

STRIVE



Music Education Hubs: Instrument storage, purchasing and maintenance guidance

Key findings and recommendations from research
commissioned by the Arts Council

March 2020

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About this document

Over the course of the last 2 years, the Arts Council has been engaging with Music Education Hubs across the country to examine the challenges they are facing in managing musical instrument stock.

This document shares some of the key findings from that engagement and seeks to provide some guidance and inspiration to Music Education Hubs, with a view to ensuring and driving best practice for instrument management going forward.

About the research we conducted

Music Education Hubs carried out the bulk of their instrument purchasing during the 4 years of [Wider Opportunities instruments funding 2007 – 2011](#). Instruments purchased in this period have been the main stock used in Music Education Hubs for over 10 years.

For many Hubs these instruments are still the core of their instrument stock – and without ringfenced money to repair or replace these instruments many Hubs are worried about what the future may hold. Without appropriate forward planning many Hubs could face a point where they do not have the instruments they need to provide Whole Class Ensemble Tuition (WCET) and instruments to their tuition pupils.

Driven by concerns that Hubs were facing real challenges in the management of their instrument stocks, a series of research projects were undertaken with Hubs across England in 2018 and 2019.

Key questions the projects wanted to answer were:

- How are Hubs managing their instrument stocks at present and what are the key challenges?
- Are they facing an instrument ‘cliff edge’ as stock purchased under the Wider Opportunities scheme reaches the end of its life?
- Are there variations in instrument stock deterioration across Hubs and do we understand the driving factors behind this?
- What instrument purchase strategies will they need to employ to fill any future gaps?
- Are there opportunities for greater collaboration between Hubs around instrument repairs?
- What are the opportunities and barriers to sharing of instrument stocks between Hubs?

16 Music Education Hubs volunteered to participate in the programme and provided details on their instrument stock and strategy through completing questionnaires, spreadsheets and interviews.

We would like to thank the following Hubs for their participation:

Accent Music Education Hub, Babcock LDP Devon Music Service, Brighton & Hove Music & Arts, Bromley Youth Music Trust, Dynamics The Medway Music Education Hub, East Sussex Music, Entrust Music Service Staffordshire, Essex Music Education Hub, Hampshire Music Service, Haringey Music Service, Kent Music, Richmond Music Trust, St Helens Music Service, Surrey Music Hub, West Sussex Music, Worcestershire Music Hub Severn Arts.

1. Best Practice in Managing Your Instrument Stock

During our research process, we found many Hubs who were struggling with the management of their instrument current stock but, equally, we also found examples of Hubs who were managing this effectively. We outline some thoughts on best practice from those Hubs below.

What is instrument stock management?

Instrument stock management is the effective use of systems and processes to identify, track, repair, dispose of and purchase instruments whilst ensuring the instrument stock meets the current and future needs of the Music Education Hub.

Why is instrument stock management important?

For Music Education Hubs the hiring of instruments to schools and individuals enables them to respond to local need and fulfil the objectives of the Hub as set out in the [National Plan for Music Education \(NPME\)](#).

For some Hubs the instruments are also a source of income which is often used to reinvest in the instrument stock.

How can Hubs drive success in this area?

When talking to Hubs about what works well and what does not work in instrument management, we found 8 key areas of best practice to drive success. These were:

1. [A dedicated Instrument Manager with administrative support](#)
2. [A clear view of what instrument stock exists and how it is being used](#)
3. [A dedicated instrument repair team/solution](#)
4. [A commercial plan that generates funds for future stock](#)
5. [Joined up thinking between instrument stock and all tuition needs](#)
6. [Investment in quality instruments rather than always the cheapest solution](#)
7. [Driving value in the instrument procurement process](#)
8. [Robust hire agreements with schools and individuals](#)

We look at each of these areas in turn and, for each, will look at:

- Why is this important?
- What are the Hubs we spoke to doing now?
- Recommendations and suggestions for the future

1.1 A dedicated Instrument Manager with additional administrative support

Why is this important?

If a Hub is to make improvements in the management of instrument stock, it first must have a clear central idea of what stock is in place, what the current demands are and a view of the future. This is far simpler to achieve when these responsibilities are centralised in one team or individual within a Hub. Having that knowledge and expertise in one place is a fundamental building block for all the subsequent actions and decisions that can improve the ongoing and future management of instrument stock.

What are the Hubs we spoke to doing now?

Although this would appear to be a fundamental need, we found very mixed levels of expertise across the Hubs we spoke to. Those without dedicated or expert instrument managers faced the biggest challenges in stock management. We found that Hubs with time limited administrative staff or non-specialist staff running instruments services were most likely to have high levels of unused instruments in stock or many awaiting repair.

It was clear from our research that a significant number of Hubs will need to consider their instrument management structure if they are to even attempt to improve instrument planning in the coming years.

Best practice and recommendations

The Hubs which were most effective in this area had a number of key things in place in their instrument service:

- An expert instrument manager with a centralised view of all instrument stock. By 'expert', we mean an individual with some knowledge of musical instrument application and/or basic repair skills combined with strong administrative/IT skills or someone who can help in these areas.
- A formal instrument storage area / system and instrument delivery capability.

1.2 A clear view of what instrument stock exists and how it is being used

Why is this important?

The ideal scenario for an instrument service will be to have the correct amount and type of stock for its tuition and WCET needs now and in the future. It needs to have enough instruments to service all anticipated needs but not too much as unused stock requires expensive storage. This cannot be achieved without a clear view of what stock exists in each Hub and how that stock is used.

What are the Hubs we spoke to doing now?

We found widely differing approaches and knowledge levels across the Hubs we spoke to. Whilst some Hubs had a clear view of their existing stock, some had to make special efforts to assess current stock and usage levels. Over half of the Hubs we spoke to did not have easy access to a detailed view of their instrument stock. They were unable to provide any detailed information on any Wider Opportunities stock purchasing made in 2007-2011 and could not identify these instruments from within their current stock. Given the age and deterioration rates of these instruments they will clearly face difficulties in planning their future instrument purchasing plans.

“We don’t have the level of detail to hand as the instruments were mostly bought a long time ago before any of the current staff, me included, were in post and records were not as thorough as they should be! I should imagine that is the case with a lot of Hubs.”

The lack of detailed stock measurement (even at a basic level) was one of the most concerning findings from our research. There are a number of simple solutions that are available to Hubs that should be considered. These solutions should be the basis for providing an effective instrument service, as well as a planning tool for future investment.

Best practice and recommendations

We found the Hubs with the most effective planning approaches to be using specialist instrument management tools:

- **Paritor** is the largest IT software company providing services to Music Education Hubs in England. Their system is used by around 80 out of a total of 120 Hubs in England. A new Version 5 is due for release soon.
- **Speedadmin** is a specialist cloud software package designed specifically for running Music Services and is the leading service in Sweden and Denmark. It enables classes to be arranged (both in schools and at music centres), pupils to be booked into classes, tutors assigned to classes, timesheets to be completed and billing details generated to enable invoicing of schools and/or pupils/parents/guardians.
- Some Hubs are reliant on non-specialist basic tools such as Excel. Whilst not as sophisticated as a specialist management system, this is clearly preferable to no record keeping at all.

1.3 A dedicated instrument repair team/solution

Why is this important?

An effective repair process is a way of extending the life of existing stock and driving more value from the instruments. It is inevitable, given the nature of the hire process, that damage will occur, and a speedy and effective resolution can ensure that instrument stock availability remains high and bottlenecks do not occur.

What are Hubs doing now?

The internal capability for instrument repair varied significantly across the Hubs we spoke to. A small number have dedicated instrument repairs workshop with highly trained staff, but the majority are struggling and cite repair as a key challenge.

Hubs raise several key issues:

“The wider opportunities instrument grant could only be spent on new instruments and not repairs which led to mass purchase of cheaper instruments and no budget for repair which partially explains the current situation.”

“The need to use previous funding on only purchase and prohibiting use on maintenance/repair has made the ‘cliff edge’ worse. Many services are commonly reporting crisis point.”

“There is an emerging national shortage in instrument repairers, so investment in this would be necessary long term (paid internships/apprentices/links to colleges etc.) to prevent the situation declining further in the long term.”

“How can we succession plan internally for the crucial roles of experienced technicians given the national shortage?”

This has driven ‘coping strategies’ within Hubs:

- Repairs are managed by ‘non experts’: Some Hubs have repairs “fitted in” around other job responsibilities, some Hubs draft in music teachers to do basic instrument repair and maintenance, some have administrative staff managing the service with no skills to ‘triage’ or assess instruments.
- Hubs are buying cheaper, low maintenance (often plastic) and first access, early years instruments to increase stock but not increase specialist repair needs

However, these strategies may not be sustainable in the long term and so Hubs will need to consider their repair capability carefully.

Best practice and recommendations

Building an ideal repair strategy within a Hub is challenging, given the national shortage of instrument repairers generally. We found Hubs were looking at three main solutions:

1. The 'ideal solution': to build an expert internal repair capability. Hubs who have managed to achieve this have been highly successful in lengthening the life of their instrument stock. However, finding qualified staff able and willing to work fully within the Hub structure is challenging. It may well be that Hubs need to look at training existing staff to develop or enhance their repair skills.
2. Sharing of repair resource across Hubs at a regional level (particularly relevant for smaller Hubs with less instrument stock). Potentially investment into local regional hub repair workshops. This would obviously be less risky than one Hub building an internal capability, as it will be likely to guarantee a constant volume and flow of instruments for repair.
3. Joint venture/partnership relationships with external repairers or instrument suppliers. This is more of a 'hybrid approach' of the two previous points. The Hubs can guarantee a steady flow of instruments for repair (and can negotiate a fixed agreement for pricing etc.). This certainty of volume then allows the external provider to invest in additional staff (whilst still retaining the capability to manage their own repairs outside of the Hub business).

“We wish to further develop our workshop and would strongly recommend this national solution (Hubs to employ technicians) but it would need additional investment.”

1.4 A commercial plan that generates funds for future stock

Why is this important?

With use, the volume of instrument stock available will depreciate over time. Alongside that hire demands may also change or grow. To be able to function in this environment, Hubs need to have funds available to invest in new instruments on an ongoing basis.

Whilst the aim may not be to generate a healthy profit on instrument hire, it is important that a Hub generates funds that will cover at a minimum the running costs of the instrument service and ideally future purchases to meet trends in instrument needs.

What are Hubs doing now?

Whilst some Hubs have built a hire charge model to generate funds for future purchases, in many Hubs instrument hire to schools and pupils has traditionally / often been free and this has caused challenges in instrument investment:

“The lack of budget to enable us to update our stock with more relevant instruments. Also, [...] an increase in stock of sizes of instruments.”

“Hubs that loan instruments for free have greater pupil participation and lower barriers to access but have to heavily subsidise the service at the detriment of investment in instrument stock for the future.”

“Due to the reduction of instrument shops on the high street we are considering renting to customers who currently do not have a relationship with us.”

However, just because a Hub has introduced charges still doesn't mean that it will break even – this depends on the volumes of instruments it hires and the model it operates.

Some Hubs are looking to expand the business model – those who are now independent are free to hire instruments to anyone and could start to compete within the local market place.

Some of the Hubs 'gift' the Instruments directly to the schools – with the schools being responsible for the hire agreements, repairs and replacement of instruments. However, this can lead to loss of central control of the instruments, loss of detailed records of where the instruments are and an inconsistent repair process. Gifting has the benefit of reducing the need for centralised storage and the cost of staff to carry out instrument management and repair. In the long term, there is likely to be a more rapid deterioration of the instrument stock due to lack of expert triage of instruments.

Some of the other business models are:

- Free to all and Instruments service is heavily subsidised
- Free to all schools & charge to pupils
- Free to WCET schools, hire to other schools and charge pupils
- Small fee (delivery charge) to WCET schools, hire to other schools and charge pupils
- Small fee (delivery charge) to WCET schools, hire to other schools and charge pupils & market / charge to anyone who wants an instrument

There is no doubt that a lack of funding (combined with a lack of visibility about what stock exists and is needed) is driving some Hubs to a 'cliff edge'. There will come a point where instruments stock purchased through the Wider Opportunities scheme (2007-2011) will simply run out. Hubs need to consider that risk now and invest wisely to ensure they do not face an insurmountable instrument shortfall in future.

Best practice and recommendations

Best practice entails generating or allocating funds for instrument purchase on an ongoing basis.

- The simplest way to achieve this (and ensure that funds generated relate to demand) is to introduce a minimum annual hire charge or delivery charge to schools who may be currently free for WCET hire.
- Hubs with larger amounts of instruments in stock have also increased their revenue streams by hiring instruments at a competitive market rate to individuals who do not have tuition with them. This is also the case to private schools, schools outside of their area, local bands and groups.
- Disposal of instruments a Hub does not need. The restriction of selling instruments purchased during Wider Opportunities has been lifted. Some Hubs have untouched instruments sitting in cases from that time (Double Basses / brass) or high value instruments that are not being used. Selling these instruments has funded purchases of instruments that they currently need.

Some Hubs have started to formalise their strategies around instrument hire for schools vs individuals with some Hubs formally splitting or identifying instruments for each purpose. This has been quite successful:

- Newer or better-quality instruments to be reserved for individual hirers as learning on a good quality instruments are a key factor in the continuation of the student, and they can charge more money for these
- Instruments hired to schools tend to suffer more damage and some Hubs will use the lower quality / older instruments for this purpose (as this tends to be at no cost or low income)

There will obviously be alternative ways of raising or allocating funds in each individual Hub but we would strongly advise that Hubs dedicate resource and purchasing / repair budget to an 'instrument fund'.

Quality instruments will, by their nature, require more investment up front but will have a higher lifetime value than cheaper alternatives. However, Hubs need to have money allocated for this which for those without revenue generation, could mean taking money away from front line delivery.

1.5 Joined up thinking between instrument stock and all tuition needs

Why is this important?

There are two key dynamics at play in the instrument offer:

1. ***The demand for instruments:*** This is driven by the number and nature of instrument teachers and the interest in demand for specific instruments for WCET from schools as well as students
2. ***The supply of instruments:*** This is driven by what the Hubs have in stock and is available for hire

“Schools demand for certain types of projects and instruments creates shortages in some areas (ukuleles and guitars to progress to) and surplus in other (flutes and violins). Shortages in certain instrumental teachers can also impact on demand.”

It is important that these two elements are completely joined up and communication is clear – if not there can be wastage on both sides:

- If Hubs do not have enough instruments and cannot supply the teachers, then teachers cannot work to their full capacity and students will miss out.
- If teacher needs and instrument demands change quickly, then Hubs may well run out of certain instrument stock and have an excess in other areas.

What are Hubs doing now?

We found that Hubs were relatively effective in building a relationship between instrument stock and tuition and this was driven largely by their WCET strategy.

- Some Hubs only allow “traditional” orchestral instruments therefore excluding guitars, ukuleles, recorders.
- Some Hubs only allow recorders, djembes and percussion to be used for WCET.
- Some Hubs are moving towards cheaper instruments for WCET such as plastic alternatives and ukuleles.
- Some Hubs have a policy to not provide electronic instruments (no keyboards or electric guitars) for WCET or individual hire.
- Some Hubs do not hire out recorders or ukuleles or guitars and the school are expected to buy these for any WCET projects.
- Some Hubs do not give schools choice in what WCET they have but offer the instruments based on availability of teachers and instruments.

To match the demand for instruments, we found some of the more effective Hubs in this area setting some guidance in minimum instrument stock levels. This was something that instrument managers do on an informal level, ‘keeping back’ some instruments which can also act as replacements as required.

The best practice of setting minimum stocks levels is also dependant on the business model and revenue streams that the Hub operates. If all instruments are free to hire for both schools and individuals, then the instrument service will hire these out until they run out.

However, if more revenue can be generated from individual instrument hires this can balance the lack of revenue from free hire to schools. Some Hubs are starting to look at ways of managing the high-quality individual hire instruments to protect the revenues these instruments generate.

This 'joined up thinking' approach usually depends on 3 issues:

1. The types of instrument tutors they have in their area and their success in converting WCET into tuition
2. The types of instruments they have in stock that they need to push out into WCET or projects to stimulate demand for tuition
3. Instrument 'trends' (e.g. ukuleles) and do they have the teachers available to deliver this in schools' WCET

This is still quite a 'reactive' instrument service and is based on the success of placing WCET in schools or growing small group / individual lessons with instrument hire. This is especially chaotic during the start of the school year (September and October), start of terms 2 and 3, and in June and July when instruments can be returned on mass.

Best practice and recommendations

Best practice must be to continue to match demand and supply, and to try to be more proactive with planning. For example:

- Setting minimum instrument stock levels
- Instrument planning based on tutor availability more than one year in advance
- Proactively match your WCET strategies with instrument and teacher availability
- Plan your projects and recruit your teachers based on the instruments you have in stock

1.6 Investment in quality instruments

Why is this important?

Whilst Hubs are looking to generate value from their instrument hire, it is important to ensure that instrument stock is of appropriate quality. Paying more for an instrument up front can have some benefits:

- Quality instruments tend to have a longer life (and less likely to need repair)
- Quality instruments tend to be easier to repair / worth repairing
- Quality instruments have more worth to a hirer and can justify a hire charge

Taking a balanced view between purchasing higher quality or cheaper instrument stock gives a Hub more predictability in the length of its stock life and more options for possible revenue generation.

There are 3 factors that are currently working against this longer-term strategy:

- The trend for cheaper, smaller instruments such as ukuleles and plastic alternatives which are more appealing to younger students and easier to store for schools
- Limited budgets for purchasing and repair mean these cheaper options are sometimes the only option
- Instruments used for WCET in schools tend to be at higher risk of damage and/or loss, making cheaper plastic alternatives a more viable short-term solution

“It takes a huge investment to maintain stock and provide high quality instruments that will inspire a young person to become a lifelong musician whilst keeping the cost accessible.”

What are Hubs doing now?

Hubs appear to have very different policies at a local level, and we can see the impact of this when looking at instruments purchased under the Wider Opportunities programme. Hubs that purchased cheaper solutions in 2007-2011 are now experiencing a negative impact on their overall stock levels.

Those Hubs without funds to replace this cheaper instrument stock now face shortages. They are looking at cheaper alternatives such as plastic instruments and ukuleles which do not have high repair costs but will have a shorter 'life'. The full implications of this approach are likely to become clear over the next 2-3 years.

Best practice and recommendations

We can see that Hubs who have taken a more balanced view in purchasing and opted for quality instruments in certain core areas, appear to be in a stronger position in terms of predicted stock life and funds for future instruments

Quality instruments will, by their nature, require more investment up front but will have a higher lifetime value than cheaper alternatives. However, Hubs need to have money allocated for this which for those without revenue generation could mean taking money away from front line delivery.

1.7 Driving value in the instrument procurement process

Why is this important?

As stock purchased under Wider Opportunities comes to the end of its life, there will need to be significant investment in instruments by Hubs in the next few years. With the musical instrument market in some decline (due to increased competition from suppliers in Asia etc.), Hubs will represent important customers for instrument suppliers over the next few years. If managed effectively, this 'buying power' can be leveraged to generate more value in the procurement process (and get Hubs 'more for their money').

What are Hubs doing now?

At present, we found Hubs were not taking any formalised or centralised approaches to procurement. This is largely down to purchases being relatively small and reactive at an individual Hub level. Purchases can also sometimes be made from disparate parts of the Hub lead organisation with no formalised procurement process.

Best practice and recommendations

There are two key areas where Hubs can operate effectively in procurement:

1. **'Get smarter'**: Process, referrals and discounts

- Hubs should consider planning the timing of purchases which could potentially generate 'bulk' discounts
- Negotiating formal relationships with specific suppliers could drive value in the procurement process, including:
 - Trade discount % on all purchases
 - Get commercial offering recommended suppliers for individual student sales with a % kickback on sales generated
 - Get commercial offering recommended suppliers starter instrument packages for new students (with % kickback)

2. **'Get together'**: Collaborative purchasing across Hubs

Hubs across neighbouring / regional areas could collaborate on instrument procurement through a joint tendering process with instrument suppliers. They would need to consolidate the timing of purchases together, to ensure they 'bulk buy', and therefore increasing their buying power.

1.8 Robust hire agreements with schools and individuals

Why is this important?

The life of any instrument will be driven by how well it is looked after by its user – the hirer. Being clear upfront about the terms of instrument hire (how you look after it, what you are responsible for) helps set expectations on both sides, for the hirer and Hub. Clarity here helps minimise any nasty financial ‘surprises’ and helps Hubs manage stocks more efficiently.

What are Hubs doing now?

Most Hubs have hire agreements and processes around instrument hire for schools and individuals.

The ‘formality’ around hire agreements is variable across the Hubs we spoke to. Those without formal agreements face some key issues – particularly around responsibility when damage occurs. This can lead to unexpected repair costs, with the financial responsibility being borne by the Hub in an unplanned way.

Best practice and recommendations

At the very basic level Hubs should be looking to have hire agreements in place that define damage (accidental, fault) and where financial responsibility lies as a result of this.

This is particularly critical and a minimum requirement for Hubs looking to generate any revenue as part of the hire process

These are the areas identified as best practice across the Hubs:

- detailed paperwork outlining areas of responsibility and possible costs that can be signed by both parties
- face to face instrument handover often combined with a checklist agreeing the current state of the instrument being hired
- instrument care guides
- robust methods for chasing money for repairs or replacement of instruments

For some Hubs, formally identifying and splitting instruments between individual vs school hire has been quite successful:

- Newer or better quality instruments to be reserved for individual hirers as learning on a good instrument is a key factor in the continuation of the student.
- Instruments hired to schools tend to suffer more damage and this must be carefully managed by the Hubs.

2. Planning your future instrument needs

Many Hubs we spoke to made substantial instrument purchases under the Wider Opportunities scheme (2007-2011). Much of this instrument stock is now over 10 years old and beginning to deteriorate and is ripe for replacement. These instruments are still key to their core service and without ringfenced money to repair or replace these instruments many Hubs are worried about what the future may hold.

If funds are not put in place now, there is a likelihood that Hubs will face an instrument 'cliff edge'. This is the point when instrument stocks will not be able to support the need of the Hub due to a lack of funds and future planning in replacing stock.

“Currently there’s no specific funds to invest in replacing old stock or investing in new stock to develop new strands and projects. When we are successful in progression, we then don’t have the instruments to meet that demand.”

We found two key areas where Hubs faced challenges in forward planning:

1. Estimating instrument deterioration
2. Predicting the 'instrument stock mix'

We looked at how 12 Hubs were addressing these issues to identify trends and best practice that could be useful to other Hubs around the country.

2.1 Estimating instrument deterioration

Why is this important?

To be able to plan future instrument purchases, a Hub needs to accurately predict where instrument stock gaps will be and to manage them effectively. In some cases, gaps will not be an issue as there may no longer be a demand for that instrument. However, in other cases these gaps will need to be filled urgently in order to avoid a ‘cliff edge’.

What are Hubs doing now?

We asked Hubs to look at current instrument stock levels, in particular those purchased under the Wider Opportunities Scheme, and indicate how that stock has deteriorated and might deteriorate over time.

Interestingly, this was a new exercise for almost all the Hubs we spoke to and less than half of them were able to make estimates. It is likely that many other Hubs are in a similar position and are unprepared for a potential instrument ‘cliff edge’.

Figure 1 below summarises the potential level of stock deterioration in the 12 Hubs we spoke to (with losses of over one third highlighted in red):

Figure 1: Estimated deterioration of Wider Opportunities Instrument Purchases

		Wider Opportunities Instruments written off			
	Instruments purchased under Wider Opps scheme	To date	In 3 years (estimated)	In 5 years (estimated)	In 10 years (estimated)
Hub A	7470	93%	96%	98%	100%
Hub B	4028	45%	70%	86%	98%
Hub C	20380	43%	45%	83%	94%
Hub D	4230	3%	38%	75%	81%
Hub E	2076	9%	30%	41%	63%
Hub F	4873	20%	26%	30%	40%
Hub G	4148	24%	28%	30%	37%
Hub H	2159	23%	27%	28%	31%
Hub I	928	9%	20%	22%	25%
Hub J	3609	4%	7%	14%	21%
Hub K	911	5%	5%	15%	?
Hub L	4230	5%	7%	9%	13%
Total	59,042				

This analysis showed that 5 of our 12 Hubs (who had enough information to even give a view) would lose over half of their Wider Opportunities stock, without a detailed plan for replacement.

We then looked at the variations across the Hubs to see if we could find any common patterns. Interestingly we found deterioration was not linked to the amount of stock held or the type of Music Education Hub.

We found main factors driving deterioration to be:

1. The quality of instruments purchased (which drives longevity)
 - Poor quality instruments will fail more quickly (particularly with school use)
 - Higher quality instruments can be more easily repaired (when staff are available) – this is not true of cheaper instruments

“We have found that String and Percussion instruments are the most likely to last with repair. Woodwind instruments have high repair costs due to damage to the keys when used by beginners. Brass instruments corrode and are the most likely to need replacing. Recorders do not last longer than 5 years before they need replacing. Keyboards are also replaced frequently due to the relative high repair costs compared to purchase price.”

2. The Hub’s business model
 - Hubs that charge pupils and/or schools to hire the instruments appear to have a higher threshold on the quality of instrument they hire out and stock they keep in use. This then generates longevity.
 - Conversely, those Hubs that have high volumes of free school hire have instruments that are deteriorating more rapidly.
 - A change in business model impacts the instruments levels – from gifting instruments to schools to a change in instrument used in WCET
 - Becoming independent from the local authority
 - Merging of Music Services/Hubs can lead to loss of records and loss of instruments or a change in the business model

3. The Instrument Management Team

- Hubs where the instrument service is run by non-expert administrative staff have a much higher risk of future stock deterioration. Staff with little instrument expertise or limited or no repair skills are less likely to identify issues.

“The Hub became a commissioning service in September 2017. This meant the redundancy of hub-employed delivery staff. This service is now delivered by our commissioned provider. As such, we have less direct contact with tutors and schools, and therefore also less direct control of the movement, storage and auditing of instruments. This has meant the loss of a considerable number of instruments as pupils have moved on through the school system, as well as a lack of ownership of instrument maintenance and care. When instruments are returned to stock, they are logged by our administrative staff who are not musicians and therefore do not always have the expertise to identify issues.”

Best practice and recommendations

Our research exercise has highlighted the need for Hubs to, as a minimum, have a very basic view of stock deterioration. This is fundamental for any forward planning in instrument stock purchasing.

We would urge all Hubs to go through a similar stock prediction exercise as carried out by the Hubs participating in our research and have provided with this report example template excel spreadsheets for this exercise.

2.2 Predicting the ‘instrument stock mix’

Why is this important?

As well as predicting deterioration, Hubs need to be considering their likely ‘instrument mix’ over coming years. Many Hubs are regularly buying to replace instruments on a short-term basis and are receiving instrument donations. To some extent this approach will plug gaps as instruments are lost. However, this tactical buying approach can mask stock issues that are developing over time and some instrument gaps may not always be evident.

What are Hubs doing now?

We asked Hubs participating in the research to give a fuller view of stock, factoring in donations and new instrument purchases into their instrument stock since the Wider Opportunities investment ended in 2011.

We used this information to predict where gaps would appear and how their instrument mix would change without a planned strategy. We identified the gaps and the possible types of instruments Hubs might need to buy in the future.

We looked at:

- Instrument deterioration and losses
- Current and past instrument additions
- Repair and purchase plans

We found the following pattern for estimated losses over the next 5 years based on a worst case scenario of no further purchases or donations. Figure 2 illustrates the pattern of estimated losses across the Hubs. This shows a similar pattern of losses of certain instruments across several Hubs, especially the larger brass instruments. Figures in red are highlighted to be the larger losses of over 20%.

Figure 2: Estimated Instruments Losses by Instrument Type

Next 5 Year losses	Hub A	Hub B	Hub C	Hub D	Hub E	Hub F	Hub G	Hub H	Hub I	Hub J	Hub K	Hub L
Baritone Horns	52%	43%	71%	100%	28%	8%	27%	5%	0	7%	14%	4%
Keyboards	50%	28%	62%	0	0	26%	0	0	0	0	8%	10%
Tenor Horns	29%	33%	95%	100%	3%	4%	0	0	10%	8%	0	6%
Fife	0	83%	100%	100%	0	0	0	2%	0	4%	0	0
Cornets	24%	58%	62%	8%	35%	8%	8%	64%	8%	3%	6%	5%
Trombone	3%	38%	55%	48%	3%	5%	13%	0	0	1%	9%	2%
Percussion	8%	28%	30%	0	0	8%	0	0	0	4%	5%	1%
French Horns	28%	0	0	0	31%	20%	3%	9%	0	2%	0	6%
Recorders	100%	25%	96%	100%	0	0	0	0	0	3%	0	0
Ocarinas	0	25%	100%	0	0	0	0	0	0	0	0	0
Samba	0	21%	22%	0	100%	6%	0	0	0	6%	0	16%
Djembe	0	20%	37%	0	47%	0	0	3%	2%	4%	0	11%
Double Bass	3%	0	49%	0	25%	7%	3%	2%	0	3%	9%	11%
Cello	11%	14%	46%	50%	10%	6%	12%	54%	3%	4%	8%	3%
Clarinet	25%	12%	58%	83%	3%	1%	4%	37%	22%	1%	9%	4%
Flute	3%	6%	94%	99%	2%	2%	7%	20%	2%	1%	3%	2%
Electric Guitars	0	0	46%	0	0	0	0	0	0	45%	0	9%
Music Tech	0	0	100%	0	0	0	0	0	0	33%	0	0
Ukulele	0	0	31%	100%	0	0	0	0	0	24%	0	0
Bassoon	20%	0	0	100%	3%	5%	0	3%	0	0	0	20%
Oboe	5%	0	0	0	5%	5%	13%	0	0	3%	0	22%

What did we find?

The above shows the pattern of larger number of losses in:

- Electronic items (keyboard, electric guitar and music technology)
- Large brass instruments (Baritone horn, tenor horn, French horn)
- Other brass instruments (Cornet, trombone)
- Small low value instruments (recorder, ocarina, ukulele)
- Percussion (djembe, samba)
- Woodwind (clarinet, flute, bassoon and oboe)
- Some of the larger strings (Double Bass, Cello)

What does this mean?

During the research the Hubs did highlight the issues with the larger brass instruments purchase during wider opportunities to be:

- They were popular as WCET instruments but aren't now – they are now not
- If they are not used regularly, they tend to seize up
- They are expensive to repair
- They are expensive to store

Many Hubs will not be worried about the predicted losses for these instruments.

For the cheaper small low-cost instruments the Hubs are unlikely to be worried about these instrument losses as they are relatively cheap to replace.

For all other predicted instrument losses the big question for each Hub is:

“Are these instruments that we are losing critical to our service now and in the future? And if yes, how do we plan to replace them?”

What is best practice?

In most cases, the current level of projected instrument purchasing does not “equal out the losses”. In order to appropriately plan for the future, each Hub needs to take into account what their future instruments needs are, the teaching staff they have and trends such as ukuleles and plastic instruments.

3. A key opportunity: sharing your current Instrument stock

Why is this an opportunity?

With Hubs facing challenges in changes in demand and a potential shortfall in instrument numbers, creative solutions are needed to fill the gaps.

To some extent, the variability of needs and stock holding across Hubs creates some opportunity. The unused stock within each Hub can be quite different in type – one Hub may have a shortage of one instrument type, whilst others may have an unused excess.

Being able to share unused stock across Hubs may represent a cost-effective solution to solving shortfall issues. If instrument gaps and needs can be plugged from stock that already exists, this will not only save money, but also enable Hubs to respond more quickly to tuition needs. This could work particularly well with Hubs that are geographically close to each other as this minimises delivery costs.

Our research across 7 Hubs in the South of England showed that there were over **11,000** instruments unused and available in May 2019 (see Figure 3 on p.23). Stock holding varied significantly from Hub to Hub. For example, Hubs 5 and 6 had a shortfall in clarinets whilst Hubs 1,2,4 and 7 had a significant surplus.

Three out of the 7 Hubs at the time of the research had instruments they were ready to gift or share to other Hubs or schools but did not have any formal processes in place.

When this information is shared and available to all Hubs, the benefits of sharing stock are evident.

The challenge is how to build a process and system to make this work practically.

Figure 3: Hub stockholding May 2019

Instrument	Hub 1	Hub 2	Hub 3	Hub 4	Hub 5	Hub 6	Hub 7	TOTAL IN STOCK
Baritone Horns	17	25	10	23	9	2	33	119
Bassoons	11	13	2	11	13	4	7	61
Cellos 1/2	32	12	0	98	18	6	42	208
Cellos 1/4	14	43	0	75	37	5	48	222
Cellos 1/8	16	32	0	30	5	0	4	87
Cellos 3/4	6	11	0	87	5	4	57	170
Cellos 4/4	9	2	48	24	5	1	16	105
Clarinet Bb	260	161	86	368	36	9	213	1133
Cornet	14	18	111	29	4	11	60	247
Djembes	0	0	0	0	41	0	0	41
Djembes (10")	0	0	0	145	0	0	0	145
Djembes (12")	0	0	0	76	0	0	0	76
Double Bass 4/4	0	0	33	19	20	0	0	72
Euphonium	5	0	35	23	12	3	47	125
Flute	60	102	50	284	14	16	150	676
French Horns	52	47	13	16	5	11	14	158
Guitars 1/2	1	0	0	87	0	9	37	134
Guitars 3/4	312	37	0	142	0	26	28	545
Guitars 4/4	21	0	209	44	22	1	5	302
Keyboards	187	0	0	11	0	15	23	236
Oboe 3/4	0	38	0	0	14	5	6	63
Oboes	42	1	2	11	0	0	14	70
Saxophones (Alto)	115	3	9	156	14	16	37	350
Tenor Horns	39	14	30	99	0	1	31	214
Trombones (Tenor)	37	25	97	84	58	4	42	347
Trumpets	13	49	180	87	59	17	41	446
Ukuleles	0	146	0	47	0	0	0	193
Violas - 4/4	27	10	70	42	24	1	0	174
Violins 1/2	114	38	0	384	69	16	475	1096
Violins 1/4	30	113	0	258	90	29	197	717
Violins 1/8	6	65	0	41	36	5	35	188
Violins 3/4	34	26	0	345	29	14	250	698
Violins 4/4	39	22	382	75	18	9	74	619
Xylophone	0	0	0	0	0	0	5	5
Total	1590	1211	1375	4031	680	278	2251	11416

What are Hubs doing now?

Although we found that there was real interest in stock sharing solutions across Hubs, relatively little stock sharing is happening, and initiatives are at the early stages.

Hubs in the South West Region were beginning an interesting initiative and have developed a South West regional Music Hub database of surplus / wanted instruments.

The aim was to create a flow of instruments between Hubs who are situated close together. In May 2019 the Hubs were populating a database with instruments they wanted and instruments of which they had surplus stock. The aim was for Hubs to be able to swap but there could also be financial transactions, dependent upon need.

17 Hubs were involved: Bristol, Cornwall, Devon, Dorset, Hampshire, North Somerset, Plymouth, Portsmouth, Somerset, Southampton, Swindon, Torbay, Wiltshire, Gloucestershire

How can stock sharing work?

There are some key fundamental practices that need to be in place between Hubs before sharing can work effectively. Many of these are outlined in our best practice guidance at the start of the document but they include:

- An up to date view of current instrument stock
- A 'live' view of what minimum stock levels need to be and what is 'available'
- Delivery capability to transport large numbers of instruments
- Similar processes for instrument insurance and hire
- Similar measures of 'instrument quality'
- An instrument manager responsible for managing needs
- Commitment and agreement to the process by all parties.

The main barriers to instrument stock sharing were:

- Instrument data is not always up to date
- There are often time lags between requests, processing and booking instruments in and out
- Instrument Managers have the tendency to hold onto all instruments 'just in case'
- Instrument Managers have differing measures of 'instrument quality'

What solutions are available?

If stock sharing is to work, then there needs to be a common platform for sharing and meeting instrument needs. Whilst this can be done in a manual way, the complexity of needs and instrument types suggest that a common IT solution should be the way forward.

In our research work, we identified some potential tools that could be used:

- A simple solution would be to share basic stock holding information across the Hubs using document sharing solutions such as Google Docs or Office formats Word/Excel. This is easy to set up but there would be a high degree of manual intervention needed to maintain and communicate needs.
- Specialist Cloud based solutions, such as [Instruments in the Cloud](http://www.instrumentsinthecloud.org/) - <http://www.instrumentsinthecloud.org/>. This allows Hubs to post information and needs onto a central web-based platform, where stock availability and needs can be matched ([see appendix](#)).
- Enhancement of existing stock management solutions such as Paritor <https://www.paritor.com/> or Speedadmin <https://speedadmin.com/uk>. Both platforms have the capability to be used as a database tool and to allow the sharing of information between Hubs. This would, however, require some administration for Hubs to set up their stock management system in the same formats and layout.

Having reviewed the pros and cons of all approaches (and several potential suppliers), a specialist solution such as Instruments in the Cloud could provide a simple enough interface to ensure that Hubs can keep information up to date and share, without significant cost or process. This platform can also be organised at a regional or geographical level as well as offering a more detailed service to promote and manage an instrument donation service and track instruments within schools if Hubs so desire.

APPENDIX:

About the Wider Opportunities Programme

In 2000, the Secretary of State for Education and Skills announced that ‘over time, all pupils in primary schools who wish to will have the opportunity to learn a musical instrument’. In summer 2002, six local education authorities were invited by the then Department for Education and Skills (DfES) to participate in pilot programmes to demonstrate how the specialist music instrumental tuition could be developed to involve all pupils in Key Stage 2 (KS2). The policy that emerged became known as the ‘Wider Opportunities Pledge’ and subsequently became the Wider Opportunities Programme in Music at Key Stage Two.

This programme, funded by the Department for Children, Schools and Families (DCSF) through its Standards Fund Music Grant, addressed the government aim that every child should have the opportunity to learn to play a musical instrument whilst at primary school. The WO programme was usually based on large group or whole class instrumental lessons, though sometimes WO projects have focussed exclusively on singing. WO projects were commonly, but not always, run by specialist instrumental tutors, usually working alongside class teachers. Underpinning the WO programme were two key government aspirations: 1) nationally, by 2011, over 2 million pupils would have had the opportunity to learn a musical instrument for free, for at least one year; 2) by 2011, programmes would be in place that would result in every child having this opportunity during their time in primary school.

£3 million pounds was given to all local authorities in 2006 with an additional £23 million devolved to schools in 2007 which was mainly spent on instruments to support the delivery of the programme.

<https://www.musicmark.org.uk/wp-content/uploads/WCET-Report-FINAL-141117.pdf>

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The National Plan for Music Education (NPME)

<https://www.gov.uk/government/publications/the-importance-of-music-a-national-plan-for-music-education>

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Instruments in the cloud

Instruments in the Cloud (IITC) has been developed by Vega <https://vegaproductions.org/>, a Minnesota-based non-profit organisation. The product was launched together with teachers and administrators, in 2015.

For donors, Instruments in the Cloud makes it easy to donate a once-loved musical instrument to a school music programme in need. <http://www.instrumentsinthecloud.org/>

Music teachers and administrators use it to:

- Catalogue and manage existing instrument inventories
- Add new instruments to inventory
- Search for available instruments from surrounding schools
- Request instruments for those who cannot afford to purchase or rent them

To date, in the USA nearly 12,000 instruments have been uploaded into Instruments into the Cloud, which means they are potentially available to be shared when not in use.

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An overview of the business models for the Hubs participating in the research

	Money to replenish stock	Money on Repairs	Grant Money?	Relevant Comments
Hub A	<p>£12,000 was spent on the purchase of new instruments last year and this has been the amount budgeted for the last 3 years. It represents less than 1% of total budget.</p> <p>This budget is restricted despite pressure from schools to deliver our highly successful scheme for transition projects</p> <p>We will be setting a budget of £5,000 for 2019/20 due to financial constraints.</p>	<p>Last year we spent a total of £11,508 on repairing our current stock of instruments.</p> <p>The trend for spending on instrument repairs is upward due to the increased usage of stock for projects.</p> <p>We have purchased a number of plastic trumpets and trombones to be used by beginners</p>	<p>We currently breakeven on our instrument service.</p> <p>There is an income associated with individuals hire but this is offset by purchases, repairs and management of the scheme.</p>	<p>We benefit from a large instrument stock that has been built up and maintained over 30 years, typically instruments have a 'shelf life' of 10 years.</p> <p>We have taken the decision to purchase beginner instruments for First Access and Transition projects, so we now have a stock of pTrumpets, PBones and Clarineos.</p> <p>They also do not have the ability to be repaired in the same way as traditional brass instruments and clarinets, so we are predicting a smaller repair budget but larger spend for purchases when these are damaged.</p>
Hub B	<p>£34,446 was spent on instrument stock last year. This is slightly lower than the norm in the last 5 years. Our normal level was around £40,000. Lower expenditure was due to budget pressures.</p> <p>The predicted budget for the instrument service for 2019/20 financial year is £30,000. Inevitably this will have a significant impact on our investment in new instruments.</p>	<p>Schools sign for responsibility for insurance, repairs, maintenance and storage.</p> <p>Approximately 185 instruments are awaiting repair, due to a lack of funds. This is a higher level than previously, and a gradually increasing trend due to budget constraints</p>	<p>Heavily subsidised</p> <p>We would hope to retain the existing system with instruments on loan to schools at no charge and therefore the cost of repairs being largely with schools/academies.</p>	<p>The main challenges relate to budget pressures. The success of increased pupil participation due to the effectiveness of our equal opportunities policy has inevitably led to an increased demand on the instrument stock, particularly larger sized instruments.</p> <p>Furthermore, as standards of achievement improve amongst more experienced pupils, the quality of instruments needed to meet needs leads to higher purchase costs.</p> <p>Diversification of instrument and ensemble opportunities has also demanded investment in wide variety of instruments e.g. orchestral percussion, electric guitars and amps etc.</p>
Hub C	£40,000 on new stock depending on need	£12,000 on repairs	Heavily subsidised	We have one of the largest instrument stocks and high costs of managing this stock.
Hub D	£60,000 on new stock	£8,000 on repairs	Subsidised by £45,000 Heavily subsidised	
Hub E	£20,000 on new stock On essential replacements (ukes) and has been a typical spend since the wider opps fund ended.	£130,000 on repairs which includes 4 technicians' salaries	Heavily subsidised	
Hub F	£5,928 on new instruments and £3,322 on accessories (reeds, cases etc)	£4,000 on repairs Only repair when there is a clear need	No income for all grant / SLA income Heavily subsidised	We can only have 35% of school engaging in WCET and do not have the money to invest in the

Hub F	<p>We have sold "Rare" instruments off to buy whole class stock - new purchases ukes & plastic.</p> <p>Only purchase new instruments when there is a business need - e.g. Ukuleles to engage schools.</p>			<p>instruments needed above this level.</p> <p>3 years ago instruments became free to loan by parents / pupils.</p> <p>2 years ago this was rolled out to WCET - only income if from schools for hire if they don't buy regular teaching from us.</p>
Hub G	<p>£35,000 on new stock which includes AIPS for students</p>	<p>£3,000 on repairs</p> <p>Normal level - try to do as much in house as possible to minimise costs</p>	<p>Income from Individual hire students is £20,000 adding income from schools for wider opps we broadly breakeven</p>	<p>Subject to available funding we hope to continue as we are.</p> <p>However, repairing and making "do" is increasing in the wider opps instruments</p>
Hub H	<p>£1,300 on new stock – lower spend than normal.</p> <p>Growing number of instruments in stock needing repair - priority will be on student / school needs. Future purchasing plans linked to demand for tuition.</p>	<p>£1,422 on repairs</p> <p>Lower spend than usual as had instruments in stock not being used</p>	<p>Breakeven.</p> <p>Money in from hires etc covers the cost of running the service.</p>	<p>We are Considering hiring to those who do not have lesson with us to generate more income.</p>
Hub I	<p>£32,763 on new stock – slightly higher than normal</p> <p>Repairs are decided and monitored on the needs and the cost vs a new instrument. New purchasing as needed but successful progression means we may need to invest in higher level instruments</p>	<p>£4,738 on repairs - normal level.</p> <p>Hub changed to commissioning service so instruments not run by hub staff which is a challenge as they cannot assess repairs or quality of instruments.</p>	<p>Set aside £25,000 in budget for buying and repairs.</p> <p>No income as no charges</p> <p>Heavily subsidised</p>	<p>Bought 926 in wider opps and now has a stock of 3713.</p> <p>Became a joint hub in 2012 and gained 1,000 instruments.</p> <p>These schools bought their own instruments and joining the service meant offering them to schools for free - leading to a large increase in the instruments stock needed.</p>
Hub J	<p>£15,000 on new stock</p> <p>Expected to be the same.</p> <p>We might buy more low maintenance first access instruments and early years to increase stock but not increase repair requirements</p>	<p>£50,000 on repairs which includes a salary for a full-time technician, temp staff and outsourced repairs</p> <p>We have a full-time skilled technician plus a flexible "assistant technician" for around 15 years.</p>	<p>It's a huge challenge</p> <p>The investment it takes to maintain stock and provide high quality instruments that will inspire a young person to become a lifelong musician whilst keeping costs accessible</p> <p>Heavily subsidised</p>	<p>Our instrument stock is the bedrock of the support we offer schools and we are very lucky to have such skilled and experienced technician whose knowledge has evolved alongside the changing remit of music services and Hubs.</p>
Hub L	<p>Very Little on new stock</p>	<p>Currently spending £25,000 on repairs and not much on new instruments</p>	<p>Age of stock and no income means every instrument is needed to keep up with demand.</p> <p>Heavily subsidised</p>	<p>Formed as a service 10 year ago so instruments new from then.</p> <p>Brass instruments have issues as they haven't been played regularly.</p>