to move beyond substance use and an identity that has to be left behind [57]. This shift in identity is a process that can be supported through social support and turning point opportunities [69]. This review highlights the importance of social connections beyond drug services, 12-step programmes and therapeutic communities to support and maintain an identity transition [33, 54, 56, 58, 67, 70, 71, 74, 77]. Services should consider how they can assertively make connections to local community assets to support people beyond their care.

Current efforts to link HCV treatment to OST provision in efforts to improve DAA uptake also need to consider linking to social support mechanisms to support a recovery journey [69, 79, 80]. Such a development might add additional reach to our efforts to attain HCV elimination, combining DAA treatment with a wider range of social and community support.

The concept of a SIMOR suggests that recovery from substance use relies on a change in identity of the individual from an 'addict' identity toward a 'recovery' identity. This shift in identity shapes the social network to one where the use of drugs in not the social norm [33, 36, 41].

OST may be a catalyst to start and support the recovery process, but importantly, aspects of treatment may also hinder the recovery journey [55, 65, 67, 69]. Studies in this review indicate that individuals prescribed OST (medically assisted recovery) may not identify as 'recovered' or 'in recovery' [67]. Those prescribed OST were found to have the lowest rate of active users within their social network and had fewer non-using associations suggesting an element of isolation from diverse social networks [65, 67]. This group experience poorer outcomes, have lower social support, lower recovery capital and are more likely to have ongoing substance use than those in recovery [55, 65, 67]. Current treatment models largely focus on the individual and negate to promote and provide social support to aid the recovery journey [50, 52, 69]. This finding has implications for the way that services engage with current and former injecting drug users at high risk of HCV infection. The provision of OST may be an insufficient incentive to enable linkage to HCV care and additional social support mechanisms may be required.

A key first step in increasing engagement with HCV care should be an understanding of the hopes and expectations from treatment of those in key risk groups and this may help address low uptake. It has been suggested that people who inject drugs are looking for a cure beyond an end to viral infection, as a reason to engage with treatment—the opportunity for an untainted identity, recovery from substance use and social redemption [23].

This systematic review has several strengths, including the evaluation of the wider literature that evaluates the context and mechanisms of recovery from problematic substance use. It considers the more holistic needs of the high-risk cohort of people who inject drugs and their need for more tangible benefits from engagement with HCV care than virological cure. The unanticipated outcome from interferon

treatment for some was the comprehension that a life beyond drugs was achievable.

The review has several limitations. First, only studies in the English language were included. We also restricted our review to studies conducted in countries culturally similar to the United Kingdom to allow for comparison of studies. A large number of studies were excluded from our review because of this, and these studies may provide additional support for our findings or may refute. Critical appraisal highlighted some limitations of the papers included in the review as outlined in Supporting information Appendix S2. Thematic synthesis has been criticised because of generalisation of findings. This study followed the ENTREQ protocol promote transparency and replicability of the findings [46].

CONCLUSION

This systematic review highlights some evidence that recovery from addiction is a socially mediated behavioural change and asks the question whether providing HCV care combined with social and community support for individuals might increase engagement.

There are common threads running through each of the five overarching themes: identity, group membership, and citizenship. Across all themes, it is clear that pathways into problematic substance use and pathways toward recovery are socially mediated processes. This may have relevance for HCV care where treatment may provide the opportunity to move away from an unwanted tainted identity as a result of a stigmatised disease and act as a turning point toward a recovery identity. Social network changes toward membership of groups that are more supportive of recovery are mirrored and re-enforced by identity shifts from an 'addict' identity toward a 'recovery' identity. These changes may be accompanied by an improved quality of life and re-integration into more mainstream communities.

Our systematic review did not identify any current studies that provided evidence that cure of HCV with DAAs is a catalyst for change in identity. However, it does appear that the opportunity for a shift in identity may be supportive of a recovery journey. Providing the opportunity for a new 'clean' identity away from a stigmatised HCV identity may provide additional support and encouragement of a recovery identity. Our review has identified a gap in current literature describing how DAAs may provide the opportunity for care wider than a pharmacological intervention with a holistic focus on the desires of patients for a new untainted identity and reason to engage with HCV care. Developing this narrative may unlock DAAs potential to realise the WHO elimination target, supporting a recovery journey and thereby reducing re-infection rates. Recovery is a socially negotiated process and therefore, services providing HCV treatment should pay particular focus in linking patients into social support to enhance service provision. HCV care providers require links wider than medical OST services, they should establish links to recovery communities to provide the holistic care patients desire and need.

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AUTHOR CONTRIBUTIONS

Sarah Rhianna Donaldson: Conceptualization; data curation; formal analysis; methodology; project administration; validation. **Andrew Radley:** Conceptualization; data curation; formal analysis; methodology; supervision; validation. **John Dillon:** Conceptualization; supervision.

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ORCID

Sarah R. Donaldson https://orcid.org/0000-0003-2816-3293
Andrew Radley https://orcid.org/0000-0003-4772-2388

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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